

ANALYZING VIDEOGAMES TO LEARN HOW TO THINK CRITICALLY

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Abstract

The reflections contained in this research work deal with the educational challenge launched by the cultural and social phenomenon of videogames, which have become more than pure forms of entertainment and fun, more and more metaphors of the big game of the reality of life. Many of the earliest scholarly studies emanated from the research laboratories of pedagogical departments were typically concerned with the possible effect of games and young players. For a long time videogames have been forgotten as educative medium because they have been considered as mere trifles – low art – carrying none of the weight, gravitas or credibility of more traditional media.

The seemingly bewildering variety of game types makes it almost inevitable that game theorists, journalists and marketers have attempted to find ways of classifying and making more manageable the object of their attentions. By far the most frequently used tool has been genre. The generic classification of videogames is so widely employed that it is often easy to overlook it altogether or merely consider it as natural. One of the possible forms of videogame education is that of promoting its understanding and educative usage. The present work, starting from the construction of an evaluation grid, aims at analyzing videogame products in order to learn how to think critically. From an educational point of view, the data presented are meant to be functional tools to stimulate thinking activity and to activate appropriate mental processes in children. The research dealt with the analysis of 50 video games designed for children aged 3 to 10 years of age.

Keywords: Innovation, Video games, evaluation.

1 FROM THE WALL TO THE SCREEN: GAME AND VIDEOGAME

«The people who make a distinction between entertainment and education maybe don't know that education has to be fun and that entertainment has to be educative» [1]. These words written in 1964 by Marshall McLuhan and the desire to extend this horizon constitute the reasons that inspired this investigation in the world of videogames: a wide and variegated world.

Videogames, contemporary object and attention of the study of the most serious scholars and researchers reflect the double nature that characterize the new technologies: on one side they personalize the use of media since they transform each one to become a solitaire actor in the communicative context. On the other hand they are the voice of a general imaginary group since, as McLuhan states «any game, as a medium of communication, is an extension of an individual or a group. Its effect on the group or on the individual consists on giving a new consideration on those parts of a group or an individual that have not been extended. A work of art has no existence nor function if it has no effect on the people who contemplate it». [2]

Marc Prensky (2001) sustains that «our students have changed radically. Today's students are no longer the people our educational system was designed to teach. Today's students represent the first generations to grow up with this new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players [...] what should we call these new students of today? The most useful designation I have found for them is Digital Natives. Our students today are all "native speakers" of the digital language of computers, video games and the Internet. Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be compared to them, Digital Immigrants». [3]

A video games study is a new field. It is a field that has yet to settle, systematically and convincingly, some rather important questions. A set of agreed-upon terms has been slow to develop, even for the name of the subject itself (video games, videogames, digital games, etc.). Most academic writing about video games tends to be limited to home video games and online games from only the last five years or so. Relatively little is written about handheld games and older home games and their systems, and very little about arcade games. Video games are a pervasive and significant form of

expression in today's culture. It's based on the premise that video games are meaningful not just as sociological or economic or cultural evidence, but in their own right, as cultural expression worthy of scholarly attention. While scholars identify a range of social, cultural, economic, political and technological factors that suggest the need for a (re)consideration of video games by students of media, culture and technology, here, it is useful to briefly examine just three reasons why video games demand to be treated seriously: the size of the video games marketplace; the popularity of video games; and video games as an example of human-computer interaction. [4]

The great success of videogames right from the beginning of their first arrival in the market is an indication that the game factor related to multimedia represents a strong potential to be developed among cognitive and perceptive processes. Their presence in all contemporary scenes generate a complex exchange of meaning and interaction between technology and cultural, social and artistic environments. It's in considering videogames as a contemporary medium that a big gamble in the near future is made. Not only commercial and editorial but decidedly the wider one that regards the cultural and educative development of our society, and the challenge is presented in assuming, as a starting point, virtual reality seen non like a denial of space-life, but as an added reality and a potential to consolidate life.

