Д. А. Беляев, У. П. Беляева

Видеоигры в контексте экранной технокультуры и медиапросвещения: новые риторические стратегии и образовательный потенциал

Видеоигры сегодня стали заметной частью экранной технокультуры, преодолев исключительно развлекательную рамку социального маркирования. Они способствуют генерации новых социальных активностей, а также становятся инновационным медиапространством экспликации художественно-эстетических ценностей, политических смыслов и образовательных практик. Цель исследования – реконструкция и аналитика культурного конституирования видеоигр, выявляющая особенности их экранных риторических возможностей, а также раскрывающая образовательный потенциал практик геймификации и стратегии Digital Game Based Learning. Это призвано сформировать компетентностно-тематическую рамку видеоигр как платформы современного медиапросвещения.

Методологической основой работы являются культурно-исторический и диалектический подходы, а также методы системного и структурно-функционального анализа.

Проведенное исследование позволило проследить генезис культурного становления видеоигр, продемонстрировавший множество стратегий их интеграций в пространство массовой медиакультуры. Проанализированы основные риторические модели, реализуемые в видеоиграх. Особое внимание уделено комплексному рассмотрению процедурной риторики, как оригинальному способу убеждения пользователя через геймплей, интерактивную вовлеченность в виртуальные практики. Рассмотрены основания практики геймификации и стратегии Digital Game Based Learning в образовании. Здесь определены возможности геймификации в качестве инновационной методики организации стимулов и поощрений, а также выявлен спектр сложностей и рисков тотальной геймификации учебного процесса.

По итогам исследования было определено, что видеоигры используют оригинальный комплекс риторических приемов, совмещающих как традиционные аудиовизуальные форматы нарративности, характерные для других экранных медиа, так и процедурно-интерактивные приемы. Они позволили непосредственно интегрировать пользователя в виртуальные нарративы, превратив из пассивного реципиента в актора. Также раскрыта важность геймификации в качестве инструмента выстраивания стратегий внутреннего стимулирования с элементами развлекательных практик в динамике обучения, что повышает эффективность образования. Выявлен значительный образовательный потенциал видеоигр как перспективной медиаплатформы в рамках реализации стратегии Digital Game Based Learning. Они могут выступать одновременно носителями знаний и виртуальной средой формирования компетенций в области истории, экономики, литературы и социального управления. Процедурно-риторический инструментарий позволяет человеку стать частью интерактивного сценария, что многократно увеличивает вероятность усвоения информации и выработку профессиональных навыков.

Ключевые слова: видеоигры, образование, геймификация, обучающие видеоигры, экранная культура, процедурная риторика, Digital Game Based Learning.

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D. A. BELYAEV, U. P. BELYAEVA

Video games in the context of screen technoculture and media education: new rhetorical strategies and educational potential

Video games have become a prominent part of on-screen technoculture today, breaking the purely entertaining social labelling framework. They contribute to the generation of new social activities, and also become an innovative media space for the explication of artistic and aesthetic values, political meanings and educational practices. The aim of the study is the reconstruction and analysis of the cultural constitution of video games, revealing the features of their screen rhetorical capabilities, as well as revealing the educational potential of gamification practices and Digital Game Based Learning strategies. This is intended to form the competence-thematic framework of video games as a platform for modern media education.

The methodological basis of the work is the cultural-historical and dialectical approaches, as well as the methods of systemic and structural-functional analysis.

The study made it possible to trace the genesis of the cultural formation of video games, which demonstrated many strategies for their integration into the space of mass media culture. The main rhetorical models implemented in video games are analyzed. Particular attention is paid to the comprehensive consideration of procedural rhetoric as an original way of convincing the user through gameplay, interactive involvement in virtual practices. The foundations of the practice of gamification and the strategy of Digital Game Based Learning in education are considered. It identifies the possibilities of gamification as an innovative methodology for organizing incentives and rewards, and also identifies the range of difficulties and risks of total gamification of the educational process.

Based on the results of the study, it was determined that video games use an original complex of rhetorical techniques that combine both traditional audiovisual formats of narrative, characteristic of other on-screen media, and procedural-interactive techniques. They made it possible to directly integrate the user into virtual narratives, turning them from a passive recipient into an actor. The importance of gamification as a tool for building strategies of internal stimulation with elements of entertaining practices in the dynamics of learning is also revealed, which increases the effectiveness of education. It has been revealed the significant educational potential of video games as a promising media platform in the framework of the implementation of the Digital Game Based Learning strategy. They can act both as carriers of knowledge and as a virtual environment for the formation of competencies in the field of history, economics, literature and social management. Procedural and rhetorical tools allow a person to become a part of an interactive scenario, which greatly increases the likelihood of assimilating information and developing professional skills.

Keywords: video games, education, gamification, educational video games, screen culture, procedural rhetoric, Digital Game Based Learning

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Introduction

Since the end of the XX century, active penetration into the culture of computer digital technologies begins, which significantly change the design and meaning of many traditional cultural forms and practices. It was at this time that the phenomenon of video games emerged as a kind of virtual-digital screen culture, initially focused exclusively on entertainment functions. However, video games quickly outgrew this format, claiming to be a much more multifaceted phenomenon. So, already now they contribute to the generation of new social activities, and also, possessing a unique virtual-interactive procedural toolkit, become a space for the explication of artistic and aesthetic values, political meanings and educational practices.

