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Educational content in non-educational video games

Introduction

A new form of electronic entertainment has won considerable numbers of fans today. Sometimes, for some of the gamers, this form of spending one's free time evolves to become a professional sport (e-sport) and a way of earning one's bread. I am writing about gamers, since in this article I would like to focus on computer games (or, more broadly, video games). Before, however, I proceed to the gist of the matter, I shall present a couple of statistics concerning the electronic games' market in Poland. The studies were performed at the request of Newzoo, and were sponsored by Global Collect (Newzoo 2012). It results from them that in 2012 in Poland alone there were more than 11 million active game players. However, the above refers to all the players as such – ones playing smartphone games, games available on social media portals, fully-fledged massively multi-player online games (MMOGs), and role-playing games for consoles and personal computers. Summing up the time all people in Poland devote to playing games a day, we may obtain 20 million hours. Statistically, this would mean that each gamer devotes on average about two hours a day to playing, although – as mentioned above – some people only play short simple games on smartphones or social media portals. Hence, when focusing solely on the players using games for PCs, consoles and MMOGs, we are left with about 10 million hours a day on the scale of all players in Poland. Here, we can be accused of using absurd calculations, as they do not reflect the time an average person spends playing games. To show the scale of the importance of video games in social life, let us, then, indicate the total sum of money spent on their purchase in Poland in 2012, which ranged from 350 to 450 million zloty. This list should be extended to include games downloaded illegally, since their contents reach the players as well (I am not reflecting here on the legality of the message), but it is very difficult to explore this sector due to the *Peer to Peer* (P2P) technology used in torrent networks, as well as the users' possible unwillingness to admit that they possess illegally acquired software and games. Taking into account the intense development of this sector of entertainment, as well as the number of consumers it has grouped around it, we

should ponder whether the potential hidden in popular video games might be used from the perspective of pedagogy.

Educational games vs popular games

The reason I have focused on popular games results to some extent from the nature of educational games. They have some limitations that are very difficult to overcome. Educational games are created with the development of children at an early stage of life in mind. Practically speaking, it borders on the impossible to find games of this type addressed to lower and upper secondary school youth or adults. These can be single apps assisting in the performance of specific tasks, but in such a case they are considered solely as a tool – just like an abacus or wooden forms of geometrical figures in the past. Labelling a game as “educational” may be satisfying for pedagogues, but addresses it as such to a niche. Such a game would be used only for didactic purposes, due to which youth will prefer other, more entertaining games and activities in their free time. We should not overlook the fact of a much better financing of popular games in comparison with educational games. This translates to the better quality, length, audiovisual side and marketing of the former. I have mentioned youth, but the problem of the competitiveness of educational game exists already at the level of primary schools. According to a report by Instytut Badań Edukacyjnych [Educational Research Institute] (IBE 2014) concerning the games pupils aged six-seven years play most often, the most popular titles among this age group include *Minecraft*, *FIFA*, *The Sims*, *Counter-Strike*, *Grand Theft Auto*, *League of Legends* and *World of Tanks*. None of them can be called an educational game, although this does not mean that they should be disregarded as a possible source of the creation of behaviours or the provision of knowledge. For example, such games as *Minecraft* may shape creativity through their open world designed solely for building (resembling virtual Lego bricks). *Counter-Strike*, *World of Tanks* and *League of Legends* may contribute to an improvement of reflex, speed of reaction and decision-making. *FIFA* may teach the importance of team play, while *The Sims* – responsibility. However, I wish to point out that we are dealing only with a possibility of such an impact, since a lot depends on the way the game contents are used. In this place, we can see yet another problem, which, fortunately, today is gradually diminishing, i. e. the attitude of pedagogical circles to video games. When I started to explore this subject (about seven years ago), the relevant literature was dominated by products containing such words in its titles as “killers”, “violence” and “murderers”. Here, we may refer to books by Iwona Ulfik-Jaworska (2005) or Thomas Feibel (2006). Their works concentrate on just one, selected aspect of games, omitting many others. One may actually be under an impression that the main goal of these books is to present games in a negative light, suggesting the superiority of educational games (or, more broadly speaking – games created under the guidance of pedagogues) over popular games. Since

then, however, many works have been published, which approach the complexity of video games in a comprehensive manner. Along with the generational replacement of pedagogical environments, we may also observe a change of rhetoric in works devoted to the issue. The first fully-fledged narrative video games appeared on the Polish market around 1998 (with arcade games one could play in game parlours, which experienced their golden age in the West in the 1980s, slowly fading into oblivion). Thus, persons who had their first contact with them being 10–13 years old, are 27–30 years today. On the one hand, we are therefore dealing with an interesting phenomenon of parents-players, and on the other, with persons writing about games, who have many years of gaming experience and know many game types, infiltrating the pedagogic circles.