The reflection contained in this contribution is proposed to analyze the challenge of education launched by the cultural and social phenomenon of videogames, which have become less and less an object of pure entertainment but an increased metaphor of the great game which is the reality of life itself. Videogames is an illustrious presentation of contemporary culture; the intellectual and emotional territory of experimentation, of the creation of new languages, of social interaction and exploration of the world. It has demonstrated, in the course of a few years, to have all that is required to assume the emerging and complex role in the contemporary and future culture. The view that is proposed puts its attention on the potential of videogames, not only as educating instruments but also as objects of education.

2 VIDEOGAMES AND ITS CONSTRUCTIVE TRAITS

Can we learn socially and academically valuable concepts and skills from video games? How can we best teach the "gamer generation?" How educators and curriculum designers can harness the participatory nature of digital media and play?

Video games were developed with a double mission: to stimulate the extraordinary but also the ordinary. Videogames present a new form of amusement which has put to crisis the classical model of playing, where the dimensions of space and time have to be clear and defined beforehand. The emblematic situation is characterized by infinitive simulations in which the player can in theory play a game without an end, without reaching a well defined objective if not the infinitive length of the game itself. The term video game derives from the method that is used to carry out this entertaining activity: in front of a screen or a monitor, the player interacts in an imaginary world of video games through a joystick or any other instrument of interaction between man and machine. Paying attention to the term «video game», one can note that the component "game" puts in evidence the aspect of entertainment; from the pleasant action there is also a sense of competition based on certain rules.

Video games have some characteristics that make them unique in relation to other forms of entertainment. First of all, the presence of a screen which quickly provides an exceptional visual connotation. In videogames the predominating method of communication is principally graphical and visual. A videogame is not only video: it's also audio, text, animation; it encloses in itself all types of media languages transforming the activity in a sort of communication using many channels. All these channels interact among themselves to form a final product which is used as something that is very attractive, involving and intense. The element that cannot be done without is challenge: in every videogame, even though in different forms, have a challenge, one or more obstacles to overcome in order to reach the end of the game. In it there is always something to be won, an objective to be reached, this is modified according to the type of video game. Building on over 10 years of research, Kurt Squire tells the story of the emerging field of immersive digitally mediated learning environments (or games) and outlines the future of education. He explores the intersections between commercial game design for entertainment and design-based research conducted in schools; highlights the importance of social interactions around games at home, at school, and in online communities; engages readers with a user-friendly presentation, including personal narratives, sidebars, screenshots, and annotations; and offers a forward-looking vision of the changing audience for educational video games. [5] A videogame can surely be considered a new medium. It possesses

digital characteristics, it acts as a means of direct communication for a very high number of persons and it translates codes and traditional languages in an innovated product. As a digital instrument, videogames put in action a completely mathematical world because of the presence of a series of mathematical algorithms regulated by their rules, which are characterized by being virtual in the sense that Pierre Lèvy assigns to this terminology and the capacity of being interactive.

The diversity of mobile, social network, console and PC games challenges our definitions about what a “videogame” might be now and in the future. Yet, videogames challenge our notions of identity, creativity, and moral value, and provide a powerful new avenue for teaching and learning. Videogames are a fine icon of contemporary culture; they’re intellectual and emotional places of experimentation, creation of new languages, social interaction and exploration of the world.

Schools, workplaces, families, and academic researchers have a lot to learn about learning from good computers and video games. Such games incorporate a whole set of fundamentally sound learning principles, principles that can be used in other settings, for example in teaching in schools. In fact, the learning principles that good games incorporate are all strongly supported by contemporary research in cognitive science. The science that studies human thinking and learning through laboratory research, studies of the brain, and research at actual learning sites like classrooms and workplaces [6], [7], [8].