Moreover, the American gamification theorist Gabe Zichermann is sure that a new generation of G has formed under the influence of video games. For them, video games are not only entertainment, but also a large-scale socio-cultural and educational practice through which they gain new knowledge, acquire social and communication skills and engage in creativity.

Unfortunately, the public perception of video games today is largely biased by their "entertainment pedigree", as well as many psychological and ethical myths. In turn, the domestic scientific and academic discourse today looks at video games with a fair amount of suspicion and even disdain, often considering them too profane an object for serious study.

Consequently, on the one hand, the modern general cultural significance of the phenomenon of video games, and on the other hand, the preservation of many scientific and research biases and everyday stereotypes, actualizes the need for a comprehensive consideration of video games as a phenomenon of screen technoculture and an innovative platform of modern media education.

In foreign scientific discourse, a separate research program has been formed – game studies, within the framework of which interdisciplinary analysis of video games is carried out in a wide range of their cultural constitution [37]. For our study, it is of particular interest, firstly, a set of works by G. Kirkpatrick [21] and D. Spring [38] devoted to the history of video games, their development in the context of the cultural space. In particular, Kirkpatrick provides a heuristically valuable consideration of the genesis of video games in relation to the dynamics of sociocultural space. Spring proves the legitimacy of video game history as part of the scientific study of cultural history. Second, the theoretical studies of R. Bartle [3], G. Frasca [14; 15] and J. Juul [18; 19], which formed the core of the well-known discussion of narratologists and ludologists about the nature of video games and the place of narratives in their definition. They theoretically substantiate and set the semantic framework for the explication of the main rhetorical strategies of video games. Thus, narratologists reveal the cybertextual uniqueness of game narratives, and ludologists emphasize the importance of virtual-interactive procedurality. Finally, Y. Rochat [34] specializes in quantitative research of historical video games. The author defines the dominant historical plots of video games in their connection with the current socio-cultural context and popular social agenda.

Among domestic authors who are in the context of the scientific discourse of game studies, it is necessary to highlight the works of A.S. Vetushinskiy [41] and K.V. Bogdanova [7], specifically investigating the rhetorical possibilities of video games. So, Vetushinskiy, developing the ideas of Bogost, emphasizes the uniqueness (in comparison with other

screen mediums) of the procedural toolkit of video games, as a way of persuasion through direct involvement of a person in virtual practice. Bogdanova, from a structural and linguistic standpoint, explores the possibilities of intertextual inclusions in video games, their rhetorical forms and connections with reference reality.

All pedagogically oriented research on video games can be roughly divided into two groups. The first includes works devoted to the consideration of the theory and practice of gamification, which has gained significant popularity in recent years. Here the possibility of integrating game principles into the educational process is substantiated, and specific methods for their implementation are developed. For example, Ye.O. Akchelov proposes a new approach to assessing gameplay in relation to the degree of player streaming immersion influencing the educational effect of video games [2]. O.V. Orlova explores the specific differences between gamification and other educational game forms. The author emphasizes that gamification practices become more organically part of the entire educational cycle [30]. S.Kh. Bidzhieva considers the problem of teachers' readiness to use gamification technologies at the competence level [5].

The second group of works examines the issues of using video games in the educational process, building learning strategies on their basis. This direction can be considered within the framework of the integral research platform Digital Game Based Learning, formulated in the work of the same name by the American publicist M. Prensky [31]. Here, the authors examine both specialized educational and "conventional" video games for their educational opportunities in a wide range of areas of knowledge and competencies. In particular, G.S. Kupalov reveals that the use of certain video games for educational purposes has several advantages over classical teaching methods [22]. In addition, the functional and technological view of video games as a means of innovative pedagogical technologies in teaching is quite popular in research [20]. The use of Digital Game Based Learning in teaching foreign languages, history, geography [39] and the formation of artistic competencies is also considered separately [35].

The purpose of this study is to consider video games as a technocultural phenomenon and a digital platform for modern media education. In the process of implementing this goal, it is planned to trace the genesis of the cultural constitution of video games, with the identification of the features of their rhetorical capabilities and the disclosure of the educational potential.

Materials and methods

The technocultural nature of the object of consideration and the thematic interdisciplinarity of the work determined the choice of the main research methods and approaches. The leading one for us is the cultural and historical method, which allows us to comprehensively reconstruct the formation of video games as a completely legitimate and multiseismic phenomenon of screen culture. Also, taking into account the consideration of video games in a wide cultural context with internal dynamics and diology, we used the methods of systemic and structural-functional analysis. The general logic of the research and the theoretical foundations of the identified determinants are based on dialectical foundations.

The cultural explication of the phenomenon of video games, considered as a phenomenon of virtual order, required an appeal to the philosophical theory of virtual reality, formulated

by R. Diodato [13], B. Massumi [24] and P. Montani [26; 27]. The multivariate concept of digital media research developed by I. Bogost and N. Montfort is also used [28].

