

TECHNOLOGY, EDUCATIONAL CHALLENGES: SERIOUS GAME AND REHABILITATION

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ABSTRACT

During child neurodevelopment, parenting plays the key role for accompanying children through the evolutionary path, taking into account the various risks and dangers that may occur. Actually, certain delays or developmental disturbances may be considered as the consequence of incorrect parenting behavior. In this perspective the use of electronic devices may be observed seriously.

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Introduction

During child neurodevelopment, parenting plays the key role for accompanying children through the evolutionary path, taking into account the various risks and dangers that may occur. Actually, certain delays or developmental disturbances may be considered as the consequence of incorrect parenting behavior. In this perspective the use of electronic devices may be observed seriously.

In 2017 a relevant study pinpointed on what drives parents to make their children interact even more, even very small, with technological devices, observed at the restaurant the behavior of families. The study reported that almost 1/3 of parents used the smartphones and/or tablets even during the meal, not paying attention to what was happening around,

including children. On the other hand, children showed different reactions some were indifferent, others instead they tried to attract the attention of their parents and most of them in order to make them feel good, they gave their little mobile phones and tablets⁽¹⁾.

Among those who argue that electronic devices can help development of the child and who instead claims that it is harmful for the same, let's say that as with all things, the solution lies in the middle. As we have seen, the negative aspects and the risks of technology are there, and they are they have also been affirmed by important scientific studies, but it is also true that there they are cases where technology can help us, for example in particular situations, certain electronic tools are used also in the speech therapies, through appropriate applications, for improve any

deficits in the child. So it's not that important understand what are the positive and negative aspects of technology, how much it is. It is important to understand how to use it. First of all a continuum is essential control by parents, who must monitor the time spent by their children in front of technological devices and what use they are doing, favoring the use of apps appropriate for their age and not apps or games morally harmful⁽²⁻¹⁰⁾.

Actually, videogames are classified in different types based on the content they deal with, in fact we have games of: adventure, sport, driving and competitions, shooter, strategy, and are also classified according to the certification issued by PEGI (Pan European Game Information) related to the age group at which the game can be intended. A series of icons are represented with the number indicating the minimum age of the gamer and are reported usually on the package or in the description card of the game, providing all the indications about (Figure 1).

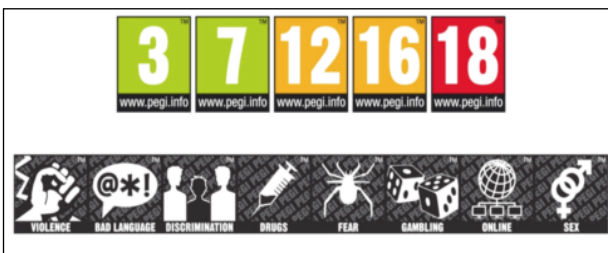


Figure 1: shows different icons assigned to the different videogames categories.

So this could be an instrument especially useful especially for the parent in the choice of videogames for your child, even if these indications are often ignored or not given little importance, however, not evaluating all the risks involved. In second It is good to dedicate part of the day to real activities alternating with those virtual ones, for this we must encourage the output of these children from homes, going to the park or anyway to a place, where you can meet with friends and give free space. It is good to rediscover their motor skills and on winter rainy days those games that can also be done within the walls of the house and that now go more and more disappearing, or manual games like constructions, puzzles, memories that not only intensify mother relationships - child, child - same age, strengthens and also improves skills cognitive of the child himself⁽¹¹⁻²⁵⁾.

Serious game and rehabilitation: a new perspective

The world of rehabilitation is constantly looking for new ways to propose a way of working that

meets all the needs of patients. This task is made increasingly difficult by the lack of resources, which prevents public and contracted health from coping with the growing demand to take charge. This situation in the context of the rehabilitation of the age of development is even more problematic because the longer waiting lists do not allow children to access the interventions needed, which in the case of neurodevelopment disorders typical of the psychomotor approach should be timely, to act in periods more critical for the development of functions, trying to modify the evolutionary line of developmental disorders. Scientific research has been trying to explore new horizons for some years and more and more publications are going to investigate the effects of the use of new technologies that allow to build rehabilitative pathways using new methodologies, as in the case of videogames⁽²⁶⁻⁴²⁾.

It is good to underline that this new rehabilitation perspective does not want to replace the traditional one but the videogame is thought of as a means of psychomotor approach as an integral part of its specific intervention, and in particular cases of using new technology-based forms of play can be a positive factor for bring the world of rehabilitation closer to the age of children⁽⁴³⁻⁵⁹⁾.

The new frontiers of rehabilitation through videogames are able to act on any compromised functionality, motor functions that are probably the most studied today, up to the cognitive deficits, stimulating thanks to the very wide variety of functions that must be activated and put to play. Therefore, the term serious game has been introduced, to indicate digital games that through virtual simulations interacting propose a simplification of the reality within which the users put their competences to the test. Serious games do not have exclusively or primarily an entertainment purpose, they contain educational elements, generally they are training tools and the serious and playful aspects are in balance⁽⁵⁸⁻⁶⁸⁾. It is difficult to find a clear distinction from the games of entertainment, because it is often the use of the player himself who it determines the formative aspect.

Even the interactive virtual simulation is often considered serious game and both have the fundamental purpose of developing skills and competences to apply in the real world through exercise in a simulated and protected environment. A main feature of the serious game do not have specific objectives to achieve, so you do not assign points and there is no achievement and exceeding levels, so it may be considered a game in all respects.

Studies produced in recent years on the effectiveness of these tools are many, with different and sometimes conflicting results. The most widely used and studied rehabilitation application is probably the one for the recovery of motor skills, especially after the introduction of the Wii console that has developed a series of activities and commands, based on simulation of actions and motor activity in first person. The Wii remote control, in fact, transmits infrared to a bar connected to the console, which records the user's actions and reproduces them on the screen, making it so that the player in the flesh determines in each nuance the action of the virtual character. The console has also brought a new tool on the market, the balance board, or a platform that functions a mechanism of recognition of the forces applied on the surface that determine the movement of the virtual character, this innovation, reported in the rehabilitation is very important especially the recovery of motor functions like balance. The device, in order to be used appropriately, has specially designed games for its use, which have also been transported in setting-up. Another positive aspect of this new rehabilitative approach is the ease of transferring these activities in other contexts, once they are determined the objectives, instruments and levels, and once the patient is started for a correct use, with some learning sessions, the child is potentially able to conduct part of his rehabilitation autonomously, with the help of the patient. the parents, transferring some of the rehabilitation goals to the home, functional to the needs of the patients and also to those of the Health Services, as it allows to reduce the waiting lists⁽⁶⁹⁻⁸⁶⁾.

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