Games in University Education

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Abstract

The paper presents conclusions from research into the opportunities to employ games in university education and it constitutes a description of a number of projects carried out at the Institute of Pedagogy at the University of Wrocław. The project encompassed: (1) the use of location-based games in cultural education classes (Kulturalny Wrocław project), (2) a five-day game seminar on career management (the Gamification in career management in the educational practice of Lower Silesia project), (3) a location-based game diagnosing entrepreneurship competences (the Entrepreneurship in the educational practice of Lower Silesia project), and (4) the use of LARP games in developing soft skills (the Learning through games project). During the conducted research triangulation of methods was employed: participant observation as well as focus and individual interviews. The conclusion of the explorations is that the Introduction of games into university education is an effective and attractive educational means, which, at the same time, requires substantial amount of time and number of staff in the preparation of the classes.

Keywords: education, adults, gamification, university education

"Our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (Prensky, 2001).

Introduction

According to the assumptions of the European and, as a consequence, Polish standards of qualification, the result of receiving higher education ought to be to provide the student with knowledge, skills, and social competences defined in the curriculum. Academic education, a specific form of transferring knowledge to persons who, it is assumed, are interested in acquiring as broad as possible an access to skills needed in their future professional careers, faces a number of challenges. That is because contemporarily the development of civilisation is still based on a constant development of the web society in which the most important aspect is the complex interactivity and economy grounded in knowledge implies the necessity to seek new

ISSN 2601-8616 (print)
ISSN 2601-8624 (online)

European Journal of
Education

July - December 2024
Volume 7, Issue 2

ways of transferring knowledge. On the one hand, this is connected with increased interest, raising the level of education and the tendency among students to pursue more than one subject. This, in turn, is related with the idea of a society of knowledge, because such a way of forming societies contributes to the constant development of qualifications and competences. However, on the other hand, the increased expectations made of students pertaining to the manner in which knowledge is transferred, as well as to the character of the knowledge itself are a result of the broad access to databases where the fundamentals of knowledge in many subjects can be found. In this complex situation innovative education techniques become crucial.

According to the author[1], the results in this area can be achieved through multiple means, using the typical lesson/classroom method, or alternative contemporary approaches. One of the ways of achieving the above aim is the use of the educational potential of games. Departing from traditional ways of teaching or even making this process more attractive and adapted to the reality of human life makes it possible to introduce elements of gamification. Gamification "is a conscious and purposeful use of the mechanisms and techniques employed in designing games in order to increase dedication and loyalty, as well as modification of behaviours and habits (…). The assumption in gamification is to direct the activities to achieve an aim that is in concordance with the expectations of the author of a project, and their motivation to perform the expected actions, even if they are thought to be boring and run-of-the-mill" (*Grywalizacja*). P. Tkaczyk adds that in 2010 99% of young Americans declared that they played computer games. Such a high level of involvement[2] creates "a system of education parallel to schools" (Tkaczyk, 2012, p. 52). In light of these figures the

Introduction of the element of gamification into education is not merely a diversification of classes, but a way of change that appears inevitable in the longer perspective.

Introduction of gamification into the process of education can contribute to discovering inexhaustible "resources of inner motivation and readiness for sacrifice that are observed in gamers on the daily basis, and which are often lacking in the system of education" (Sobociński, 2013). That is because gamification transfers the mechanisms of games to the field of education and in this way allows one to reach "an emotional state that can be defined as concentrated motivation" (Tkaczyk, 2012, p. 52). It is expressed through complete dedication to a task with the concurrent emotional involvement, which makes it possible to get satisfaction from performing even repetitive activities. However, to achieve this state the individual that learns needs to be presented with clear aims and instructions, they have to be certain that the task can be completed, and they need to be given immediate feedback on the achieved results" (Tkaczyk, 2012, p. 52-53). What else is important in using gamification in education? First and foremost – fun – because it produces positive

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[1] On the basis of years of experience in conducting classes at the Institute of Pedagogy of the University of Wrocław.