Separate methodological principles and theoretical foundations of the study are based on the concept of cybertextual interpretation of video games by E.J. Aarseth [1].

In general, the synthesis of philosophical, cultural and historical methods is aimed at revealing the interdisciplinary connections of the work, and also contributes to the solution of the stated goals and objectives of the research.

Results

Formally, the first video game ("Tennis for Two") appeared back in 1958, but it was rather a personal technical experiment and the result of the intellectual entertainment of the American scientist W. Higinbotham. Three years later, within the walls of the Massachusetts Institute of Technology, a group of enthusiasts created the second video game "Spacewar!" [38, p. 208-217]. These two examples are interesting, rather, from the point of view of the history of video games, but culturally they went completely unnoticed. At the same time, they already implemented the conceptual principles of video games: displaying an electronically launched program on the screen, the visually actual execution of which involves the implementation by a person through external interfaces of a certain set of programmatically specified interactive actions that are of a competitive nature.

Video games first entered the popular culture space in 1972, when the Pong slot machine was released. "Slot machines" (or "arcade machines") are self-contained screen electronic devices capable of running video games stored in their internal memory. They were installed in public places, as a rule, associated with the mass leisure of people – cafes, bars and shopping centres, and had an exclusively entertainment function [23, p. 70].

Despite such a rather limited way of implementing the first video games, they quickly gained popularity, and by the beginning of the 80s. several stationary game consoles are released at once, which have gained massive popularity. They were connected to a TV, which acted as a screen display device for them. In this sense, the entry of video games into the cultural space occurs during the heyday of the television type of screen culture. Video games use its technological base, but they themselves propose a fundamentally new format of human interaction with the screen, which, I think, has become the main factor in the rather rapid popularization of video games.

At the same time, the distribution of video games was facilitated by their integration into the economy of mass entertainment, by building quite successful business models around them. Video games have increasingly come to be understood as a commodity "intended for mass consumption, designed to entertain and fill private leisure time, thus being a link in the entertainment industry" [16, p. 112].

Since the mid-80s. XX century. a new, ascending vector of distribution of video games begins, which continues to this day, becoming the basis of their cultural constitution. At this stage, video games underwent a significant transformation, significantly expanding their visual capabilities, complicating the procedural-narrative component and migrating to other (computer and mobile-smartphone) screen formats. In addition, various collaborations have been formed between video games and other types of on-screen content [34, p. 13-15].

As a result, video games have become a prominent part of everyday popular culture today, transcending the purely entertaining framework of social labelling. So, they were

legitimized as a kind of modern artistic practice, a sport and, of course, a promising platform for interdisciplinary media education.

One of the most important factors in the popularization of video games and their integration into various cultural spheres has become, in its own way, the unique features of the rhetorical toolkit and the modality of contact with the recipient of this screen medium. It should be recalled here that there are two main models of human contact with the screen – passive and interactive. The first model, characteristic of film and television screen culture, does not imply an active role of the recipient in his interaction with screen information arrays. The second model, arising in the computer and mobile-smartphone period, is aimed at cultivating a person's subjectivity, his active, dialogue interaction with information flows. And the novelty of video games lay in the fact that, having appeared in the era of television screening, they focused on an interactive model that was not characteristic of this media format.

The essence of any video game in terms of the very mechanics of its implementation lies in the active position of the gamer, influencing through the control interfaces the game situation on the screen and the virtual world as a whole. Accordingly, for the first time, a person, controlling certain game objects, got the opportunity to influence on-screen action. And although the first games were visually rather schematic and inexpressive, the very fact that a particular person was now given the opportunity to control screen processes in real time produced a significant emotional effect. In fact, from the beginning of the penetration of the screen into the space of everyday life, it was through video games that a person first acquired screen subjectivity actively, and not only in the role of a passive observer, became involved in the world of screen reality. As a result, these actor opportunities that games gave a person coincided with the general cultural trend to increase subjectivity and life intentions to participate in various cultural practices, which further popularized video games.

The grammar of the rhetorical toolkit of video games for broadcasting information arrays has a number of capabilities that are unique for other media. In general, within the framework of screen culture, two rhetorical forms have traditionally dominated: verbal and visual. Verbal rhetoric, addressing the earliest cultural forms, builds discourse on the basis of verbal grammar, which acts as the main information carrier and a tool of persuasion. Visual rhetoric is based on the main feature of screen culture – the ability to broadcast visual images, which here are eristic elements. Video games, thanks to their immanent interactivity, introduced a third rhetorical level that did not previously exist in on-screen culture – the procedural.

The very concept of "procedural rhetoric" is introduced into the scientific discourse of game studies by the well-known theorist of media research I. Bogost in the book "Games of persuasion: the expressive power of video games." Bogost defines procedural rhetoric as "the art of persuasion through rule-based representations and interactions, not spoken word, writing, images or moving images", as well as "the art of persuasive use of processes" [8, p. 47-48]. It is noteworthy that another representative of game studies, G. Frasca, develops a substantively similar concept of the rhetoric of video games, using a different terminological concept – "rhetoric of simulations" [15].

