COMPUTER GAMES AND THEIR POSITION IN EDUCATIONAL PROCESS

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Abstract
The article refers to an increasingly more topical form of entertainment for children and youth, which are computer games. It contains one of the options of division of games into the genre and their brief description to comprehend better then principle. It also states an analysis of criteria that can serve educators in the selection of computer games so that the game is interesting for students, but also plays its positive role in teaching. Furthermore, the article presents the results of questionnaires for students and teachers, intended to assess the importance of computers and computer games in the lives of children and youth, as well as the views and experience of teachers with computer games in educational process. In the conclusion there is an evaluation of educational benefits of games, observations and recommendations of appropriate genres as an aid in teaching.

Keywords: computer games, player, genre, online, student, teacher, teaching process

Introduction
Playing is one of life's very important issues. From early childhood one learns through play. However, it depends on how and what kind of computer game children and young people play. This is mainly a role for attentive parents and appropriate games should be used also by teachers in the classroom.

A computer game, that helps to educate students and build up their knowledge, is irreplaceable in any modern school. It not only increases the students' interest in modern technologies, but also helps their motivation.

Of course the game will not replace traditional teaching methods and also can not serve as a substitute for teachers, but as a means to revitalize the teaching and boost the lust for learning it is certainly excellent.
Types of computer games

Despite the new development of computer games, in recent years there has been created almost no new genre. Most of the ideas were already formed at the time when computer games began and so far there occur only variations and improvements of their reality, control, sound, graphics and combinations of multiple genres in one game, for example as in the game "Black & White".

Each person has their own system of classification of games. According to the contents of the game, they can be divided into genres that can be mixed easily within one game and an accurate classification is therefore often impossible.

A) Adventure: In these games, the player must perform certain tasks, interact with other characters, collect objects and combine them in the right order. In performing the tasks, players use their imagination and logical thinking.

B) Board Game (knowledge, skills and card games): this includes games that have been adapted from the classic table games, respectively from social or card games. They have the same playing rules and related deployment.

C) Arcade: Arcades are games where the environment is largely unaltered, only variable. Each level the difficulty increases and in failing to do the tasks we often encounter the term GAME OVER (unsuccessful end of the game).

D) Simulation (sports, strategy): Simulators have a role to imitate real concrete environment, in which the plot unfolds, as credibly and realistically as possible. These games are also inspired by the real situations and laws of nature, such as gravity, and offer us a virtual experience or a chance to try things we desire.

E) Role-Playing Game (RPG): In so-called „role-playing games“ the player chooses within a story a hero of certain race and occupation. The story is played mostly in fantasy, post-apocalyptic or sci-fi world, which is very broad and varied.

F) Jump & Run game: The player manages his character through the world in which they have to collect extra points and weapons that help them to victory, by jumping and running.

G) Educational software: Along with entertainment and playing, these games also offer some learning and knowledge. They include various knowledge quizzes, puzzles, pictures, word boxes, sometimes with time limits.

H) 3D Shooter: In 3D Shooter game the player most often takes up a role of a solitary warrior. The main task is to get through the big number of enemies to a goal.
Criteria for the selection of appropriate computer games

A teacher, who decides to use computer games in the classroom, should ask what a "good" computer game is like, to be attractive to students and also suitable for teaching.

Computer games attract most people due to its world of fantasy, which opens up many possibilities and offers playing with identity. An internationally recognized scientist in educational field, James Paul Gee, was busy with this issue and established criteria for the evaluation of suitable games.

- **The player should feel as a producer rather than a consumer:** Student should have a chance to affect the game by their decisions. The interactivity of games should offer the player the co-creation of gaming world.

- **Adaptation to habits and respect to personal ways:** Good games allow players to play the game in accordance with their own habits. Each person has an individual way of learning.

- **Playing with identity:** Playing with identity releases from life limits, which lets try and do the things that students would not dare in real life due to the fear of failure or embarrassment.