[2] P. Tkaczyk estimates that the 10,000 hours necessary to acquire a skill the gamers reach before adulthood (Tkaczyk, 2012, p. 52).

emotions. As J. Huizinga, who in 1938 coined the well-known term *homo ludens* – the playing man – states, "playing is an action performed out free will or an activity performed within certain limits of time and space which are accepted free willingly and non-negotiable, it is an aim in and of itself, and it is accompanied by the feelings of suspense, joy, and the awareness of its "otherness" from everyday life" (Huizinga, 1985, p. 51). When looking at games from a biological perspective one ought to bear in mind that "influenced by positive emotions the amygdala sends a proper signal to the frontal lobes (van den Bergh, & Behrer, 2012, p. 30), which facilities the remembering of an experience. Interaction with colleagues that introduces the element of competition is also significant.

In references there is no clear distinction between game and play, which are both the designates of yet another crucial term. The term ludology applies to two notions: *ludus* (Latin) – stands for "game", "play", as well as "a place for exercise", "school", and *logos* (Greek) – "word". In the context of research on games in general and video games in particular the term has most probably been used first by Gonzalo Frasca in *Simulation versus Narrative:*

Introduction to Ludology (Frasca, 2003) and Espen Aarseth *Playing Research: Methodological approaches to game analysis* (Aarseth, 2003). What is important in this context is the research on the structure of games. E. Aarseth defined the following elements of a game: (1) gameplay, including the actions, strategies, and motives of players, (2) game structure – rules of the game and simulation, and (3) game world – elements of fictions, texture, design of levels' typology. Jespen Juul, in turn, enumerated such elements as: player, game, world (Juul, 2003).

As it has been mentioned before, the planned transfer of rules and structures of games to other areas of social life is called **gamification**. The examples of such use are the point systems, skills levels, and feedback in schools, as well as employing elements of RPGs to achieve a greater involvement of students, making their achievements greater than their insecurities, so that their choices are closely connected with results, which leads to increased sense of control and self-education. Games also serve to introduce the feelings of mystery, cooperation, and communication into education, along with a combinations of knowledge and skills, and education within a context (Mochocki, 2011, p. 242). In references on education emphasis is placed on game structure. It can be defined as a set of features that an activity needs to have in order to become a game. They are:

the winning condition – that is, when do players know that they have won – it pertains to the formal aspect. It ought to be underlined that in every game someone has to win, and someone has to lose. Activity in which "everyone is a winner" is only fun, a pastime, but it cannot be called a game.

(2) aim – that is, what the players need to achieve to win – pertains to the factual aspect,

(3) action – the actions of the players defined by the game plot,

(4) obstacles, difficulties, that the players encounter on their way to achieve the aim,

(5) rules – that is, the limitations that one has to take into account when playing, rules of functioning in the game (Tkaczyk, 2012, p. 74)[1].

The presented paper constitutes a discussion of four projects that were carried out at the Institute of Pedagogy at the University of Wrocław throughout 2014 and 2105.

Kulturalny Wrocław project - the use of location-based games

Kulturalny Wrocław[2] project was carried out by combining two courses: (1) the basics of cultural education and (2) education with the use of modern information technology. The participants of the projects were the students of 2-year Master of Arts degree studies in pedagogy with the specialisation "Marketing and management of educational institutions in a region". The project was conducted in 5 editions. During the games the participants were to locate the places marked on the map and connected with cultural events that took place in Wrocław. The participants could choose among 9 places, and the choice was connected with the selected strategy. The students were divided into two groups and each of the groups had a supervisor who could be contacted by text messages. The condition of winning was to solve a crossword and reaching the final point. The team that reached the final point first won.

The tasks consisted of a number of stages:

 - locating the place marked on the map and the detail of which was presented in a photograph attached to the written instructions

 - taking a photograph of the place and sending the photo to the group supervisor, who would than reply with a riddle about the cultural event connected with the particular location,

 - solving the riddle and writing the answer in the crossword,

 - using poses to present the letter of the answer connected with the location and taking a photo of it and sending it to the group supervisor,

 - on the basis of the photo the supervisor confirmed the correctness of the answer.

The team that gave the correct answer to the crossword was to locate the final point marked on the map and presented in the fragmentary photograph.