Video games are one of the many ways that the Internet has changed how a generation of young people socialize and view entertainment. Today, avid game players willingly pay monthly online game fees as readily as their parents pay light bills—and anxiously wait in line for new video games the way their parents used to queue up for concert tickets. [9]

In recent years a real discipline has been developed that deals with videogames. In this way Media studies have given way to *Game studies*, which see in video games a entity of its own, which is worth of being studied autonomously and not as a sub-category to other mediums, for example in the case of cinema and literature, thus giving it autonomy in reference to texts. There is a heated debate by two rows of contenders: on one side the so called *ludology*, which are a group of people who see in video games an object of study in a specific discipline in a strictly academic area; while the so called *narratology* locate in the video game neither more nor less than a text and interpret it as a narrative medium from the moment that in it converge images, sounds and animation. The intention of *naratologies* is that of understanding in which way it is possible to create stories using the computer and to try and create stable points of contact between a game and a story [10]. Janet Murry (1997) even talks about *cyberdrama* to mean that form of video narration that in some way is capable of using inter-textual, immersive and interactive registers. From the theory of *cyberdrama* the author sustains that the format that will fully exploit the properties of digital environments is simulation: the virtual world full of interrelated entities, a world in which we can enter, manipulate and observe the process. It is a medium that gives us the opportunity to scrutinize the simultaneity of the process that takes place in the brain: for example, the synthesis between language and images, the pressure and the presence of divergent possibilities that we experience as people who can choose freely. [11]

In 2003 Gee likewise argues that games help us to develop versatile cognitive skills. They teach us “to experience (see and act on) the world in a new way” and to develop “resources for future learning and problem solving”. Gee concludes that games “operate with -that is- they build into their designs and encourage good principles of learning, principles that are better than those in many of our skills-and-drill, back -to- basics, test –them-until-they-drop schools. In other words, games may not only teach content, as Prensky shows, but they may also teach us to learn, accelerating cognitive development. [7]. Many authors have agreed that games are immersive and promote strategic thinking, planning, communicativity, negotiation skills, multitasking and group decision making. They also observe that games promote high levels of attention and concentration among players. There is a cogent belief that video games can be a powerful tool if we can exploit the affordances and harness the application in classroom settings.

The study of video games in education and its implications for teaching and learning are at a critical point. Kafai (2006) believes that the special role of video games in contemporary children’s culture creates an opportunity to study playing and making games for learning. If we are to teach the next generation of students effectively, video games may provide progressive and complex learning environments that will prepare them to face the challenges in their real lives. [12]

Salen and Zimmermann (2004) in their detailed exploration of game design, suggest that games may be approached with a focus on rules (the design of game), play (the human experience of playing the game), or culture (the larger context engaged with and inhabited the game). [13]

Students of the *Net generation* live in media-saturated environments as they spend an average of 6.5 hr per day engaged with various media [14]. [15] Educators and scientists repeatedly return to the conclusion that one advantage of educational games is that games tend to generate a much higher level of students' positive emotional engagement, thus making the learning experience more motivating and appealing, improving participation and achievement [16]. Games can motivate passive students to contribute more than they would in a traditional learning environment [17]. Video games motivate learning by challenging and providing curiosity, beauty, fantasy, fun, and social recognition. They reach learners who do not do well in conventional settings [18]. The development of metacognitive skills is a topic of great relevance for the impact that it has on academic performance, lifestyle and in the way one interacts with the surrounding environment. In this sense it can be said that the actions orientated towards the promotion of metacognitive skills implies the enhancement of lifestyle and the creation of flexible and mature personality traits. [19]

Tanoni talks of «collocation» instead of «insertion» and indicates the formula «play to learn, learn to play» as the base for modern learning, based on motivational stimulation, which in this case would derive from the joyful use of video games at school; without transforming the class in a game room naturally, but with the intention of integrating the canonical formulas of teaching and learning using new languages [20]. By representing the simulations through gaming conventions, educators can potentially increase engagement while fostering deeper learning, as learners engage in critical and recursive game play whereby they generate hypotheses about the game, develop plans and strategies, observe their results, and readjust their hypotheses. [7]

