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SERIOUS VIDEO GAMES IN FOREIGN LANGUAGE EDUCATION

The article analyses the current tendencies of media integration into educational process. The educational potential of serious video games in foreign languages teaching and learning is presented. Pedagogical and practical challenges of serious video games' application, among which are the issues of a game choice, video games' integration into curriculum, opportunities of the gameplay for foreign language education, are discussed.

Key words: media competence, digital game-based learning, serious video games, foreign languages teaching and learning, educational characteristics of serious video games, genre of a video game.

Background. As we stated in our previous works, media competence is one of the key competences that facilitate effective functioning in the contemporary society. To develop media competence and to form media literacy means to be able to consciously consume media texts of different genres, to understand individual media needs and to express oneself personally and professionally via various media tools [11]. It is true that much of what we do and how we communicate nowadays moved to the Web. We use social media to get news updates, search for ideas, exchange photos, publish our thoughts, tell people where we are and share experiences of all kinds.

It is also true that N-Generation of today's students is growing up in networked and interactive media world, high-speed information acquisition, graphics, instant rewards and multi-tasking. As such, they favor expression through producing (rather than simply consuming) a content, collaborative problem-solving over individual approaches, shaping the flow of the peer-to-peer activities' results, as opposed to more passive audience relationships to one-way information flows. Their media knowledge is described in terms of the new media literacies and a participatory culture, built around social skills, civic engagement, informal mentorship where what is known by the most experienced is passed along to novices, where members believe that their contributions matter, where participants feel some degree of social connection with one another [5].

With the more increasing convergence between media forms and the improved gaming ability of everyday mobile devices, video games and edutainment are gradually taking their rightful place in everyday classrooms. Serious video games – computer based games with a primary purpose other than solely entertainment – are not an exemption.

Literature review.

It is not surprising then that the on-growing interest of the scientific community in the educational potential of serious video games is reflected in the increasing number of research works that have appeared within last decades. Thus, S. Arnab, A. Echeverría, C. Loh discuss theoretical frameworks for the design and integration of serious video games into classrooms; S. Adams, E. Gordon, J. Kahne, Ch. Raphael, write about games for civic learning, peace education and conflict resolution; serious games' assessment questions are presented in the articles by N. Alvarado, F. Bellotti, J. Konig, K. Mitgutsch; principles of immersive learning in video games are analyzed by S. de Freitas and J. Gee.

As the process of serious video games' integration into educational landscape is gathering momentum, the area of teaching and learning foreign languages cannot be excluded from the list of the most promising.

The aim of the presented article is to focus on serious video games as an educational tool in foreign languages teaching and learning; to enquire into the present state of serious video games' implementation into classrooms, including pedagogical and practical challenges.

Findings.

We consider it necessary to begin our analysis with giving a general outline of the two large fields connected with video games in foreign language education. The first is computer-assisted language learning (CALL) and the second - digital game-based learning (DGBL).

It is widely accepted that CALL is the use of computer technologies with the prime aim to cater for language learning purposes and it includes word processing, presentation packages, games, multimedia CD-ROMs, internet applications, such as e-mail, chat and the World Wide Web [7].

The research and the development of DGBL dates back to the early years of computer-assisted language learning and sees its rise from the beginning of the mid-1990s, due to the online PC games' increase. The emergence of such computer games as military, health, political, adventure games, simulations, persuasive games, massively multiplayer online games has expanded the possibilities for interaction and, with foreign languages, made it possible to use multiple languages synchronously [1]. Methodologically, the application of computer games to language teaching and learning started from the focus on drills, grammar explanations, translation tasks and shifted to communicative contexts, task-based and project-based approaches [3].

A. Baltra, A. Carbonell, B. Montero, F. Watts attribute efficiency of video games in foreign language education to the task-based approach. The task, as the corner stone of the gaming process, requires such actions as solving a puzzle, conversing with people, reading a map where a player is an active agent experimenting with a digital world that provides rich and varied language input and often combines visual cues, a text, spoken language and a particular context. The 'task' herewith is primarily meaning-focused language use (as opposed to form-focused exercises) that has both non-linguistic and linguistic goals and results in the accomplishment of some specified aims. This accords with the second language acquisition (SLA) theory according to which the learning of a foreign language must be implicit and subconscious, attitude dependent, present informal situations, use grammatical 'feel', and have a stable order of acquirement [7].