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[1] Introduction on the subject of games in education and gamification published for the first time in: Jurczyk-Romanowska, E. (2015). The (lack of) Presence of Games in Human Rights Education. *Czech-Polish Historical and Pedagogical Journal* 7(2). pp. 3-13.

[2] Kulturalny Wrocław project was run by dr Ewa Jurczyk-Romanowska and dr Jacek Gulanowski, the details of the project are described in the paper "Edukacja kulturalna inaczej" [A different approach to cultural education] which has been submitted to the journal "Edutainment" and is currently in review.

After the game was over the participants were enquired about their experiences during a focus interview and in a questionnaire.

The participants assessed the game very highly as an education method as well as a way of socialising with the group. The opportunity to have a lesson outdoors, the independence in fulfilling the tasks, using the internet to find answers to the riddles, as well as the change of relations, decreasing the distance between the students and the supervisors of the game were the greatest advantages of the Kulturalny Wrocław project. What was questioned, however, was the effectiveness of the lessons, as it was argued that perhaps in a regular lesson more issues could have been discussed. Ono the other hand, the students pointed to the potential persistency of the acquired knowledge, because the information that was the answer in the fulfilled tasks was based in experience, locations, people, and situations. The photographs of the students presenting the letters were described as hooks in memory. The photos were subsequently posted in social media by the students and they were widely commented on. Forming of language codes among the participants could be observed.

Kulturalny Wrocław project can be seen as greatly successful, because further editions were organised and became a part of the curriculum of the aforementioned subjects. From the perspective of the educator it needs to be noted that conducting this location-based game did not require substantial financial costs or the work of many people. From the logistic point of view the game is not a challenge, and that is why the activity can be organised in good weather conditions. The clear rules of the game present no difficulties to the participants, and the simple mechanics make it possible to fill the game with diverse contents.

Gamification in career management in the educational practice of Lower Silesia project - a five-day game seminar on career management

The elements of gamification that are skilfully woven into the education process can lead to a new quality in transferring knowledge, because they contribute not only to increased concentration and dedication, but they also allow one to develop strategic and logical thinking. The assumption that these are the features that are particularly needed in career management and the competitiveness of university graduates on the labour market became the foundation of the scholarly seminar *Grywalizacja w zarządzaniu karierą w dolnośląskiej praktyce edukacyjnej* [Gamification in career management in Lower Silesian educational practice][1], implemented as part of a project co-financed by Lower-Silesian Voivodship. The beneficiaries of the project were the students of higher schools in Lower Silesia. The seminar was carried out at the Institute of Pedagogy at the University of Wrocław and it consisted of two stages. In the first stage the students took part in four meetings with experts in career

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[1] The project was conducted by Ewa Jurczyk-Romanowska, Ilona Zakowicz, Justyna Sochacka, Dominik Figiel, Paweł Jakubas, Tomasz Wysoczański, and Maciej Skwara; detailed description of the project will be published in the monograph "Grywalizacja w dolnośląskiej praktyce edukacyjnej" [Gamification in Lower Silesian educational practice] by Ewa Jurczyk-Romanowska, Ilona Zakowicz, Justyna Sochacka, which is currently being edited.

management where they had the opportunity to learn of the problems connected with managing image, projects, businesses, and finances. What is more, during this stage, the participants of the seminar could test the knowledge that they had received and the skills that they had acquired and that were connected with ongoing solving of problems connected with the topics of the particular training sessions during a verification game. At the second stage of the seminar the organisers of the gamified career management programme presented their conclusions drawn from the conducted innovative career management programme during a national open discussion panel.