3 ANALYZING VIDEO-LUDIC PRODUCTS TO LEARN HOW TO THINK CRITICALLY

Public opinion, regarding videogames, burdens with many misinterpretations this manner of playing. It's not then a surprise that videogames are looked at suspiciously especially by adults. None the less videogames in reality are bought and used by people of different ages with a lot of satisfaction of their users, and not only because they are amusing. Videogames, in fact, just like any other type of entertainment where words, images and tasks to be done exist, present problematic situations, at times simple and at other times complicated, where the user reacts actively. So while the use of televisions or movies requires a predominantly emotional involvement through the identification of the viewer with the various characters, the use of video games is much more complicated and requires attention, it requires the user to distinguish the various configurations of perception, to interpret situations and to react to stimulation and to make decisions at times very quickly. The relationship between the user and the video game, therefore, is not of passive use, on the contrary it is a relationship that requires participation and commitment, and that represents a time of involvement, both emotional and intellectual, able to generate pleasure and capture interest. In front of the pervasiveness of video games, educators, whether they are parents or teachers, cannot remain inert, but rather should strongly encourage the development of critical thinking in children and young adults. Certainly this, however, involves the renovation of a new cultural approach able to develop both a matured consciousness to the value of using new technologies, in full respect of a person's human development, and making ways of learning for the new generations dynamic and effective and, at the same time, converting cultures in relation to the new sensibility brought by the new media.

Media education is today configured as a strategic element in the education of a person as a whole. The application of the principles and objectives in *media education* in the field of video games is very recent and there are many more open questions than established procedures. And this is for many reasons not only pedagogical-cultural but also didactical-organization¹.

A player learns to think critically about the simulation while, at the same time, gains embedded knowledge through interacting with the environment. By allowing the player to take on new identities, solve problems through trial and error, and gain expertise or literacy, video games have potential for oneself-referential disciplines, particularly science [21]. Games provide learners the opportunity to learn by doing, experience situations first-hand, and role-play. This establishes the proliferation of gaming in today's learners [22]. Virtual learning environments allow for development of higher levels of

¹ From this last point of view it must be admitted that the activities of videogame education require technological equipments which in themselves don't have an exaggerated cost but that is are not present in schools, and educational centers because they are considered, for a prejudicial belief, strange to be had. In addition, these activities require a lot of time which is difficult to fit in the organizational structure of school time and personal time, since these activities require specific expertise that most of the time the teachers and educators do not have.

learning and collaboration skills, and improved practical reasoning skills [23], [24]. With appropriate pedagogical integration, it is undeniable that the interest of students increases if teachers relate to them using the most language of media [25]. From the pedagogical point of view, the obstacles are even greater because it is believed that video games as toys, are not worthy of becoming an object of study, so it becomes difficult for educators and teachers to justify their presence within the educational curricula, whether at school or outside school; also it is a widespread idea that it's completely useless to teach children how to use video games since these are more than capable. Surely, in some respects, this is true but there are many arguments that can be given to support the opposite view. In the first place, it must be emphasized that toys are cultural objects and, as such, need to be known; however, the complexity of video games from the perspective of technological, industrial, architecture ludo-narrative and that of the social phenomenon created around it, means that it lends itself as a source of discussion of plans that cover many subject areas. Children and young people, in fact, even though they use all these software, rarely take advantage of their passion to understand something more about the world around video games and it often appear that users are completely unaware of the wealthy implications that video games have.

