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Student as a player – projecting didactic tools in early art education and academic education

Introduction

The 1999 reform of Polish educational system involved essential changes in the teaching programmes. The encyclopaedic model of gaining knowledge was neglected in favour of the learner activation for innovative actions and creativity. Both in early and academic education the process of making new proposals and programmes based on creative activation of students along with transferring knowledge to them was initiated. Teachers, pedagogues and educators started to create new forms of exercises, tasks, programmes and textbooks, but they omitted such liked and popular form – associated basically with entertainment – which is an educational game.

The modern student – as an individual – is a player. They may sit for hours in front of their computers, getting numerous positive feelings like: enjoyment, amusement, curiosity or excitation. There is nothing more exciting for them than virtual adventure and the world of game that absorbs into its realm not only the youngest ones. Each individual produces not only real worlds around. Most time in life is spent on creating imaginary worlds, both in the form of ideas and dreams. Half of the time is spent sleeping, during which strange adventures, loves and amazing quests are experienced.

1. Student as a Player

The metaphor of modern student (both in school and academic education) as a player may be extended to more general meaning. In such perspective, a game may be defined in reference to Pierre Bourdieu's sociology. Ambiguous approach of the author to the game itself assumes always some degree of the player's involvement. In totalitarian institutions, such as, e.g., hospitals or prisons, "unnatural" involvement in a game changes its significance [Jacyno 1997]. The game becomes a purpose for itself, so unreality would be more real than reality. According to Bourdieu, such strong involvement in a game reflects our social life [Jacyno 1997: 18]. The illusion of personal "self" corresponds to both accepting a given role and playing it, as well as to linguistic imitation, which by acceptance influences the individual's identity. In the same way, the real game

“brings up” and educates a child/student. Suitably constructed game can make a player think and generate creative solutions, and not only replay a message passively. The game that absorbs a player so deeply that it makes durable changes in a person may also lead to changes in his or her identity. Therefore, it is possible not only to influence transmission of knowledge, but also to educate and shape some behaviours, thinking and personality patterns. While constructing a game it is worth remembering that is meant to creatively activate a school-child or student.

2. Computer Games

An educational computer game differs basically from traditional education in schools. As Sławomir Koziej writes: “computer frequently gives comments on the learner’s decisions by voice messages [...] rewards each successfully completed task with praises. It will not react on failures with any mimics or gestures that indicate discontentment, like teachers often do, but it encourages further trials. It will continue, until the child is successful” [Koziej 2008: 52–25]. During such actions the player experiences many emotions, and one of them is optimism of winning, way to success, exceeding one’s abilities. Since in each computer game (unfortunately, not like in real life), a person may be given an extra point of power or intelligence, and may overcome more and more difficult levels. According to Jane McGonigal, games improve: optimism, create joyful productivity and allow using network of contacts by joining an on-line game community [McGonigal, Internet source]. Therefore, this way they shape linguistic and social competences. Due to graphic software, impression of reality and continuously advancing technology, like 3D and 5D, the player is absorbed deeper and deeper into virtual reality. Here, he or she has a power, feeling of causation, control, ability to choose and plan. This is how the player’s auto-education process, identity and approach to difficult situations are formed. Due to multiple possibilities to return to a game, action or level, the player learns self-discipline and patience in reaching goals. It suggests very clear analogy to the alternative pedagogy by Maria Montessori. The purpose of this teaching method is to prepare a pupil to an independent life by supporting their potential abilities as well as their own actions. The didactic material is used to make the child independent from adults and to form the child’s personality, especially in reaching self-confidence, skills in analyzing and assessing own actions, developing internal motivation for activity [Guz 2002: 515]. Isn’t it the same what is just taught by games? When repeating a stage, another difficulty level, the child learns self-discipline and overcoming their own limitations, what in consequence gives the child feeling of perpetration and belief in themselves. Such unconscious model of auto-education is at the same time shaping the identity that grows as the game is an interesting area for self-development.