The aim of the seminar was to increase the competitiveness of graduates of pedagogy on the labour market, which appears to be particularly important in the context of the growing unemployment among the graduates of pedagogy in Poland. The participants of the seminar gained knowledge in career management in a gamified programme. The programme of the seminar was planned in such a way as to test the knowledge that the students would acquire immediately in practical tasks, which is why it was contained within a complex plot. The plot was based in the science fiction genre and pertained to a space mission connected with settlement on a distant planet. It ought to be noted that the detailed topics of the seminar were included in the gamification method in the form of missions on the particular levels of the game. With the gradual increase of the difficulty of the game the participants were engaged in the discussed subjects and faced increasingly more complex problems. The particular days were, therefore, not only connected with the different fields of knowledge about career management, but also required the participants to use the knowledge to solve tasks that would eventually lead to the domination of one of the groups on the planet. Such presentation of the contents of the seminar was to inspire the need to compete in the students. To increase the level of dedication the designers of the project prepared a detailed point system that was adjusted to the level of difficulty of the tasks as well as a system of badges that emphasised individual achievements and skills. Yet another motivating element were the bonus prizes in the form of certificates, gadgets, and books that inspired the students to work hard and listen carefully to the presented content. The capstone of the seminar was the educational game (an exam) that verified the level of the acquired knowledge, skills, and the use of strategic thinking, which was reflected in the assumed strategy of competition between the teams and which supported the interaction among the particular participants of the project.

In the course of the seminar the researchers who did not take part in the game conducted observations. At the end of the project, in turn, focus interviews were carried out with the students and structured interviews with the specialists running the gamified activities.

The basic conclusion drawn from the activities is that they are particularly effective. The students as well as the instructors noted that such a broad number of subjects can be tackled in only 5 days. The exam (in the form of a game, as well) was passed

ISSN 2601-8616 (print)
ISSN 2601-8624 (online)

European Journal of
Education

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Volume 7, Issue 2

with the highest results. The students also noted a fast integration within the groups, high level of dedication, and a surprisingly positive reception of the new educational method. As a result of the conducted seminar a new group was formed which included the students/players who would communicate among themselves with the use of the language codes developed throughout the game and who would use the functions that they had performed in the game in conversations. During the interviews the students stated that while they performed the tasks they learned a lot about themselves and their predispositions, that they had conducted a self-diagnosis. They also appreciated the knowledge about the design of gamified training courses and they began to transfer the experience that they gained to their pedagogical practice.

What was the most important question raised by the instructors in the trainings was the great effort that they had to put into the sessions. They stated unanimously that never before did they have to put so much work into preparing a training course. As a result, they claimed that preparing a gamified teaching programme is only effective when a number of identical courses are conducted. If it were to only be a single training course they would never again undertake the conducting of such a course because of the lack time devoted to teaching at the university.

To conclude, it can be stated that the 5-day *Grywalizacja w zarządzaniu karierą w dolnośląskiej praktyce edukacyjnej* seminar was a great example of the use of the mechanics and the techniques of games and implementation thereof in academic education. One ought to bear in mind that gamification used in educational activities not only makes it possible to increase the dedication and the motivation of students to broaden their knowledge but also to give their work direction connected with the aims defined by the designers of the teaching programme. While passing through the subsequent levels and facing the tasks prepared by specialists of the different industries the players are engaged in defined activities, which allows them to acquire knowledge and competences in an unorthodox way. It can, therefore, be stated that the elements of gamification that are properly woven into the education process can constitute an interesting alternative to traditional teaching methods at the level of academic education. However, due to the high level of complexity of the required materials, the effort needed to develop a plot, the necessity to test the mechanics of the game, great engagement is required of the instructors and additional funds are needed to create the props for the game. It is certain that it can be an interesting element of training financed with funds from outside projects.

Entrepreneurship in the educational practice of Lower Silesia project - a location-based game diagnosing entrepreneurship competences

The script of the location-based game *Zostań przedsiębiorcą*[1] [Become an entrepreneur] by Natalia Romanowska, Justyna Sochacka, and Ewa Jurczyk-

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[1] The authors of the game are: Natalia Romanowska, Justyna Sochacka and Ewa Jurczyk-Romanowska, the detailed description of the game and of the conducted researched was published in Jurczyk-Romanowska E., Sochacka J., Jakubas P., Piwowarczyk M.,

Romanowska was based on the rules of designing location-based games. 25 participants of the *Przedsiębiorczość w dolnośląskiej praktyce edukacyjnej* [Entrepreneurship in Lower Silesian educational practice] and five instructors who supervised the groups took part in the game, as well as two persons supervising the overall course of the game, and four animateurs responsible for the locations where the teams could receive extra points.