The emergence of digital interactive simulations as a new form of reality - virtual reality, created, according to Bogost, a fundamentally different system of teaching and persuasion. In particular, traditional textual analysis, based on the study of the signifier and the signified, was found to be inadequate for the explication of the gamer's participation in the video game space. Frasca develops the same idea. He emphasizes that "simulations

can express messages in ways that narrative simply cannot" and this creates the need for a new rhetorical theory [15].

Conceptually, procedural game rhetoric is a way of organizing discourse through virtual practice, where direct gameplay experience turns out to be the central factor of persuasion and the carrier of meaning. In other words, a person learns something and learns the rules and laws of the game universe through his own actions in this world. Rhetoric in video games is the use of "unit operations" by game designers through

which the user can "read" messages laid down by the game developer, not always clearly realizing their presence. In this case, units are objects combined into systems with their own logic of interactions [8, p. 87-95]. In procedural rhetoric, rules of conduct create "spaces of opportunity that can be explored in the game." Such techniques are quite traditional and common for everyday human life, but they were categorically impossible within the boundaries of screen forms due to the essentially passive role of man in relation to the screen space. Video games have overcome this limitation by opening up a new rhetorical dimension to screen culture [24].

In the discursive field of procedural game rhetoric, some judgment is always coherent with the experience of activity in the virtual world. The rhetorical format of a video game is realized through three cyclical components: 1) visual fixation of some screen-game situation; 2) the reaction (through the available interfaces) of the player to this situation; 3) changing the game situation, which requires a new response. And this whole form of the existence of a video game allows you to broadcast certain messages. In turn, the situation of reading these messages is non-linear, allowing for many interpretations. Therefore, the player in relation to the procedurally readable text of the game finds himself in the position of a hermeneut, revealing its meanings. The procedural narrative of the game is read through permanent hypothesis testing through direct gameplay, successes and failures, programmed game rules.

Among the theories expanding the functionality of procedural rhetoric, R. Kolbi's concept deserves special attention, which extends it to the sphere of pedagogical practice. The author comes to the conclusion that games are special "multimodal systems" with a set of basic instructions and rules. In turn, the game, according to Bogost's theory, can be represented as a system based on pedagogical rules that can positively affect the improvement of a person's skills and competencies. This opens up the possibility of implementing procedural and rhetorical practices and techniques in the field of education.

In the context of the theory and practice of education, video games can be considered in two main aspects - methodological and instrumental-practical. In the first case, video games are defined as a specially organized system of activities with their own architectonics of incentives and rewards. These principles of game interactions are carried over to non-game areas, in particular education. This model of conceptual game implantation in scientific research discourse and sociocultural practice is called gamification.

In the instrumental and practical aspect, video games are used in teaching directly as a software carrier of educationally useful information. This direction is implemented in the practice of Digital Game Based Learning. It should be emphasized right away that gamification is not the same as the Digital Game Based Learning strategy [29, p. 220-221]. The latter is based on the use of the video games themselves for educational purposes, and gamification borrows from games only the structure, the methodology for organizing game activities, transferring it into the educational process.

Gamification is primarily addressed to the entertainment basis of video games; gameplay practices act as a self-sufficient (in the aspect of actualization for a person) process that

enjoys a stable attractiveness. Here, the logic and design of the game construction act as a new method of organizing educational activities, stimulating, first of all, motivation. It is important to emphasize that gamification changes the form of organization of activities, while its content should remain the same [30, p. 61]. The key feature of the implementation of gamification, which distinguishes it from other gaming techniques, is its non-imitative nature, it is always implemented in the reference reality with its objective conditions.

In the field of gamification of education, the New York school "Quest to Learn", which is attended by students in grades 6-12, is often cited as a prime example. In this school, the entire educational process is built on the example of a video game: the tasks that students receive are not formalized as mandatory requirements, but in the form of a mission, which they themselves still have to find for themselves and decide how to fulfill them. Thus, in the school process, such game elements as quests are actively used – integral missions consisting of several tasks. Making the game through a quest, which the student finds for himself and tries to solve, makes it possible to deprive the learning process of a sense of obligation and compulsion, which quite strongly motivates students. It turns out that if you organize tasks in this format, then their very implementation will be a reward for the student.

In addition, this school is abandoning the standard grading system. Instead, a system of achievements is introduced, which show what exactly the student did, in which project he participated, etc. Moreover, students publish these achievements in their account on a social network specially designed for use in the school "Quest to Learn". This allows students to receive feedback not only from teachers, but also from peers. And also, unlike assessments, this form of feedback does not reflect their abstract ability to meet school requirements, but it shows exactly their skills and abilities, demonstrates to themselves and others what they can do and how. The software that is incorporated in this school allows the creation of very complex virtual maps. Quests in this school are created fundamentally difficult in the sense that they always address a wide range of knowledge and skills of schoolchildren, systematically and naturally developing many competencies [4, p. 81-82].