- **Enable manipulation:** People are fascinated by powerful machines, magic, by which they can manipulate the environment. The greater the choice of manipulation options, the more fascinating the game is for a student.

- **Problems of restructuring:** The problems present in games should be structured to be solved by the player alone and with the gaining of skills they should grade towards more complexity.
• **Positive feedback:** To prevent the frustration from ever increasing demands on students, a positive feedback must be offered following the solution of a complicated task. This adds sense to the effort and motivates to next tasks.

• **Gradation of levels:** A student can go through different levels of difficulty while they keep repeating the same level until they really master it.

• **Suitable placement of instructions:** The game should not bother students with instructions containing too much information, that is why the instructions should be used in the situations where they are really necessary.

• **Adaptation of difficulty:** With a good play, a student on a lower level should feel no serious consequences of their mistakes or it should inform them of a serious mistake.

The more these principles are implemented in a game, the higher is the incentive effect and the more it gives the students a taste for learning and knowing.

**Analysis of responses to the questionnaire for students about the finding of importance of a computer for children and youth**

Responses in the questionnaire were to assess the extent to which a computer is used to play games and the significance of computers in the free time of children and youth. Out of 100 questionnaires distributed to secondary school students, 77 were filled in.

• **How often do you work on a computer?**

By comparing the time spent on a computer, we found that 67.53% respondents work on a computer every day, 20.78% 4-6 times a week, 11.69% 1-3 times a week and 0% once in two weeks or less. Most students come into contact with a computer every day.

• **How much time per day do you spend at the computer?**

Regarding daily hours spent at the computer, 16.88% respondents spend at the computer less than 1 hour a day, 45.05% is at the computer less than 2 hours a day, 30.27% up to 3 hours a day, 6.2% up to 4 hours a day, 1.6% up to 5 hours a day and 0% more than five hours a day. From the chart it can be concluded that almost half of the respondents spend at the computer about two hours a day and more than a quarter up to three hours a day.

• **Your most frequent activity at the computer?**

Students could choose from several answers. Out of 77 respondents, 20.09% chose e-mail, 31.8% chat, 44.7% surfs the Internet, 35.76% play games, 28.68% do homework. If we look at the results, we see that the most common activity at the computer is internet and playing computer games.

• **How often do you play on your computer?**

Having been asked how often they play on a computer, 66.23% answered: frequently, 16.88% occasionally, 11.69% hardly ever, 5.2% never and 0% all the time. From this we can conclude that in most cases the computer serves as a toy and computer games have an important place in the world of children and youth.
• **What computer games do you play?**

In this question there could be more answers. 49.72% of students answered: adventure, 19.8% table games and Windows games, 53.6% play sports games with simulators and 44.05% strategy with simulators, role-playing games (RPG) are played by 71.2%, which is the majority of respondents, 33.1% 3D Shooter and 25.6% Jump & Run games. From the results we can conclude that among the most played genres there are role-playing games, simulators, especially sports games and adventure.

• **The reasons why you do not play computer games.**

The most common answers as to why respondents do not play computer games: 48.2% due to sleep, 56.9% have little time and 52.7% because of friends. It was interesting that no students stated a ban from parents.

• **How do you spend your free time?**

68.3% do sports, a maximum percentage 84.33% spend time with friends, 78.1% attend bars and discos and 79.6% spend their free time at the computer.

• **Do you play and on-line games? If so, what games?**

When asked whether they play online games, 30.4% answered: yes and 69.6% not. The results show that the majority of respondents prefer games not played over the Internet. The on-line games they mostly play are "role-playing" games like "Tribal Wars", "Travian" and "BattleKnight".

• **Where do you use your computer?**

68.04% work on a computer at home, 19.4% at school, 2.9% at a friend's and 9.66% visit Internet cafés.

• **If you play on the computer, do you play alone?**

When asked with whom they play on the computer, the majority 66.2% answered: alone, 33.8% with friends and 0% with family, whereas a family has the greatest impact on children and youth. The results indicate that the gaming with friends plays an important role.