In this perspective, the intervention of an expert could rise up curiosities and make known that behind video games there is a world that deserves to be understood in a profound way. When we speak of the competence of young people in the use of video games, and in general of all technologies, we must not forget that there are two levels: that of the possession of the operational procedures necessary for the use of the same technologies, and this is an easy task for children who, by trial and error or by imitation, acquire the knowledge by themselves. The second level, where the skills of decoding, comprehension, critical thinking and production, which, however, cannot be acquired by imitation but need an educational intervention in order to be built, developed and established. Henry Jenkins, in speaking of the basic skills that the average education of the twenty-first century has to acquire, focuses explicitly on video games in the sections dedicated respectively to the ability to play, simulation and performance. In reality, these three skills, considered essential for life and for participating in social life (both current and future), are not so much related to having familiarity with video games in the banal sense of having the ability to move within the virtual world, racking up points and completing different levels of the game. Rather, reiterates the author, they presume that contextually with the playing experience, without diminishing the fun that this entails, the videogame player is able to make more complex mental operations, related to the systemic understanding of the logic of the software and the achievement of a deep form of self-awareness of decisions and actions that are put in motion. This higher level of skills related to videogame players is not innate nor can it be acquired in an automatic way, but «it should be intentionally taught overcoming the skepticism that schools should, or could, teach young people how to play and overcoming the confusion between playing as a source of fun and playing as a form of responsibility». [27]

Subrhamanyam, Greenfield, Krant, and Gross (2001) have shown, taking into account a series of research, the main metacognitive skills related to the use of video games. One of the main areas of cognitive relapse is the spatial representation, which constitutes a domain of skill rather than a single jurisdiction, and includes capacity as the visualization and mental spatial rotation, the ability to deal with images in two dimensions in a space of bi / three dimensions. Another skill is the iconic representation or analog that allows you to manage images. Further relapse is selective attention, namely the ability to keep track of many different information simultaneously. [28]

4 THE RESEARCH: THE PHASES AND THE EVALUATION OF THE ANALYSIS CARDS OF VIDEO GAMES

The analysis and evaluation of video games, proposed here, is the result of observation and prolonged study, conducted with a holistic approach: behavior, opinions, attitudes, knowledge, skills and processes developed by video games in young people. The need for controlled and systematic procedures and explicit frameworks derives from the need to produce reviews with validity and reliability, not only based on common sense. In fact, it often happens that the judgments of adults on video games are based on evaluations conducted on the basis of stereotypes, prejudices or models of inadequate interpretation of the reality of the younger generation consumption.

Why an analysis-card of video games? From the educational point of view, the card presented is intended as a functional tool to stimulation of the activity of thinking, since its purpose is to induce the learner, be it an adult, a youth or a child, to activate detailed analysis of the mental processes, following an appropriate model, content on the card itself. The analysis card was achieved after

preliminary investigation in the world of video games that has been explored and investigated by those who, for the first time, approach this field so vast and varied, but at the same time with the motivation, appeal and curiosity that is aroused by something new. From a methodological point of view, regarding the evaluation of video games, the qualitative perspective has been adopted meaning "quality" as what qualifies as an object of study, making it special, unique and unrepeatable.

The evaluation of quality thus becomes a process of identification of specificity, accompanied by an assignment of the same value. The work was carried out by following the specific moments that have ultimately led to the construction of an analysis card. In trying to identify an age group at which to address the analysis cards, it was decided to structure it in such a way as to make it understandable and easily accessible both to an adult audience (teachers and parents), and by those who directly make video games their gym of life, that is to say the young people but, especially, children who, from the early years of life, with great skill and ease, use video games and do so wherever they are. It is not difficult, in fact, to see children at the restaurant focused on video games between courses, but also while they eat [28].

The work began with the construction and administration of a questionnaire to find out which is the perception in future teachers and teachers of lower secondary schools of video games for children. Starting from the results of the questionnaire, an analysis card was designed and built as a first version to observe and evaluate video games.

We have set ourselves the following questions: what elements characterize the game in positive? Which in negative? What elements are most relevant? Which ones are least relevant? To build the evaluation cards of the video games, the following were taken into consideration: the educational value of the game in terms of the values conveyed and its representation of reality, textual and narrative analysis of the game. In the first phase of observation and evaluation, which took place from January to March 2012, 20 video games intended for children between the ages of 3 and 10 years were viewed. For the analysis and evaluation of the video games, 8 nursery and primary school teachers and 21 lower secondary school teachers of the province of Palermo were involved.