However, with all the modern popularity and fashion of gamification, as a principle of reformatting educational activities in order to humanize it, overcome routine and increase internal motivation, a number of difficulties and risks of its total implementation should be noted. First, it is problematic to adequately adapt the entire set of goals and objectives of education (with its system of translation of knowledge, skills, abilities and competencies) into a gamification format. Of course, teaching individual skills in the architectonics of game mechanics can be very effective. At the same time, the transfer of the entire educational process to such a format is technologically difficult, it requires serious skills of deep adaptation of educational material into game practices. Secondly, it should be remembered that gamification is based on the clip nature of thinking and perception of information, addressing its advantages. But it also has quite obvious drawbacks, which in this case will negatively affect the educational process. In particular, this will inevitably lead to a decrease in the assimilation of information that requires deep study and concentration. Third, in a number of cases, the implementation of the principles of gamification is imitative, exclusively external. In this case, the content basis of the educational process is reduced, it is replaced by entertaining play activities that do not develop the necessary competencies. In addition, there is a danger of perceiving gamification mechanisms as self-valuable practices. In this case, gaining points, reaching new levels and obtaining achievements in the educational process become the main goal, devaluing its content side.

A much wider format of using video games for educational purposes is being implemented as a practice of Digital Game Based Learning. Here directly video games, their narrative content and gameplay are an interactive media platform, broadcasting new knowledge and procedurally forming certain competencies. From the point of view of Digital Game Based Learning, all video games can be divided into two types - specialized training and conventionally "traditional".

Specialized educational games are initially created as an interactive on-screen tool for teaching specific knowledge and skills: basic principles of logical thinking, learning the alphabet, and simple arithmetic operations. In terms of content, they are extremely casual, have a low entry threshold and a schematically constructed narrative. Their target audience is children between the ages of 3 and 10. Strictly speaking, such programs can only nominally qualify as video games. In fact, they are a mechanical translation of the relevant teaching practices from the reference reality into the screen format. The actual game component in them is reduced to the simplest mechanics, which are centred around the main teaching goal. Therefore, such games, having a narrow-profile educational specialization, have an unstable game appeal and a relatively small target audience.

In turn, the role of "traditional" video games in all their genre and narrative diversity in learning is incomparably larger. Significant arrays of general cultural information are often integrated into video game narratives and latently broadcast to the gamer-user. So, there is a separate genre direction of historical video games, which can contain both factual knowledge about events and facts of the past, and reveal the logic of historical logic, showing chains of causality. This is most thoughtfully and historically true in such a series of games as "Europa Universalis" and "Civilization". In addition, visually-setting-oriented historical games (for example, "Assassin's Creed", "Ryse: Son of Rome" and "Ghost of Tsushima") quite authentically reconstruct the appearance of entire eras and individual historical locations. This provides valuable cultural knowledge, the assimilation of which is greatly enhanced by the polymorphic rhetorical tools of video games.

Also, some strategic games are aimed at the formation of economic and socio-managerial competencies (for example, the series "SimCity", "Anno", "Caesar", numerous thematic variations of Tycoon-games). Today it is already difficult to name an area of activity in which a video game manager-simulator has not yet been released. They simulate complex economic processes involving social and political factors. At the same time, these video games remain, first of all, the actual games that attract with their gameplay and plot. All this allows the user of such software products to master the basic management skills of various public institutions, being in a situation of easy play.

Finally, video game projects based on literary sources are periodically created. For example, game adaptations based on the works of F. Herbert, D. Glukhovsky, A. Conan Doyle, T. Clancy, G. Lovecraft, D. Rowling, A. Christie, L. Carroll, D. Tolkien, A. Sapkovsky and brothers Strugatsky. Video games allow you to immersively, using interactive mechanics, familiarize yourself with literary plots. At the same time, games inevitably strive to expand the basic literary universes, filling them with additional events, endowing the gamer with subjective capabilities within the framework of artistic worlds. Thus, video games create a fundamentally new, procedurally oriented dimension of the interpretation of literary narratives.

In general, video game narratives and procedural mechanics contain a wide range of educational information from a variety of social science disciplines. It can be argued that modern video games have very effectively and effectively implemented the famous

pedagogically oriented principle of N. Boileau – “to teach while entertaining”. In addition, there are projects that very organically and successfully combine the gameplay appeal of "traditional" games and the educational specialization of teaching. In this series, the game "Minecraft: Education Edition" is especially famous. It is based on the popular sandbox game Minecraft, which has been enhanced with educational tools for classroom use. In particular, the game allows you to organize a system of groups of work in the classroom on a single task with tracking its progress in real time. Also, teacher-moderators can use whiteboards to communicate learning objectives, provide additional information, and give clear instructions in the game. The teacher receives many tools for personalizing in-game tasks and conditions for individual educational goals and trajectories.

Solving educational problems in the virtual world of "Minecraft: Education Edition" can bring into them an active-immersive, creative dimension of finding an answer through procedural-rhetorical tools. Here the user always takes an active research position, being in an interactive connection with the game universe. Verification of solutions is carried out through experience, direct practice, which increases its value and depth of assimilation [22, p. 153-154]. All this has led to the fact that "Minecraft: Education Edition" is very popular and is officially used as a virtual-game learning environment in some schools in Europe and the United States.