Another strong and undeniable feature of video games in language education is the rich input they offer. A written word, a picture, sound, a virtual 3D representation of the object make players activate word processes on several different levels simultaneously, which offers a better environment for learning than when only one or two of the channels are available [10].

At the same time, there are pedagogical as well as practical challenges of incorporating games into a classroom. Following Robert Godwin-Jones, we can present them in three big questions: 1) what kind of games to choose or to create; 2) how to integrate gameplay and its associated activities into the curriculum; 3) how to find the opportunities for language learning within gameplay [4].

Referring to the first question, it is important to keep in mind that in the process of a gameplay, language learning can happen in a planned activity as well as incidentally. Therewith, so-called COTS (commercial off-the shelf games) may be challenging, as target linguistic characteristics are hard to be determined in advance. At the same time, serious video games, purposefully designed for specific learning needs, are less attractive to users in terms of graphic, sound and other effects of more expensive COTS. Whatever type is chosen, it makes sense to choose a game the content of which is directly related to the curriculum, rather than to take any game and explore its learning potential.

It is also important to understand general educational characteristics of serious video games, the studies of which let us pinpoint the following features as the most outstanding:

- serious video games influence learning by changing cognitive processes and by affecting motivation;

- experiential learning theory (J. Dewey, D. Kolb, L. Vygotsky), according to which the most powerful learning comes from direct experience through action-taking and analyzing the consequences of this action, backs up cognitive development of players;

– D. Kolb’s model of experiential learning is one of the models that describes the learning process in a serious video game’s participation (learning starts from concrete experience, moves on to reviewing and reflecting on the past experience and climbs up on a different level of the initial experience understanding - enriched, broadened, deepened);

– serious video games build motivation via information-rich environment, challenge, curiosity, competition;

– serious video games contribute to the shaping of a participatory culture and add to the advancement of social component by giving everyone a more active stake in the results produced;

– a good video game contains clear goals, tasks and activities that are relevant to students (with the appropriate level of challenge and gradual increase of complexity); it stimulates curiosity, exploration, problem-solving, enquiry, collaboration, inter-group competition, helps players test ideas and consolidate their experience; it presents multiple paths to solve the tasks; it has a system of feed-back (reflection); it lets players make mistakes in a safe environment.

We also support the idea that a particular genre of a video game is capable of developing a specific set of skills and corresponding knowledge [2], [4], [9]. Therefore, for any language teacher who plans to use a video game, it is good to know what genres of games exist and what skills they can develop. The list of possible genres includes: 1) shooters (e.g. Spacewar, Star Castle, Defender), 2) adventures (e.g. Colossal Cave, Indiana Jones, Syberia); 3) platform games (e.g. Donkey Kong, Super Mario 64, Pac-Man World, Spyro the Dragon); 4) role-playing games (e.g. Dungeons and Dragons); 5) puzzles (e.g. Wetrix, Tetris, Intelligent Qube); 6) simulations (e.g. SimCity, Flight Simulator, Gran Turismo); 7) strategy/tactics (e.g. Ogre Tactics, Command and Conquer, Final Fantasy Tactics); 8) sports; 9) fighting (e.g. Street Fighter, Soul Calibur, King of Fighters).

The connection between the genres and the skills they develop is presented in Table 1.

Table 1

Video games’ genres and skills they develop (based on PING and R. Baptista research materials)

Game Genre	Skills
Shooters	reflexes and coordination (not strategy)
Platformers (Action)	hand-eye coordination, problem-solving, strategy, innovation management
Puzzles	strategy, decision-making, intellectual acumen
Mazes	strategy, forward planning skills, reflexes
Sport Games	managing, strategy planning, organizing
Racing Games	engineering concepts
RTS (Real Time Strategy)	organizational agility, operating skills, strategic skills, drive for result
RPG (Role Playing Games)	motivating others, negotiating, dealing with ambiguity, decision making, problem-solving
MMORPG (Massive Multiple Online Role-Playing Games)	collaborative and exploratory activities
Adventure Games	organizing, decision-making, problem-solving