The analysis card is divided into three areas, each of which consists of items that may, either structure a possible discussion led by teachers, pedagogues, educators and parents, or, address a child's independent work: the first needs to identify the synthetic information of the game on which one has chosen to work, elements available directly from its package or on related websites. From the educational point of view, this survey allows one to develop an awareness of the game as a text, having certain authors made in a given historical moment and in a geographical context, within precise dynamics of production and distribution, and so on. The second area concerns the analysis of the content in the game chosen. In particular this section forces one to dwell on the narrative and representational aspects of the game, investigating the characteristics of the plot of the story, its setting, the characters and their characteristics; and the third and final area, allows one to reflect on the formal elements of the game, such as: the graphics, the pace, the quality of the images.

In the light of the observations made and the results recorded in the period between April and September 2012, we revised the first version of the card, integrating it with additional areas that could better help parents and teachers to choose properly the boxes according to the age of the children. The characteristics of video games that attract the attention of the smaller viewers are: the humor, the mobility of the characters, sound effects, the voice of the characters and animation. The second version of the card was used in the months of October, November and December 2012, not only by 29 teachers, but as well as 98 students of the Bachelor of Science in Education who attended the lectures of Experimental Pedagogy, and 45 students attending a master degree in Pedagogical Sciences, who attended the lectures of docimology. The Assessments done by the teachers and students, gave a further contribution to outline the profiles of video games and to identify those most pedagogically more appropriate for children aged between 3 and 10 years. At the end of the second phase of the research, 50 tabs were produced: one for each videogame; these were fully examined. Thanks to the study of these cards, it is easy to get an idea of the world of video games today. Coherently with the aims of the research, the proposed analysis cards refer to video games that we consider appropriate for children of kindergarten, primary school and lower secondary school level. For each videogame a complete version of the analysis card was compiled as indicated below (tab.1):

Tab.1

1	the title and date of distribution;
2	the recipients indicate the age of the children to which they propose to play video games;
3	the genre of the video game: action, adventure, strategy, simulation;
4	the loading platform and the distributor;
5	the plot of the plot, that is the story that acts as a the background to the video game as it is structured at various levels;
6	the aim of the game;
7	setting, to describe the spaces in which the events take place
8	the protagonists, to provide an overview of the characters who appear in the video game;
9	the actions of the main character, to connote the protagonist in a more specific manner;
10	the level of interaction;
11	realism;
12	the values, to indicate whether the video game has values to promote
13	the type of obstacles to tackle in order to reach the goal;
14	the type of consequences to the actions and to the errors the player is going to meet. , To indicate what they are getting when the player makes a mistake, what kind of penalty they deserve. Here we want to clarify that making mistakes is part of the game. Error must be considered as a creative practice, productive of new meanings and new learning;
15	graphics, because although it appears as a backdrop to the story, it is also functional to the dynamics of the game;
16	the music and sound elements. Always underrated, sound plays, however, are a very important role in the evaluation of a video game because the audio scans the various phases of the game, making them faster or slower. This parameter was considered to indicate if the video game is characterized by lively and fun music, sweet and melodic, or whether, on the contrary, they repetitive, ? sad or create moments of tension;
17	the narrative, which is important because, often, the strength and the dynamics of the narration of the video game have the upper hand on the aesthetic dimension;
18	the personalization of the game, to see if the game allows the player to choose from a wide range of options, or if, on the contrary, binds them to repetitive and pre-established actions;
19	the skills required and the processes activated;
20	the rhythm, to indicate whether the images in the video game, music and actions are slow, fast, frantic or repetitive;
21	images, to indicate whether the colors are bright, pastel, soft;
22	sensations and emotions, to put in evidence the moods inspired by the video games: calm, carefreeness, arrogance, pleasure;
23	the structuring of the game, to indicate whether the game includes levels or if it runs in a single run;
24	educational content, to highlight the potential positive aspects, ; from an educational point of view, they can ensure that the child learns something new while playing with videogames;
25	observations and curiosity, to add some details that will prove themselves useful to know better and more comprehensively the videogame.