Finally, it is necessary to note in its own way the unique project "Schome Park", which became an educational experiment to create a virtual sandbox world in which various learning strategies are implemented. Educational scenarios were carefully prepared by professional teachers and were organically incorporated into the system of practices and activities of the virtual world. The learning process was structured in such a way that learning new things happened "by becoming", and not "by learning about". During the project, the participants had to solve a variety of problems of existence in the game universe, associated with making collective decisions through a variety of communication and dialogue practices and virtual activities [6, p. 182-183].

At the same time, analyzing the experience of implementing the Schome Park project, some weaknesses in the organization of the virtual world in coherence with the initial educational tasks were noted. In particular, a redesign of the organization of in-game goals is required. In general, sandbox games are characterized by blurry and unpredictable program motivation of user activities. The gamer himself must generate in-game goals. From the point of view of freedom of action and the development of creativity, this is undoubtedly a positive property. However, the same quality can problematize the implementation of specific educational tasks in the game. Accordingly, for the implementation of training components in "Schome Park" it is necessary to strengthen the user identification of in-game goals, to develop a clear motivational design for their grouping and hierarchy within the virtual world.

Discussion

The features of the user interpretation of the procedural-rhetorical messages of video games that we identified are generally consistent with the concept of procedural hermeneutics by A.S. Salina [36]. The author rightly notes the variability of meaning reading foci, which are transmitted through the dynamics of gameplay and unique user interactions with objects in the game world. In their complex understanding, hermeneutic procedures can really be useful.

S.V. Milovidov examines how to apply the method of procedural rhetoric to the analysis of transmedia works (including video games) [25]. It seems to us that the idea of analytics of transmedia projects using the method of researching single operations, as part of the procedural-rhetorical methodology, makes it possible to interpret transmitted messages in a different way, as heuristically promising. This opens up a spectrum of new modalities for interpreting traditional types of media content, such as feature films.

The results of the study confirm the existence of innovative rhetorical tools for video games as an interactive screen medium. In assessing the educational potential of video games, our data correlate with the position of L. de-Marcos and E. Garcia-Lopez. In particular, the researchers rightly emphasize that video game capabilities can be used to create new educational technology that will improve the quality of learning, making this process more exciting and expressive [12, p. 103-05]. This becomes possible thanks to the original rhetorical techniques and immersive effects of video games, which allow you to experience a unique experience of an active, subject-oriented presence in virtual worlds, where various scenarios are realized [11, p. 314-315].

Also, the results obtained in the study regarding the role of gamification in the education system are consistent with the findings of L.P. Varenina, who notes that "gamification in higher education is designed to create such an information and learning environment that would contribute to the independent, active desire of students to acquire knowledge, professional skills and abilities, such as critical thinking, decision-making, working in a team, being ready to cooperate" [40, p. 316-317]. All of this indicates that gamification promotes creativity and motivates self-education.

Simultaneously, developed by Ye.O. Akchelov, Ye.V. Galanina and K.S. Nikitina method, which, according to the authors, is "relevant for the gamification of education" and "allows you to assess which game mechanics must be used to meet the needs of the subjects" [2, p. 113], raises a number of questions and doubts about its effectiveness. Of course, researchers have done a lot of work to systematize and bring into a single register various types of video game classification, however, the criteria for assessing gameplay proposed by the authors are extremely formalized and meaningfully amorphous. And further on, the model for converting the proposed assessments of the game process into a conclusion about the degree of satisfaction from the game is built, in our opinion, voluntaristically and does not have strong empirical or theoretical foundations. In general, the proposed method is quite scholastic, and its practical application in the gamification of education seems to us rather vague.

In addition, our work tries to overcome one annoying content-terminological inaccuracy, which is present in a number of modern studies in the thematic framework "video games and education". So, in a number of cases, the practice of gamification is incorrectly explicated, which applies to any format of using video games in the training system. Thus, gamification replaces and meaningfully absorbs the Digital Game Based Learning strategy, which is fundamentally wrong. In this aspect, we are in solidarity with the position of D.A. Bogdanova, who focuses on the fundamental distinction between gamification and Digital Game Based Learning [6, p. 179].

Finally, we disagree with the principles of determining the educational potential of video games proposed by A.A. Sukhov. The author interprets and labels educational content in video games as broadly as possible [39]. In his understanding, almost any game contains educational elements. Of course, in a broad sense, this is true. But the same applies to any activity that inevitably entails experience that is an element of learning. It seems that

such a broad understanding of educational content erodes its content features, which, in turn, reduces the heuristic value of any analytics of educational resources of video games. We insist on the need to distinguish in games of meaningful clusters of special-profile knowledge (for example, historical facts) or skills (for example, management of some professional field of activity), which are transmitted to the user through procedural-narrative elements of the game. And it is their definition, with the fixation of the scale, authenticity and depth of study, that will influence the final conclusion about the educational potential of a video game in the framework of the practice of Digital Game Based Learning.

Conclusion

As a result of our research, we can state that video games since the 70s. XX century. passed through the rapid cultural constitution, developing as part of the screen technoculture. They used fundamentally new, procedurally oriented rhetorical techniques that made it possible to build innovative communication models in screen media. Video games allowed the user to be directly included in virtual narratives, he turned from a passive recipient into an actor. All this correlated with the general social demand for increasing the subjectivity of a person, the formation of his active position in the media space.