As part of the

Introduction the organisers explained to the participants what a location-based game is, what are its rules, and also introduced briefly the subject of entrepreneurship. In the further part the participants were randomly divided into groups named after great entrepreneurs: Rockefeller, Ford, Robbins, Vitale, and Edison. That is how each of the teams received a "model" whose history could become motivation for the participants to become business people themselves. Having found their groups the participants of the seminar were given envelopes containing short descriptions of their groups, general outlines of the game, maps with marked locations where the quests could be completed, "money" could be made, and problems could be solved. The additional equipment was the "money" prepared for the game and unhandy props symbolising the difficulties that entrepreneurs face. The aim of every team was to reach the finish line with as many coins and as few props as possible. The game could only be finished after completing the final tasks, which was the calculation and payment of income tax. Apart from this one obligatory tasks for all the teams the selection of the quests was a part of the strategies chosen by the teams.

The factual tasks were closely connected with the subjects of the lessons planned for the further part of the seminar. Each of the educators was previously asked to outline two problems that were to be the topics of the trainings that they were to conduct and at the same time constitute a basis for the quests developed by the creators of the game.

After the completion of the location-based game it was evaluated by the participants of the seminar. The students were asked to note down the strong and the weak points of the innovative teaching technique that they had experienced.

What was emphasised as a strong point of the game was its socialising character – this was presented in almost all the answers. The students would also appreciate the combination of movement and tasks requiring intellectual effort, a combination of fun and education. Among the features attributed to the location-based game one could find: dynamics, lack of monotony, good fun, fast acquiring of knowledge, attractiveness, unorthodoxy of this form of education. At the same time, the students stated that the location based game may be characterised by various levels of effectiveness depending on the subject. In the course of the evaluation the

Wysoczański T. (2014), Przedsiębiorczość w dolnośląskiej praktyce edukacyjnej [Entrepreneurship in Lower Silesian educational practice], Wrocław: Urząd Marszałkowski Województwa Dolnośląskiego & Instytut Pedagogiki Uniwersytetu Wrocławskiego.

ISSN 2601-8616 (print)
ISSN 2601-8624 (online)

European Journal of
Education

July - December 2024
Volume 7, Issue 2

participants of the seminar would emphasise the great potential of location-based games in developing soft skills. Working in groups calls for teamwork – the students stated that solving problems together is not often used in traditional lessons and even if it is used the interactions between the members of the groups are superficial. Location-based games require genuine cooperation, even though the level of dedication and the motivation of the particular team members may differ, and participants might be reluctant to work together, and the teams might not be very well organised in their work. The problem of competition, which is an integral part of the game was evaluated ambivalently by the students. On the one hand, the research participants stated that healthy competition inspired them to solve the tasks more quickly and effectively, that it integrated the groups that were brought together by the common goal – to win, that everyone was eager to do the quests, and in this way competition facilitates integration in location-based games. On the other hand, however, competition might lower the quality of education and in general be less fun.

Similar ambivalence is found in relation to the opportunity to use virtual sources of information. Some of the students negatively evaluated the lack of access to the internet (lack of access to sources of information) when solving the tasks. Other participants would emphasise that for them the necessity to solve tasks with the use of the knowledge that they already had as well as through buying hints from group supervisors was an advantage of the game.

Among the weak points of the location-based games the participants mentioned limitations connected with weather conditions, possible organisational problems connected with the unfamiliarity of the location and unfavourable outside conditions. The participants of the seminar would also raise the question of the "terrain" character of the game, seeing it either as an advantage or a disadvantage. Among the negative opinions was the postulate to introduce the players to the location before the game, because the unfamiliarity of the terrain and the infrastructural difficulties can be discouraging. However, the majority of the participants appreciated the outside character of the game, because it provided a lot of new experiences.