The financing of such games also plays an important role, since developers have sponsors (this particularly refers to *free to play* games), who can impose their will as far as the content of the game is concerned, adjusting the plan to meet the best possible sales results. In the case of educational games, the educational content is the priority, while the sales figures depend on financing from a given institution. On the other hand, commercial success may be not taken into account at all, on the assumption that the only significant criterion is the fulfilment of the educational function. Owing to sponsorship, popular games can, however, create a lot of hype around them long before their premiere, which makes the number of their potential users much larger than in the case of educational games, which have much less financing. In this case, commercialisation decides about the phenomenon of the impact rate, which guarantees the status of “popular” to the games in question. This scale may be significant in the process of attempts at using materials hidden in popular games owing to the possibility of the understanding of the reception of educational content. In other words – along with an increase in popularity of a given game, it is gradually easier to refer to its particular elements owing to their recognition.

The last issue I would like to refer to in this part is the model of cooperation of pedagogical circles with the video game market. In the case of educational games, pedagogues are in a privileged position – they create the concept of the contents before the development of the game. It is only on this concept that audiovisual contents are created. This attitude would, however, have to be discontinued in the case of cooperation with large companies developing video games and be replaced with partnership. Naturally, this would mean that developers would also have to resign from their sense of being privileged in view of their finances, and I shall elaborate on this further on.

The possible examples of educational contents in popular games

It would be very difficult to enumerate all the possible attitudes to the hidden contents in popular video games in view of the sheer number of such games. I do

not exclude that in some games I will have failed to notice such contents due to my knowledge gaps (for example, I could not see a relation between the game content and the knowledge area I might refer to).

First, I shall Focus on the *Assassin's Creed* series, as it has a large potential in this context. It is a series of narrative action-adventure games based in various historical epochs – from the crusades, through the renaissance, colonialism, the establishment of the USA, all the way to the French revolution (for the time being – the series is still being developed). The player, taking on the role of the main character, is thrust straight into the war between two orders – Assassins and Templars – who despite their official fall according to historical sources, continue to exist as secret associations, fighting a worldview war with each other. In the game itself, one may experience a lot of pseudo-historical content changed to fit the plot, and what seems most interesting from the perspective of educational content, is the Animus database. The main protagonist reproduces recollections of his predecessors (coded in genetic memory) through a device called Animus. When the game is stopped, one may access the database containing historical descriptions of figures, events, and places players meet on their way. They are largely consistent with historical descriptions, excluding certain elements that were modified for the purposes of the game (e. g. that Charles Lee was a member of the Order of Templars). The separation of the truth from the fiction would be the task of a pedagogue, but the database itself encourages one to become familiar with descriptions by visiting places (this makes a description of the place appear in the database). The situation is similar in the case of persons. Part three of the series includes a very extensive description of George Washington, as well as many other, less important figures connected with the American revolution. The database also provides information on the degree to which it is complete (in per cent), which makes players aware of how much they have already discovered.

Another example is the game *Watch Dogs* released in 2014, in which the player plays as Aiden Pierce, a protagonist living in Chicago in 2020. The background of the world slightly resembles George Orwell's *1984*. The main threads include the development of the omnipresent system of surveillance, officially designed to simplify life, referred to as the *Citizen Operational System* (CtOS). Aiden is a rebellious hacker. He looks for people responsible for the death of his niece, discovering the real motivations behind the development of the system. He simultaneously becomes aware what an ideal tool of control it is. Apart from the obvious aspect of reference to the threats thoughtless digitation and development of safety systems may involve, the game also offers other aspects. In the virtual Chicago, we may find points with QR codes, which play a coded voice message after being scanned. One of the messages includes a description of a hypothetical social media profile, including personal posts concerning earnings and private life, as well as a photo of a child showing the neighbourhood with a proud parent's comment that the daughter can now walk to school on her own. This is obviously to inspire reflection and awareness of the risks involved in posting information on social media portals. Another element that can be explored are hotspots players can

visit to learn more about a given place (just like in the case of *Assassin's Creed*). This offers familiarisation with the history of Chicago – mainly from the times of Al Capone and John Dillinger, as well as the present day history of parks, monuments, and tower blocks. It is basically a virtual sightseeing of the city (which has been minutely reconstructed in the game) with elements of learning its history and architecture.