In addition, the importance of the gamification of education is revealed. Video game mechanics, the principles of human interaction with the game world, which form motivation in a fundamentally new way, can be integrated into the educational process. This contributes to building strategies of internal stimulation with elements of entertaining practices in the dynamics of learning, which helps to cope with routine tasks and, ultimately, increases the effectiveness of education as a whole. Mechanics inherent in gamification allow stimulating subjective activity without taking the learner away from reality. At the same time, it is necessary to remember about the risks of developing clip thinking, as well as replacing the content of education with exclusively game mechanics that are self-sufficient in nature.

Finally, the significant educational potential of video games has been identified, which have already been legitimized as a promising media platform within the framework of a comprehensive Digital Game Based Learning strategy. They can act both as carriers of knowledge and as a virtual environment for the formation of competencies in the field of history, economics, literature and social management. Procedural rhetoric allows a person to become part of an interactive scenario, which greatly increases the likelihood of assimilating information and developing professional skills. Moreover, interesting educationally oriented editions of famous video games are emerging, which are gradually being integrated into real learning practices. It can be stated that in a broad sense, video games today are already an innovative screen-digital platform for media education.

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REFERENCES

1. Aarseth E.J. Cybertext: Perspectives on Ergodic Literature. Baltimore, 1997.
2. Akchelov Ye.O., Galanina Ye.V., Nikitina K.S. Gamification in education: a new approach to assessing gameplay. *Modern science-intensive technologies*, 2016, no. 12, pp. 103-114. (In Russ)
3. Bartle R. Virtual Worlds: Why People Play. Available at: <http://www.mud.co.uk/richard/VWWPP.pdf> (accessed 20 June 2021).
4. Belyaeva U.P. Gamification: strategies and implementation practices. *Humanities in the context of modern socio-cultural transformation: Materials of the IX All-Russian Scientific and Practical Conference with International Participation*, Lipetsk, 2020, pp. 80-84. (In Russ)
5. Bijieva S.Kh., Urusova F.A.-A. (2020). Gamification of education: problems of use and development prospects. *World of Science. Pedagogy and psychology*, 2020, vol. 8, no. 4. Available at: <https://mir-nauki.com/PDF/34PDMN420.pdf> (In Russ) (accessed 19 June 2021).
6. Bogdanova D.A. Video Game Based Learning. *Public Education*, 2014, no. 3, pp. 176-185. (In Russ)
7. Bogdanova K.V. Types and features of intertextual inclusions in modern English-language role-playing video games. *World of Science, Culture, Education*, 2017, no. 2, pp. 325-328. (In Russ)
8. Bogost I. Unit operations: an approach to videogame criticism. Cambridge, Massachusetts: The MIT Press, 2006.
9. Bogost I. Videogames are a Mess. Available at: http://bogost.com/writing/videogames_are_a_mess/ (accessed 19 June 2021).
10. Bykov Ye. Gamification of scientific research. *Logos*, 2015, vol. 25, no. 1 (103), pp. 180-213. (In Russ)
11. de-Marcos L. Social network analysis of a gamified e-learning course: Small-world phenomenon and network metrics as predictors of academic performance. *Computers in Human Behavior*, 2016, vol. 60, pp. 312-321
12. de-Marcos L., Garcia-Lopez E., Garcia-Cabot A. On the Effectiveness of Game-like and Social Approaches in Learning: Comparing Educational Gaming, Gamification & Social Networking. *Computers & Education*, 2016, vol. 95, no. 1, pp. 99-113.
13. Diodato R. Aesthetics of the Virtual. Suny Press, Albany, 2012.
14. Frasca G. Narratology and Ludology: Competing Paradigms or Complementary Theories in Simulation. *Developments in Business Simulation and Experiential Learning*, 2006, vol. 33, pp. 363-372.
15. Frasca G. Simulation Versus Narrative: Introduction to Ludology // *The Video Game Theory Reader*, Mark J.P. Wolf, Bernard Perron (ed.). New York: Routledge, 2003. pp. 230-236.
16. Furtay F. The phenomenon of virtuality in popular culture, or "Welcome to our nightmare". *Bulletin of the Leningrad State University named after A.S. Pushkin*, 2009, no. 3, pp. 112-121. (In Russ)
17. Girina I. Cinematic games: The aesthetic influence of cinema on video games: PhD., University of Warwick. 2015.
18. Juul J. Games Telling Stories? A Brief Note on Games and Narratives. *Game Studies*, 2001, vol. 1, no. 1. Available at: <http://www.gamestudies.org/0101/juul-gts/> (accessed 23 July 2021).
19. Juul J. Half-Real: Videogames between Real Rules and Fictional Worlds. Cambridge, MA; L., 2005.
20. Khamzatova L.A., Alisultanova I.A., Aliroeva Z.R. Digital games as a means of innovative pedagogical technologies in teaching. Four ways of learning through games. *Bulletin of the Complex Research Institute. H.I. Ibragimov of the Russian Academy of Sciences*, 2020, no. 4 (4), pp. 61-67. (In Russ)
21. Kirkpatrick G. Approaching Video Game History. Formation of Gaming Culture: UK Gaming Magazines, 1981-1995. 2015, pp. 5-26.
22. Kupalov G.S. Possibilities of using video games in education. *Bulletin of Pedagogical Sciences*, 2021, no. 3, pp. 151-155. (In Russ)
23. Lyapkina T.F., Danilova A.Yu. Computer games as an object of anthropological research. *Vestnik SPbGUKI*, 2016, no. 1, pp. 69-72. (In Russ)
24. Massumi B. Imagining the virtual. *Philosophical journal*, 2014, no. 1, pp. 19-34. (In Russ)
25. Milovidov S.V. Method of procedural rhetoric for the analysis of transmedia works. *Science of television*, 2019, no. 3, pp. 147-168. (In Russ)
26. Montani P. L'immaginazione intermediale: perlustrare, rifigurare, testimoniare il mondo visibile. Laterza, Roma-Bari. 2010.
27. Montani P. Tecnologie della sensibilità. Estetica e immaginazione interattiva. Cortina, Milano. 2014.
28. Montfort N., Bogost I. Racing the Beam: The Atari Video Computer System. Cambridge, MA; L.: MIT Press, 2009.
29. Nikitina A.V. Gamification of educational practice (on the example of an experiment of a group of parents on family education in Cheboksary). *Bulletin of ChGPU named after I. Ya. Yakovlev*, 2020, no. 4. pp. 219-225. (In Russ)
30. Orlova O.V., Titova V.N. Геймификация как способ организации обучения. *TSPU Bulletin*, 2015, no. 9, pp. 60-64. (In Russ)