The proposed cards, as previously mentioned, refer to video games that are considered appropriate for children aged 3 to 10 years, even though some video games are also suitable for older children or and, even stimulate the interest and curiosity of the entire family. Most of the analyzed video games are characterized by video game cartoons. It was chosen to give preference to the appeal of video games that come from cartoons, because in the history of the latter, there are really noteworthy characters that have been successful and loved and that may constitute positive ideals for children.

The 50th videogames that we evaluated are the following:

1. Adventure time: le fiamme di Flambo	PC
2. Bee movie	NINTENDO DS
3. Bee Movie game	NINTENDO WII
4. Boog and Eliot	NINTENDO WII
5. Bounce ball	TABLET
6. Cars	PC
7. Cartoon cup	PC
8. Deer hunter reloaded	TABLET
9. Disney epic mickey	WII
10. Ducati challenge	PS3
11. Emergency ambulance simulator	PC
12. Emergeny 2013	PC
13. Euro truck simulator 2	PC
14. Farming simulation 2013	PC
15. Fruit ninja	TABLET
16. Geronimo Stilton: ritorno nel regno della fantasia	PSP
17. Gumball: la pazza sfida del crea personaggi	PC
18. Hamtaro	NINTENDO DS
19. Hello kitty	PS2
20. Il re leone	PC
21. La sirenetta	PSP
22. Looney Tunes	NINTENDO DS
23. Madagascar	GAME BOY
24. Mario & Sonic ai Giochi Olimpici di Londra 2012	WII
25. Minecraft	PC
26. Need for speed hot pursuit	PC
27. Need for speed most wanted 2012	TABLET
28. Need for speed pro street	PC
29. Need for speed the run	PC
30. Need for speed undercover	PC
31. Papo & yo	PS3
32. Piante contro zombie	X-BOX 360
33. Pocoyo	NINTENDO DS
34. Pokemons	NINTENDO DS
35. Police force	PC
36. Police simulator 2	PC
37. Race 07	PC
38. Robots	NINTENDO DS
39. So di più imparo prima	PS2
40. Spongebob	NINTENDO DS
41. Subway surfers	TABLET
42. Surgeon simulator 2013	PC
43. Temple run	TABLET
44. Temple run 2	TABLET
45. Tom & Jerry. Guerra all'ultimo baffo	PS2
46. Tom and jerry tales	NINTENDO DS
47. Topolino e la febbre del calcio	PC
48. Trilli	NINTENDO DS
49. Winnie the Pooh e le pance brodolanti	PS2
50. Winx club	GAME BOY

The following (Tab.2) is an example of analysis of a video game, *The workshop of games - The Lion King*.