Question two of the article, which is how to integrate gameplay and its associated activities into the curriculum, also requires a number of serious considerations. First, the “golden principle” outlined in many works related to the discussed topic states that for a game to have positive educational value, de-briefing before the game and reflection after the game are necessary. As consequence, an educationalist role is to prepare corresponding activities that may vary from simple instructions how to play the game and the explanation of the purpose and the ways to achieve it to logs, reflective accounts, replaying the game (a part of the game), skills-to-real world activities, even the critique of the game. Second, it is important to identify the type and purpose of the digital game (e.g. a serious game or a commercial off-the-shelf game), the genre the game belongs to and its associated learning benefits. Third, to understand the technical requirements of the game and the facilities available. Fourth, to check the game rating standards to determine

its suitability for the age range of pupils. Fifth, to ensure the game is suited to the content and skills to be taught and correspondence with the part of the curriculum. Sixth, to check how the game provides feedback and whether the game's software allows for assessment opportunities [2]. And, as always, lesson plans that will include specification of objectives, time and resources needed, modes of learning, context from the game, activities.

The third question posed at the beginning of the article is connected to the opportunities for language learning within gameplay and is one of the most challenging, as the area of gameplay influence on language acquisition requires further research, more statistics and is cost demanding. Though, on international level, the scope of research papers connected with serious video games is wide, the number of works in more narrow contexts does not look as numerous. According to the review of the latest trends in digital game-based learning research, only 4% of the articles are related to DGBLL (Digital Game-Based Language Learning). Along with it, higher education learners are the most frequently examined group of participants in DGBLL studies with the English Language being the target language studied by the majority of DGBLL researchers, and off-the-shelf digital games, particularly the type of Massively Multiplayer Online Role-Playing Games (MMORPG) - the most commonly implemented games in the DGBLL [8].

Among the research areas that require further studies, we single out such directions as the principles of immersive communicative situations' creation where students could actively interact with each other and feel comfortable experimenting and making mistakes playing games. Then, challenges connected with incidental learning - how to predict or measure it. Last, the understanding that the proper use of video games in a classroom can establish a close relationship between the teacher and the students, as by using the medium that is present in the daily life of students the teacher creates a sense that she/ he cares about the students' activities and interests outside the classroom [4]. Consequently, the ways to change the attitude of teachers to video games and to increase their motivation, to equip them with understanding of the game-based learning principles and to show the ways to apply them to the classroom context are needed.

Summing up and conclusions.

Summarizing the above-listed ideas, we may say that serious video games in foreign language education are a modern way to learn, to explore, to connect and to communicate. They are gradually taking place in everyday educational process to satisfy the needs and demands of the new generation of media literate students. Though the research of general pedagogical issues is actively developing on international level, there are some vectors of further investigation in the narrower field of DGBLL. Among them are the pedagogical principles of the video game selection, the rules of the gameplay's integration into curriculum, the activities that can foster foreign language education based on video games, teacher-training programs' development that will explain the basics of game mechanics and learning theories they are based on, educational features, different genres of the games and the skills they can develop.

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У статті розглядаються сучасні тенденції впровадження медійних технологій до навчального процесу. Особлива увага приділяється серйозним відеоіграм та їх освітньому потенціалу. Окреслюються педагогічні й практичні проблеми, що пов'язані з використанням відеоігор, а саме вибір гри, її інтеграцію до навчальних планів, здатність відеоігор впливати на вивчення іноземних мов.

Ключові слова: медіакомпетентність, навчання на основі цифрових ігор, серйозні відеоігри, навчання іноземних мов, навчальні характеристики серйозних відеоігор, жанр відеоігри.

В статье рассматриваются современные тенденции внедрения медийных технологий в учебный процесс. Особое внимание автор уделяет серьезным видеоиграм и их образовательному потенциалу. Очерчивается круг педагогических и практических проблем, связанных с использованием видеоигр, а именно выбор игры, ее интеграция в учебные планы, способность видеоигр влиять на изучение иностранных языков.

Ключевые слова: медиакомпетентность, обучение на основе цифровых игр, серьезные видеоигры, обучение иностранным языкам, образовательные характеристики серьезных видеоигр, жанр видеоигры.

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