Games offer many more elements like this – be it Germanic mythology in the game *World of Warcraft* released in 2004, the exploration of post-apocalyptic areas around Chernobyl and Pripjat in the 2007 game *Stalker*, or questions concerning ethics and the meaning of being a human being posed by the *Deus Ex* series. All these issues can be a great starting point for a more advanced discussion. What is, however, most important, is that they inspire curiosity and reflection in a natural way, being only a part of a larger narration. There is also one more joint element which it is initially hard to notice. The educational is hidden in two ways. The game title itself may have a specific meaning to be decoded by the players – which often requires referring to a broader cultural context. Other contents with educational potential may also be elements of the world presented by the game. To find them, one needs to perform concrete actions: visit places, devote some time to looking for codes, etc. . In other words, one needs to pick up collectibles or – more broadly speaking – accomplish achievements. Krzysztof Gonciarz indicates a huge importance of the system of achievements in video games (Gonciarz 2011). They not only keep up one's satisfaction with the game, but they also introduce the mechanism of gamification. In the games in question, the degree of one's familiarisation with the Animus database or places in Chicago was made available on the game developer's external portal (Ubisoft's Uplay), allowing the gamers to compete as to who will discover points faster or who will discover more points. The work and time devoted to the accomplishment of the missions make the players have a closer look at what they have just discovered, even out of curiosity. If the same information was provided to the gamers on a silver platter, they would probably not want to lose time on becoming familiar with them, as after all its discovery would not require any effort, and additionally everyone would have access to it, making it little attractive. Only the form of achievement may make the sideline content more attractive, thus to the advantage of pedagogues who would like players to become familiar with the contents, instead of focusing themselves solely on the main plot thread.

Hypothetical model of cooperation

After the attacks on the WTC, the US army began to search for new army training solutions. The video game market provided a specific form of assistance. The MIME-NET concept developed by James Der Derian and further extended by Ian Bogost (2007), assumes a model of cooperation based on a partnership between the military sector and the video game industry. Under the doctrine, the army un-

dertook to provide very detailed models of vehicles, weapons, and armaments, as well as huge amounts of money in exchange for the development of combat simulators. The game market can use the obtained materials for the creation of the possibly realistic war and battle games, while the army is provided with a high quality virtual environment designed for teaching the operation of concrete equipment, and social simulators enabling simulation of, for instance, an action involving the search of a flat in Afghanistan – what the correct behaviour is, what must not be done and what should be given particular attention. Additionally, war games showing the contemporary battlefield are a free marketing campaign for the army, encouraging the players to join it. The players see the equipment, tactics, and communication, but the most terrifying elements such as the wailing of injured soldiers and mental diseases resulting from a long stay in the conflict zone are not included in the game.

One may wonder to what extent it would be possible to initiate a similar form of cooperation between pedagogues and the video game industry. The introduction of intentionally educational content to games would be an obvious advantage for pedagogues, but a question emerges what pedagogical circles could offer the video game market in return. It is an issue of key importance, and the answer would require a debate on the materials and means that pedagogues have at their disposal. Concerns might be, for example, partially relieved from the need to perform marketing surveys by a promotion of interest in video games as a part of the conducted educational research. An excellent example is the already mentioned survey performed by IBE, which, carried out also on older children and youth and extended to include additional questions, could provide interesting materials to be used by the game developers. Quantitative data would include information on the attractiveness of content, focus of attention on concrete threads, degree of the fulfilment of achievements, time spent playing, as well as all sorts of correlations. Today, developers use independent reviewers to promote their games. The reviewers have extensive YouTube channels, with the number of visitors and subscribers exceeding a dozen or so thousand (for each channel), but their reviews are often affected by a developer/reviewer contract (under which, for example, the reviewers must not criticize certain game elements). What is used here is the power of concerns, which could be offset by the cooperation of pedagogical institutions with the game developers. The evaluation of the contents, gamification, as well as the audiovisual side combined with an exploration of these elements could be provided by interviews with players, observation of their behaviours (in the world of games and outside it) as well as a standard sociological/pedagogical content analysis. Its results could provide qualitative data. Reports from such surveys could be used by pedagogues to reflect on what sort of and how much contents could be included in concrete games, and the video game market would be provided with in-depth analyses of its titles, as well as guidelines concerning the improvement of the quality of future products. Such research, maintaining the status of the scholarly, could be provided with grants and co-financing, which would pose

a partial financial relief to developers in exchange for consultations concerning the introduction of educational contents to games – consistent with their narrations and universe. It is naturally just one suggested model of cooperation created on the basis of the existing MIME-NET model – however, I cannot exclude that there could be other, perhaps even more effective models.