Learning through games project - the use of LARP games in developing soft skills

In the project *Learning through games* a LARP game title *Spell of the Black Magic Master* was designed and conducted[1]. The participants of the project were 3 separate age groups: students, professionals, and students of the University of the Third Age. Because the present paper is concerned with academic education, the part in which the students participated is discussed. The game has been designed for 12 participants who are initially randomly put into two groups that compete for points and final victory. During the game the participants play the roles of adventurers who set out on a difficult mission to the Damned Castle where the Black Magic Master

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[1] The authors of the game are: Justyna Sochacka, Ilona Zakowicz, Dominik Figiel, Agnieszka Gil and Ewa Jurczyk-Romanowska.

ISSN 2601-8616 (print)
ISSN 2601-8624 (online)

European Journal of
Education

July - December 2024
Volume 7, Issue 2

dwells. The cards with character descriptions were drawn at the beginning of the game and they, to a certain extent, determined the behaviour and the role of participants, at the same time giving them a lot of space for their own choices. Depending on the card drawn the players could act the roles of "Strategist", "Architect", "Actuary", "Fearless Adept", or a "Diplomat". The information about a character that was passed on to the players was limited to an outline of the personality, the skills, and the tasks preferred within the group. They did not, however, define the types of tasks to be undertaken by a given participant of the game. The players could also draw the role of a mysterious character. This obliged two people from different groups to become undercover traitors. The game ran according to a set scenario, nevertheless the course of the game was not precisely defined by its creators, because elements of randomness were introduced and the players had a significant space to choose their strategies.

The plot of the game *Spell of the Black Magic Master* is set in a fantasy world. The main aim of the participants of the game was to neutralise the spell cast by the Black Magic Master in a time shorter than 120 minutes. The players had to decipher the meaning of the spell at four stages, prepare magical objects[1] and props[2], and, finally, act out a play in the final round. At the first stage of the game the teams had to develop an interpretation of a text they had received, that is, one of the four fragments of the spell, consider the way to act out the play and prepare elements of the costumes and the mise-en-scene. Each of the groups was supervised by a gamemaster and they worked within a defined space, where there were the materials needed to produce the props. After the preparatory stage the players had to face the Guardian and then the Black Magic Master. Both of the meetings ran according to the strict rules of the game, i. e., the mechanics of the game. In the final round, in turn, interpretation of the text played the crucial role, which is why the participants' acting and the ability to fit in the role were essential.

Two researchers were introduced into the game. Following the plot, they were two silent masked observers with whom the participants could not interact in any way. The researchers observed the conduct of the players. What is more, after the game was finished the participants were invited into a separate room where, outside the world of the game, they answered questionnaires and took part in a focus interview. In the further part only the results pertaining to university students are analysed.

The students evaluating the game were clearly divided into those with former experience with RPGs or LARPs and those without it. The first group, feeling confident in the game, focused on the opportunities that the character cards and their development paths provided. The second group was discovered to have certain difficulties connected with assuming the roles whose main features were defined by the character cards. The lack of former experience resulted in lower satisfaction

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[1] Provided by the organisers.

[2] Made by the participants.

derived from the game, concentration of the tasks, striving to fit in the atmosphere and rules of a LARP game. In both cases it was noted that there were problems with the integration within the groups made up of students who did not know each other. The research participants observed that it could have been a good idea to have some integration activities before the game. A further difficulty was presented by the necessity to adapt quickly to complicated rules, full of variables, while at the same time having to develop the characters and achieve the group goal. At the same time it was emphasised that certain soft skills that were the educational target would develop "by themselves" because the participants focused on the functioning in the game and on winning, while simultaneously acquiring new competences. It was only at the evaluation meeting that they would note that they had, in fact, gained new knowledge in the field of negotiations, communication, and group management, and they also expressed creativity which – as one of the participants stated – "under normal conditions [she] would not have the courage to express".

To summarise, educational goals were achieved successfully in the LARP game, however, the high level of complexity and the lack of students' previous preparation for activities of this type resulted in a lowered satisfaction derived from the game. From the perspective of the organisers the preparation of the game was time-consuming, and it was also necessary to hold a pilot game session to assess the mechanics of the game. To offset the resources used to organise the game it would seem necessary to hold numerous sessions with other groups of students.

