



Sylwia Polcyn

Adam Mickiewicz University, Poznań

## The prophylactic function of educational video games

### KEYWORDS

video games, education, prophylaxis

### ABSTRACT

The article presents a modern look at computer games as tools and / or teaching aids used for broadly understood educational and didactic purposes at various levels of education. The author focuses mainly on the use of computer games for prophylactic purposes, and especially in counteracting various negative phenomena occurring in cyberspace.

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### A modern outlook at video games

Until a few years ago, video games were perceived in an extremely stereotypical way. They were considered to have a negative impact on the physical development and mental health of young users, lead to the desensitisation of the individual, promote aggression and adopting negative identities, models and values by young users (cf.: Andrzejewska, 2008; Feibel, 2006; Białokoz-Kalinowska, Piotrowska-Jastrzębska, 2005; Braun-Gałkowska, Ulfik, 2000). However, according to Patrick Felicia, numerous scientific studies have shown that with proper gaming habits (in particular observing and controlling the amount of time spent on this form of entertainment, verifying the content of video games, appropriate selection of games for the age category of users), it can be considered to be a safe, interesting and satisfying experience (Felicia, *www*). Video games are more and more often perceived positively by various circles (academic, educational and professional)

(W. Chmielarz, O. Szumski, 2016; P. Świątek, 2014; N. Kowalczyk, A. Brzezicka, M. Kossut, 2014; M. Filiciak, 2006). Currently, they fit perfectly into the popular culture of the information society, which is based mainly on the network structure (Fiut, 2014). To quote the opinion of Marek Krajewski, it can be said that today's dominant popular culture is primarily the product of modern and post-modern society, which consists of various forms, namely objects, behaviours and specific ways of life of people, which, taken together, should simultaneously meet five key (inseparable) conditions, including:

- 1) being “ well known and generally recognised (by traditional and new media);
- 2) being subject to choice (nobody should force anyone to use them);
- 3) carrying multiple meanings, subject to various ways of decoding;
- 4) serving as means of communication between people, but also of pointing out differences between them (communication between individuals);
- 5) being a source of popular enjoyment for different people, often different from each other” (Fiut, 2014; after: Krawczyk, www).

Analysing video games in this context, namely as a phenomenon of contemporary culture, popular culture inscribed in its basic assumptions, it should be clearly emphasised that they are aligned with each of the above conditions described by M. Krajewski (Fiut, 2014; after: Krawczyk, www).

Currently, it can also be said with certainty that video games are not only used in free time by children and youth (and adults), competing with traditional leisure activities (such as sports, reading, collecting, building models, etc.), but also become one of the educational and socialisation environments present in the process of mental, intellectual and emotional development of children and youth, enabling their first contact with aesthetics and ethics, education and work. As Mirosława Wawrzak-Chodaczek aptly notes, “the world of virtual reality more and more faithfully reflects the real world outside” (Wawrzak-Chodaczek:2012: 238), and often even replaces it, becoming more attractive for young people than the real world and surrounding reality. Therefore, it is no wonder that these days, the visible boundary between the real world and the virtual world is distorted and blurred.

However, video games are now becoming an increasingly popular tool for a broad scope of educational and teaching purposes. Games are used by teachers in the course of classes in various specific subjects and within different levels of education and types of schools as complex didactic aids to facilitate the achievement of objectives and education. These *game products* are also widely used in the development of skills in employee training, management and aca-

demic education (cf. Gandziarowska-Ziołocka, Berezowska *et al.* 2013; Boltuć, Boltuć, 2004; Pivec, Dziabenko, 2004; Wodecki, *www*). Their use in the educational process may also, to a high extent, break the stereotype of school being the “most conservative social institution”, which is still prevalent in Polish society (Przybyła, 2012:205).