The development of a detailed model of cooperation and the possible use of the contents would always require an individual approach. Every type of games (note – this is about every type of game, and not every game) offers contents that could be included in the educational process. The popular smartphone game *Angry Birds* uses a flight trajectory to destroy the enemy's structures. Thus, the game can be used as a tool for the teaching of mathematics (calculation of angles) or physics (for instance the explanation of the basic issues concerning the behaviour of momentum), as it uses these particular elements in the form of pure entertainment. An increasing number of institutions use the game *Minecraft* to teach mathematics, programming, logical thinking, and the development of children's creativity (for example the organization called Mindcloud [2016]). In the games such as *Europa Universalis* the movement of the conquering armies of historical leaders can be presented, and at the same time the shape of borders from concrete historical periods can be consolidated. In such cases, educators are provided with ready tools that only wait to be used without the need to intervene in the game's content. Thus, such use of the game would be the first step towards mutual trust between the video games industry and the educational sector. Going further – institutions such as the aforementioned Mindcloud could begin to produce ideas concerning the contents it would be good to include in popular games. This would also require cooperation between private institutions using popular games for educational purposes, and pedagogical environments – both the ones working directly with pupils (teachers at schools), and theoreticians of education (higher education establishments). Otherwise, the introduction of the model of the use of games during classes itself could take decades. If the public sector agrees to concrete games being purchased to be used during lessons (let me stress – I am not talking about purely educational games), this would open up an entirely new marketing gate to the video games industry, encouraging further users to buy the product (users understood as pupils, naturally). Thus, at the price of adding educational elements (developed in cooperation with the ministry of education) to the contents of their products, game developers would acquire free marketing in educational establishments, as well as the possibility to obtain information on concrete titles on the basis of the performed educational research (creating an element of a client profile). The greatest obstacle during the application of such a model is the global nature of this form of entertainment. An international organization grouping representatives of pedagogical environments from the particular countries as delegates of their ministries of education would have to be used or established. The institution would present to game developers jointly developed concepts concerning the introduction of educational contents

in the games that would be entered for such a model of cooperation. Since this would require a unity of administration in the area of the management of the public sector, we could only talk about the foundation of several such institutions for concrete regions (a hypothetical European Council for Digital Education or its equivalent in the USA). Thus, the idea could remain unfulfilled due to the issue of project financing, since games approved by American pedagogues could be absent in European schools and the other way round. As a result, only European game publishers would cooperate with the European council, and the US ones would cooperate with its US equivalent. Taking into account that the vast majority of video games are developed by American studios, the European Union would not have the appropriate game base that could be promoted in educational programmes. It is one of the problems that would call for a determination of a model of agreeing international cooperation (e. g. whether or not the UE would recognise the games approved by the US council and finance their introduction to educational programmes). However, these are issues that would have to be solved by way of negotiations.

Regardless of the form of cooperation, pedagogues would have to remember that the market of popular video games will not consider educational contents in their products as a priority. Thus, the possibility to impose contents is lost, and what remains is only negotiation of its form and introduction. What can be a problem, is, for example, the provision of information sources. I have already mentioned the *Animus* database – the descriptions of people and places do not include the sources the creators used when developing it. We are dealing here with the problem of the “library of Babel” – a topic tackled by Jorge Luis Borges, to whom Andrew Keen referred when discussing digital contents, saying that Borges predicted “[...] the horrors of the infinite library, one that has no center, no logic. Instead, it is a chaos of information, ‘composed of an indefinite and perhaps infinite number of hexagonal galleries’” (Keen 2007: 84). The inclusion of sources and references could be considered as an excessive interference in the game’s content and its excessive “scientification”. Thus, the recipient would have to trust that the game creators “did their homework” and do not provide them with rubbish. A game branded by a scientific institution as one of the partners could build up a much stronger trust in the provided contents. On the other hand, the same institutions must think about whether they could sign themselves under a game containing significant amounts of violence, sex, and vulgar language. These are some of the fundamental questions in the dialogue that would have to be initiated between pedagogues and developers of video games—about who would be ready to take what concessions.

Summary

The idea of a restrictive policy towards video games, combined with a negative vocabulary used by pedagogical circles, which was typical for 1995–2005 in

Poland, brought about a decisive reaction of the new generations of researchers inspired by research pursued in the West. We must not allow a situation when video games become an element of opposition to attitudes and behaviours created by pedagogues. Since the games have already become an important element of the daily activity of children, youth and adults, pedagogues must search for a common field to create a synergy between educational content and the content the games provide. A search for the hidden contents helpful in the creation of outlines of important problems is only the first step towards a bilateral cooperation between educational institutions and video game developers. Today, the direction of communication between the two sectors depends primarily on the parties' attitude to their ideas and solutions. To talk about them, a dialogue is required. I think that it would be the subsequent step on the road to the synergy in question.

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Summary

Educational Messages in Non-educational Video Games

This article points out the possible uses of hidden educational messages in popular video games, and hypothetical models of cooperation between the pedagogical environment and the makers of video games. The basic differences between popular video games, and educational video games are demonstrated as well. The subsequent part of the article explains why the pedagogical environment should focus more on designing popular games rather than forcing themselves to create more educational ones. The examples of hidden messages are taken from such titles as *Assassin's Creed*, *Watch Dogs*, and *World of Warcraft*. The MIME-NET model is used as a ground for hypothetical cooperation.

Keywords

video games, computer games, educational messages, educational games, hidden messages

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