2.1. Board Games

Not only computer games may be used for stimulating activity in a child or student, but also board games, when their rules are clear and fair. Although, the board games in Poland are basically identified with those from childhood, there are board games clubs in many cities, where fans can meet and organise some contests or tournaments [Miłtuński, Internet source]. The games may be divided to: abstract games (e.g., chess, checkers, pick-a-stick), in which there is no specific theme, action or a story, and so called eurogames, created with the use of interesting mechanics, with specified view of a given world [Miłtuński, Internet source]. In such games, you play a specific role like a victorious commander (e.g., Grunwald 1410), a pirate (e.g., Merchandisers and Corsairs), a soldier (e.g., Memoir' 44), an explorer (e.g., Journey to the center of the Earth), etc. [Internet source].

Board games are also meant to take a player to another world and show him or her the possibilities that in real life are not so vast. Their purpose is also to provide knowledge on particular era, historical event or to allow creative activity and innovative thinking. Additionally, educational purposes of board games cannot be underestimated. In the opinion of Dominika Galańczuk-Urbańska from the Polish Academy of Sciences (Polska Akademia Nauk), “an area for improving efficiency of education is combining education with entertainment, which is edutainment that includes all types of educational games that support logical and strategic thinking, deductive skills, associating facts and using them to resolve problems” [Galańczuk-Urbańska, Internet source].

In Poland, the word “game” is mainly correlated with fun and spending free time, and it is often forgotten that education by fun is a very constructive educating method. In Europe and the United States, there are Internet sites and organisations that gather people interested in propagating and using games as tools in education. We hope that in a few years time educating with the use of games will become more popular in Poland.

3. Game as Activating Method

According to Edgar Dale’s learning pyramid, most people, as many as 90%, learn by teaching others, 75% in practice through activities, 50% by participation in a discussion group, 30% by presentations, 20% by audio-visual methods, 10% by reading, 5% from lectures. Thus, the activating methods belong to most effective methods of learning. In the subject literature there are many divisions of educational methods. For the needs of this article, we quote division by Franciszek Szlosek who defines teaching methods as: providing (recital, lecture, description, talk); demonstrating (show with elements of experience); programmatic (based on teaching programme, with the use of a book, computer, etc.); practical (designing method, laboratory exercises); problematic (problematic lecture, classic problematic method, activating methods may also be included in the last one) [Szlosek 1995].

The game method proposed in this article belongs to practical methods from the learning pyramid point of view. This is because the player actions allow to remember 75% of information. Moreover, the additional value of the game is a phenomenon of combining teaching and fun. The game frequently becomes a spontaneous way to remember difficult information. Comparing to traditional learning, in which verbalisation dominates, game is an attractive alternative that lets remembering difficult and complex things and allows practical perception of “dry” information from books.

Further in this article we present games made by students, which are designed to provide specific knowledge from the range of a given subject, and which also may be an interesting alternative for education at a basic level. The use of games in both academic and early-school education may contribute to the change in traditional working model, e.g., at school or pre-school, and to develop interesting model for e-learning education.

3.1. Game as Method for Student Teaching/Learning

During our activities with college students – future teachers, they construct games for providing knowledge on, for example, arts, psychology or developmental psychology. The students by themselves create a specific game from the scratch on the basis of questions from the material studied at the moment. At such constructed activities, each time new original games are produced, starting from classic board games, through games inspired for example by well-known monopoly, to more advanced games that require knowledge of electronics. The creative power of the students is always surprising. The activities of this type give them opportunity to show their skills and involvement in exercises. Such forms are completed with other creative tasks like: designing of advertising leaflets using the knowledge of the subject, writing a story or poem, making a brain map. Each time the purpose is the same – to inspire the student’s thinking and emotions at the activities, which leads to deeper analysis and better content assimilation. The future teachers learn alternative knowledge sharing methods, and themselves they analyze and learn vast material on the subject. Each group has another idea how to complete the task. At the stage of constructing questions for psychological games, the students remember many important details on the subject. The stage of playing allows to remember more important information and rises extremely important discussions on some disputable questions concerning child development. Each group designs questions based on the same material. Due to this, students enrich their knowledge by playing other games that differ in terms of their content and they revise the studied material.