• **Is it easier for you to communicate via Internet or in the real world?**

In answering this question there were big differences. For 41.6% of the students it is easier to communicate in the real world and for 58.4% via Internet. Yet there were by 16.8% more of those who are communicate better via Internet.

**Analysis of the responses to the questionnaire for teachers**

The questionnaire aimed to assess the views of teachers on computer games and their experience with them.

The questionnaire was answered by 20 teachers from three secondary schools. Of these, eight teachers teach ICT. The questionnaire was completed by 12 men and 8 women.

• **What is your view on the impact of computer games on youth?**

None of the surveyed responded positively or negatively. This question was answered by 11 teachers: more positive than negative, and by the remaining 9: more negative than positive, whereas of these 9 only two were ICT teachers.
Tab. 1: positive and negative elements of computer games

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- **Do you think that computer games can be used as an educative tool?**
  The answers to this question were mostly: yes. 16 teachers can imagine computer games as an educative tool and 4 cannot.

- **Do you play computer games? If so, what games?**
  12 teachers do not play computer games at all and those 8 who play, mostly play logical games and simulators (strategy, air). Arcade, adventure, board and educational games are played by 2 of them, along with their children.

**Recommendations for educational practice**

In our research we worked with computer games in the classroom and we watched the reactions of students to this form of teaching. We understood that computer games may be assigned to teach various subjects, preferably at the end of the class to revise, practice and better, more visual understanding of the curriculum. This form of teaching is suitable for all ages, taking into account the age and understanding of the student.

Based on the experience we have gained from observations it follows that the most appropriate genre in the education is educational software as it is the only to focus mainly on education. In the practice of foreign languages it has also proved to be an excellent didactic and multimedial tool for motivating, supporting the will to learn, it has attractive environment - videos, pictures, sounds etc. (eg. www.allgemeinbildung.ch). It is suitable for practicing the curriculum, getting the attention of students, provides learners with the opportunity to select their own pace.

As another type of computer game, we would recommend the sub-genre Strategy Games (economic strategy, turn-based strategy, real-time strategy) because they contain positive feedback in the form of animation, roles are completed by a step system, if the player fails one task, they can not go to another. Student receives in most strategy games the chance to choose the difficulty of the game. The instructions for the game and its description are in appropriate places and at disposal any time. They contain mostly utilities and help for beginners. Sometimes they also contain an editor for making your own maps (eg. "Age of Empires II"). As an improper genre we would rank 3D Shooter due to the fact that most of the games are very bloody and violent, as indicated by the name of the genre ("Quake III").
Adventure, arcade, and the knowledge, skills or card games can be used to practice the cognitive skills and logical thinking when thinking about the procedure (algorithm) during the game, the combination of objects and playing tactics (eg. "Chess" and "Soukoban"). Racing and flight simulators, Jump & Run and sports games are games suitable for relax. They practice mainly motoric skills, foresight, acumen and help to virtual experience and trying the things desired (eg. "Need for Speed").

The results of questionnaires, aimed generally to computers and computer games, showed that the computer plays an important role in the free time of children and youth. When we see the answers on playing computer games, we find out that teachers and parents should not underestimate this medium. Children and young people use the computer as a means of communication as well. From the questionnaire for teachers it was found out that the majority of respondents have no experience with computer games. The task was also to show the importance of guidance of children in the selection of games and talking about them, as only few parents know what games their kids play.

Conclusion

Computer games have become a part of our culture, like books, music and films. Because of the ever-increasing interest in computer games, this issue should not be approached with rejection, but tried to be used for educational purposes.

Indispensable to teachers there are not only blackboard and chalk, but also their imagination, ideally without boundaries. Therefore, the teacher must now focus not only on traditional teaching, but use creativity to motivate students to their feedback. This can be achieved also through the use of computer games that are attractive for students and mean unknown world for the majority of teachers and parents.

The game helps to develop our logic, motoric skills, observation, perception, imagination, foresight, ability to combine, it is clearer than memorized curriculum, and should therefore be applied in the classroom more often.

Literature