Summary

The use of location-based games in academic education has a great potential and makes it possible to achieve educational goals successfully. The contemporary generation of students has a lot of experience with games. These are, however, typically computer games. According to the research conducted by the journal IGRA one in five students admits to failing an exam because of playing computer games (*Gry odciągają od egzaminów*). That is why it appears worthwhile to use this interest to design educational projects that have the potential to draw students in. The experiences gained during the organised projects allow one to conclude that educational games need to be well-selected with consideration for many aspects, such as the students' previous experience, topic of the lessons, the available time, and the expenses that the organisers have to make. Making the game too long or too complex has negative influence on the players' satisfaction. The games that are well-received are the simple ones, with clear rules, and that at the same time allow the students to devise strategies leading to victory. Another advantage is leaving university walls and taking the game into, e. g., the space of the city that students do not typically associate with education. Making use of high ICT skills of the students is also a good idea, using the internet might be an integral part of the game conducted with clearly defined rules. Such games can easily be woven into the academic curriculum.

In turn, longer and more complex games requiring a lot of dedication from the organisers as well as the participants are an attractive form of supplementing the programme of the studies as part of subsidised projects. They are then dedicated to the persons who wish to increase their competences and be more competitive on the labour market. It is worthwhile to precede such games with socialising activities and tutorials.

References

[1] Aarseth, E. (2003). *Playing Research: Methodological approaches to game analysis*. Retrieved March 21, 2014 from http://www. bendevane. com/VTA2012/herrstubbz/wp-content/uploads/2012/01/02. GameApproaches2. pdf.

[2] Frasca, G. (2003). *Simulation versus Narrative:*

[3] *Introduction to Ludology.* In M. J. P. Wolf, & B. Perron (Eds.), *Video/Game/Theory.* New York: Routledge.

[4] *Gry odciągają od egzaminów* [Games distract students from exams] (n. a.). Retrieved February 19, 2016 from http://www. edunews. pl/badania-i-debaty/badania/2043-gry-odciagaja-od-egzaminow.

[5] *Grywalizacja* [Gamification] (n. a). Retrieved February 19, 2016 from http://grywalizacja24. pl/definicje/.

[6] Huizinga, J. (1985). *Homo ludens. Zabawa jako źródło kultury* [Homo ludens. Play as a source of culture]. Warszawa: PWN.

[7] Jurczyk-Romanowska, E. (2015). The (lack of) Presence of Games in Human Rights Education. *Czech-Polish Historical and Pedagogical Journal* 7(2): 3-13.

[8] Jurczyk-Romanowska E., Sochacka J., Jakubas P., Piwowarczyk M., Wysoczański T. (2014), *Przedsiębiorczość w dolnośląskiej praktyce edukacyjnej* [Entrepreneurship in Lower Silesian educational practice], Wrocław: Urząd Marszałkowski Województwa Dolnośląskiego & Instytut Pedagogiki Uniwersytetu Wrocławskiego.

[9] Juul, J. (2003). *The Game, the Player, the World: Looking for a Heart of Gameness*. Retrieved March 21, 2014 from http://www. jesperjuul. net/text/gameplayerworld/.

[10] Mochocki, M., (2011). *Reality is broken: why games make us better and how they can change the World. Jane McGonigal. 2011: New York: Penguin Press, ss. 388* [review]. *Homo Ludens, 1/(3)*: 239-246*.

[11] Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon 9(5)*. Retrieved February 10, 2016 from http://www. marcprensky.

com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1. pdf.

[12] Sobociński M. (2013), *Grywalizacja w praktyce: reguły, problemy, zalety i technologia. Wstępna analiza rocznych kursów przeprowadzonych na UKW* [Gamification in practice: rules, problems, and technology. Initial analysis of the courses conducted at UKW], Retrieved August 14, 2014 from http://repozytorium. ukw. edu. pl/handle/item/199.

[13] Tkaczyk P. (2012). *Grywalizacja: Jak zastosować mechanizmy gier w działaniach marketingowych* [Gamification: How to use the mechanisms of games in marketing]. Gliwice: HELION.

[14] van den Bergh J., & Behrer M. (2012), *Jak kreować marki, które pokocha pokolenie Y?* [How to create trademarks the will be loved by the Y generation?] Warszawa: Edgard.