31. Parker F. Playing Games with Art the Cultural and Aesthetic Legitimation of Digital Games: PhD., Ryerson Universities Toronto, Ontario. 2014.
32. Prensky M. Digital Game-Based Learning. New York: McGraw-Hill, 2001.
33. Robson J., Meskin A. Video Games as Self-Involving Interactive Fictions. *Journal of Aesthetics and Art Criticism*, 2016, vol. 74, iss. 2, pp. 165-177.
34. Rochat Y. A Quantitative Study of Historical Video Games (1981-2015). *Historia Ludens: The Playing Historian*, 2020, pp. 2-20.
35. Salikhov A.N. Development of artistic competencies using music in video games in the process of continuing education. *Materials of the IV International Scientific and Practical Conference "Art and Art Education in the Context of Intercultural Interaction"*, Kazan, 2015, pp. 177-180. (In Russ)
36. Salin A.S. Procedural Hermeneutics: How We Understand Video Games. *Media Philosophy X Computer Games: Research Strategies*, 2014, pp. 73-80. (In Russ)
37. Shaw A. What Is Video Game Culture? Cultural Studies and Game Studies. *Games and Culture*, 2010, vol. 5, no. 4, pp. 403-424.
38. Spring D. Gaming history: computer and video games as historical scholarship. *Rethinking History*, 2015, vol. 19, no. 2, pp. 207-221.
39. Sukhov A.A. Game Based Learning: an innovative educational resource for video games. *Materials of the XI All-Russian Scientific and Practical Conference "Youth in a Changing World: Trajectories of Self-Determination in Global Modernity"*. Ekaterinburg, 2019. pp. 164-182. (In Russ)
40. Varenina L.P. Gamification in education. *Historical and socio-educational thought*, 2014, no. 6-2. pp. 314-317. (In Russ)
41. Vetushinskiy A.S. To Play Games Studies Press the START Button. *Logos*, 2015, vol. 25, no. 1 (103), pp. 41-60. (In Russ)

Информация об авторах
Беляев Дмитрий Анатольевич

(Россия, г. Липецк)

Доцент, доктор философских наук, профессор
кафедры философии, политологии и теологии
Липецкий государственный педагогический
университет имени П.П. Семенова-Тян-Шанского
E-mail: dm.a.belyaev@gmail.com
ORCID ID: 0000-0002-8062-1039
Scopus Author ID: 57211658682
ResaecherID: F-8467-2018

Беляева Ульяна Павловна
(Россия, г. Липецк)

Кандидат философских наук,
старший преподаватель кафедры философии,
политологии и теологии
Липецкий государственный педагогический
университет имени П.П. Семенова-Тян-Шанского
E-mail: Ulyana-sin@yandex.ru
ORCID ID: 0000-0002-3057-537X
ResaecherID: M-1018-2015

Information about the authors

Dmitriy A. Belyaev

(Russia, Lipetsk)

Associate Professor, Doctor of Philosophy
Professor of the Department of Philosophy, Political
Science and Theology
Lipetsk State Pedagogical University named after P.P.
Semenov-Tyan-Shan
E-mail: dm.a.belyaev@gmail.com
ORCID ID: 0000-0002-8062-1039
Scopus Author ID: 57211658682
ResaecherID: F-8467-2018

Ulyana P. Belyaeva

(Russia, Lipetsk)

PhD in Philosophy Sciences, Senior Lecturer of the
Department of Philosophy, Political Science and Theology
Lipetsk State Pedagogical University named after P.P.
Semenov-Tyan-Shan
E-mail: Ulyana-sin@yandex.ru
ORCID ID: 0000-0002-3057-537X
ResaecherID: M-1018-2015