## **Video games as a tool for education and therapy**

Currently, many scientific, professional and, above all, educational environments notice more and more the fact that video games not only serve as a source of entertainment, but they also bring about societal change, while being a great tool for building and rebuilding the identities of game users (Fiut, 2014) and a complex, multimedia didactic aid used in broadly understood education. Games engage and motivate participants to a high degree – these processes are among the most important ones, with significant impact on the effectiveness of the education process, and especially on students’ learning process. The advantages of games have also been noticed in the education of children and youth (Kamiński, 2013). As Tomasz Kamiński aptly points out, “in fact, games offer a great opportunity for educational institutions and teachers to improve the effectiveness of the education process. The use of properly prepared games in teaching allows not only to increase the engagement of students in the didactic process, but also to overcome significant deficits in traditional teaching methods – first and foremost in the dimension of shaping practical skills and attitudes.” (Kamiński, 2013:110)

Video games selected in a deliberate and conscious way, to the age, level of knowledge and skills of students, as well as in accordance with the basic assumptions of the educational process (core curriculum, curriculum and formulated educational goals) may support the development of cognitive, spatial, motor, IT and social competences, including the development of skills related to cooperation and co-responsibility, creativity and the ability to combine theory and practice. In addition, video games selected by the teacher to be included in the teaching material can be used during every class, for example in order to:

- explain and present the surrounding reality, concepts, phenomena and experiments;
- present specific rules and regularities, in particular by formulating cause and effect relationships;
- solve complex and difficult problems (Felicia, *www*);
- remove or reduce direct and indirect causes of school failure;

- make up for the lack of knowledge and skills of students;
- restore correct attitudes towards learning and inducing motivation to acquire new knowledge and deepen the existing one;
- remove specific developmental disorders;
- develop students' personalities and intellectual skills;
- familiarise students with new technologies and computers (a permanent element of media education) (Chelmonska, www).

These days, the available video games are used in addition to the traditional curriculum as an element of pedagogical therapy, especially in the field of treatment of hearing and sight disorders, as well as in children with dyslexia and speech impediments.

While making a detailed analysis of the use of games and their impact on individual areas, it is worth pointing out that games:

- help develop perception and motor skills and improve mainly the functions of perceptual-motor integration, eliminate their basic disorders and, above all, enable people with reduced mobility to work with a computer,
- in the area of auditory disorders, they support learning and remembering correct pronunciation and eliminate various disorders, teach correct speech and compensate for deficits and reading difficulties,
- in the area of vision disorders, appropriately selected *game products* include therapies for improving reading and specific reading and writing difficulties, shaping appropriate grammatical skills, as well as computer skills in blind children;
- in the area of intellectual deficits, games support the development of various abilities, eliminate intellectual disorders, support the development of students with learning difficulties, facilitate communication especially with people affected by aphasia, autism or even stroke,
- in the area of psychotherapy, games encourage students to learn, counteracting the difficulties occurring in the learning process (Chelmonska, www).

Today's offer of video games is very broad and diverse. Educational and therapeutic games are also created and being actively developed. The list of examples of such games can certainly include: *Age of Empires II*, which can support learning history, development of strategic thinking and resource management skills, *Bioscopia*, focusing on mythology, shaping strategic thinking and financial management, *Chemicus*, which covers chemistry, *Dysleksja*, which offers the possibility of carrying out a professional diagnosis and pedagogical therapy, as well as conducting corrective-compensatory classes with children at risk of dyslexia, *Edusensus Matematyka "MatSwiat"*, which focuses mainly on developing mathematical

predispositions and supporting diagnosis and therapy of disorders in this area, *Logopedia*, which helps in the therapy of children with speech and/or hearing and communication disorders, *Oregon Trail*, which features historical, geographical and mathematical themes, shaping logical and strategic thinking, *Reader Rabbit*, which focuses mainly on reading and spelling and *Uwaga słuchowa*, which supports listening attention training, etc.<sup>1</sup>

## Prophylactic function and modern video games

The education and shaping of young people is an important element in their proper development and preparing them for adult life. Both the family and school environment, in order to counteract unfavourable phenomena that may have a direct impact on a young person (as well as on their further life), perform various functions, including a prophylactic function. It can be broadly defined as preventing the emergence or development of an unfavourable phenomenon (phenomena), nowadays also through the use of appropriately selected and profiled video games of an educational nature both among children and young people. Based also on the MRC definition, it can be stated that the primary objective of prevention activities is the development of intellectual, personal and social competences of the young individual. However, it requires full integration of educational environments (family and school). In addition, prevention activities should be particularly focused on:

- helping children and youth by developing their knowledge of the negative consequences of various undesirable phenomena and skills that will enable them to counteract specific social dysfunctions;
- promoting rational behaviours and holistically encompassing various types of dangerous behaviours which may directly and indirectly affect young people (information on the occurrence of various negative problems, not just selected ones);
- sources and causes of negative phenomena resulting from the environment in which young people function, embedded in the entire cultural, social, political and historical context;

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<sup>1</sup> A full list of commercial games and their benefits is available in: P. Felicia, *Gry wideo w szkole. Podręcznik dla nauczyciela*, European Schoolnet, p. 19, [http://games.eun.org/upload/GIS\\_HANDBOOK\\_PO.pdf](http://games.eun.org/upload/GIS_HANDBOOK_PO.pdf), [retrieved on 26.01.2017], as well as therapeutic and preventive games at <http://sklep.ydp.pl/> [retrieved on 26.01.2017].

- shaping an individual's ability to make positive choices in their lives and to formulate such plans for the future;
- education and improvement of adults in prevention activities, so that especially those, who are particularly important for young people can properly transfer knowledge and become an example/authority based on new scientific research and the experience of various practitioners.

Moreover, well-structured and executed prevention activities should also be based on their evaluation and verification of results (Gaś, 1994). Most of these assumptions can also be met by properly selected video games created especially for the purposes of prevention.

### **Implementing the prophylactic function through the use of video games on a selected example**

These days, video games are also used in the broadly understood prevention of negative behaviours among children and adolescents. The emerging prevention project "Two Sides of the Net" carried out by the Prevention Department of the Police Headquarters in Poznań seems to be an excellent example of this phenomenon. The project was created within the framework of the "Observatory of Threats to Young People," whose activities focus mainly on diagnosing current threats occurring among children and young people and creating various prevention campaigns addressed to people in this age category (Voivodeship Police Headquarters in Poznań, [www](http://www)).

The aim of creating a preventive educational game is, on the one hand, to use the new media as an environment in which young people live and grow up for educational purposes, and, on the other hand, to emphasise the dangers that exist in it. In addition, during the game, young people should:

- develop an assertive and conscious attitude and responsibility for one's actions in virtual space and learn about the possibility of negative consequences of these phenomena also in real, everyday life;
- assimilate preventive, educational and didactic content, covering in particular the threats which occur in the digital world;
- better understand the existing cyber threats and learning how and where to get help and support when they occur.

The video game will cover several key thematic areas directly and indirectly related to virtual space, such as: theft of personal data, credit card numbers, identity theft, impersonating a child or adolescent, threats, elements of stalking (cyber-

stalking), paedophilia, cyber bullying, forging electronic documents and hacking, Internet and new media addiction, as well as the buying drugs via the Internet.

The game will be directed especially to adolescents and designed for PCs and mobile devices. The game will offer isometric view, combining the features of adventure and role-playing games, filled with mini-games and advanced dialogue options. In the course of performing certain tasks, the player will be able to earn additional points and bonuses, which can be used to modify their appearance or specific skills. The game will also have a social aspect, offering the possibility of inviting friends to the game, publishing rankings and own achievements.

The final project of the Voivodeship Police Headquarters in Poznań will also be used during preventive and educational classes in care and educational institutions run by the creators and implementers of the “Two Sides of the Net” project in subsequent years in order to raise young people’s awareness of the dangers associated with the virtual world.

## Summary

These days, video games are not only seen as a popular form of spending leisure time among children and young people, but they are also becoming a helpful educational tool used in a broadly understood education at different levels, types of schools and in various specific subjects. They can also be used in preventive actions against unfavourable and destructive phenomena occurring in the digital world (cyber threats). The “Two Sides of the Net” project carried out by the Voivodeship Police Headquarters in Poznań is an example of the use of video games to raise awareness among children and youth and counteract negative phenomena in cyberspace and seems to meet with great interest among this group of recipients in the future. This project is also in line with the principles of *edutainment*, including supporting the process of learning in the form of entertainment, which may be found more attractive for young people than traditional methods of education.

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