Other game types that are designed by students involve the games that may be used in the future in their didactic work at a pre-school or elementary school. Computer games, board games, educational books that include basic knowledge of, e.g., the history of art and educational exercises using paintings of Paul Cez-

anne, Salvador Dali, Vincent van Gogh, Jacek Malczewski, Józef Chełmoński, Pablo Picasso and many others, develop not only the process of reading, excite imagination and creativity, improve mathematical and logical skills, but they also introduce a child to the world of art and culture.

The appraisal of such activities is very positive, resignation from classic encyclopedism makes the students, as they said themselves, come to activities with interest and curiosity.

Conclusion

In the world, educational games become to be a standard, in Poland regrettably – it is still a new method of work. Polish Internet sites offer many on-line games, e.g., edugames.pl, giercownia.pl, sieciaki.pl, however, for different reasons, including financial and organisational situation of Polish schools, it is required to wait for full use of educational games capabilities. It is different in the United States, where “numerous studies of American competitiveness completed in the past few years have emphasized that America’s position in the world depends increasingly on maintaining leadership in technology”¹.

In Poland, games and possibilities given by computers in school education are not used yet. It may be even said that the teachers are afraid of such self-education by their students, since they may become unnecessary due to such learning form. Is it really true? Is such education type a reason for worries? Aren’t the man’s sensual prostheses, which are new electronic technologies as they are called by Marshall McLuhan, verifying the world anew? “People acquire new knowledge and complex skills from game play, suggesting gaming could help address one of the nation’s most pressing needs – strengthening our system of education and preparing workers for 21st century jobs” [Pankowska 2011: 59].

Today, when the technology changes man’s experience and communication, new cognitive consequences and new didactic methods must come out [Pankowska 2011].

American researchers from the Arizona State University, led by Professor James Paul Gee state that “in the world of rapid changes, globalization and Internet, where nothing is predictable, it is needed to get three key skills. First, it is the skill to process information, so the teacher changes from the information supplier into a moderator. Second is a global communication, and third is the

¹ Innovate America, The Council on Competitiveness, 2005; Rising Above the Gathering Storm, the National Academy of Sciences, 2005; TechNet Innovation Initiative, TechNet; Losing Competitive Advantage, American Electronics Association; Technology Industry at an Innovation Crossroads, Electronics Industry Alliance; Tapping America’s Potential, Business Roundtable; Computational Science: Ensuring America’s Competitiveness, President’s Information Technology Advisory Committee; Sustaining the Nation’s Innovation Ecosystems, President’s Council of Advisors on Science and Technology; Choose to Compete, Computer Systems Policy Project.

skill to manage one's own learning process. All these competences may be perfectly developed by educational games" [*Gry edukacyjne...*]. That is why, in changing reality we must educate young generations with specific educational system, suitable for functioning and time. Such system may include the proposed educational game design project. As there is no doubt that in Poland, it is required to change mentality and methods of working with students. And this may only be achieved in accordance with modern pupil interests and development of technology and civilization.

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Abstract

The modern student is privately a player. He/she spends hours sitting at the computer and experiencing many positive feelings such as joy, surprise, curiosity, excitement. Is there anything more exciting than the adventure in a virtual world and at the game?

In our presentation we will try to provide an educational game as an interesting opportunity to teach and study early school children and the students – future teachers. Projecting educational games (both board and computer ones) and testing them, can be a wonderful way to develop students' interests and to learn and study in an interesting way.

We will present our projects conducted with the students of the University of Gdansk, of Gdansk Higher School “Athenaeum”, and of the Nicolaus Copernicus University in Torun, which may provide inspiration for educational and teaching activities of other teachers and show that science can also be interesting and adventurous.

Key words: student-player, educational games, projects, inspiration, programmes.