Tab.2

Title	<i>La Bottega dei giochi – The Lion king</i>
Users	The game is suggested for children between 4 and 6 years
Genre	Educational
Distributor	Leader
Platform of download	Pc
Date of presentation	2001
	Analysis of the content
Theme	Simba, the hero of "The Lion King" guides the young players in a delightful interactive adventure. In the company of his closest friends, Pumbaa the warthog, baboon Rafiki and Timon the meerkat; the children are put to the test with mnemonic and linguistic games, puzzles, mazes and drawings
Aim	The aim of the game is to stimulate the logical-mathematical ability of children with a first approach to computer use.
Setting	The game takes place inside four very specific play areas: the Jungle, the Tree of Rafiki, the Land of shadows, the magic Pozza, each of which allows the player to experiment with different types of games.
Protagonist	Timon
Actions of the principle character	The player will have to compose the puzzle, color images, create images by combining the points that compose them, reassemble the pieces of drawings taken from the scene of the cartoon, run the mazes.
Level of interaction	The game is presented as an interactive way to learn and have fun at the same time. The level of interaction is high. The memory games, for example, allow you to play against one of the characters of the Lion King or with another player.
Realism	The game is very realistic and, for this feature, it lends itself well to educational aims.
Value	Altruism - Respect for places and personalities - Generosity - Friendship - Honesty - Availability to help - Trust in the others - Socialization - Perseverance
Type of obstacles to reach the aim	Obstacles in the game are different in nature, depending on the type of game that is being played. Therefore, they can refer to the sphere of mathematical calculation or may affect the ability of organization and management, or one may have difficulty in remembering.
Consequences of actions and errors	The consequences to wrong actions are closely related to the type of action implemented. For example, it can happen not to be able to go to the next game because a series of numbers was not properly terminated or were not guessed, the letters that make up a given word.
	Analysis of the form
Graphics	The graphic interface is linked to the cartoon.
Music and sounds	The music is quiet, sweet, melodic and never too repetitive. The audio quality is excellent.
Narration	The narration of the game is meaningful. One has the impression of seeing the cartoon in the unfolding of its wonderful history. But there are also new stories, dictated by the type of game in which the player participates.
Personalization of the game	The game gives ample room for customization of the moves by the player, such as when the player can perform a move performing six notes in a personalized melody
Ability required and activated processes	Calculation skills- Spirit of observation - Organizational and strategic skills - Memory - Caution - Reflection - Creativity
Rhythm	The rhythm corresponds to the needs of the player who does not get frustrated and does not live the constant feeling of not arriving in time to finish a game. There are times when the game provides a faster pace, and others that require a slower pace.
Images	The images are nice and funny: the colors and shapes are inspired by Africa and the dominant colors are ochre, brown, yellow, green.
Feelings and emotions	The feelings and the emotions aroused are all positive. An atmosphere of tranquility and peace prevails in the game.
Structure of the game	In any proposed game it's possible to vary the level of difficulty, choosing from easy, medium and difficult. Obviously levels are calibrated for a very young audience, whose age has already been indicated. Icons will help to receive hints and clues in order to make the game less frustrating.
Educative contents	The game allows one to better the spirit of observation and sense of taste. It also allows one to learn the letters of the alphabet, recognize insects learning to group them into categories; associate an individual animal, its footprint; recognize all the characters of the cartoon; develop sensitivity to color, to distinguish the ways in which one can color: with the chalk, brush and spot color; remember the color of the notes and then repeat them; stimulate creativity.
Observation and curiosity	<i>La Bottega dei giochi</i> is a series of games that combines educational and recreational activities with games that do not fail to impress all the little Disney fans. This is definitely a formula that works, especially as accompanied by a trademark, that of Disney, which offers a safe and serious guarantee of quality combined with guaranteed appeal of the characters.

The analysis of 50 cards of video games evaluated, pointed out that, in the market, there are more video games for children require the use of logic, memory, problem-solving, critical thinking skills, visualization, and discovery. Moreover, the use of these gaming technologies requires that users manipulate virtual objects using electronic tools and develop an understanding of the complex systems being modelled. Generally speaking, these games seem to be effective in enhancing motivation and increasing student interest in subject matter, yet the extent to which this translates into more effective learning is less clear. The lack of empirical data, due primarily to the scarcity of systematic investigations into the cognitive impact of serious games, forces us to turn to prior work, investigating the impact of interactive computer simulations for hard evidence. Through the construction and validation of the analysis card video game we wanted to provide a tool for reflection on the positive opportunities, without eliminating the negative aspects that video games can offer. It is obvious that video games should not replace other forms of learning and should not be seen as a sort of electronic babysitter, that is, a convenient way to spare educators from the commitment of educational relationship.

5 CONCLUSION

Analyzing video games is an interesting challenge for educators and young people with a personal aim to understand these cultural products in a profound way. In the adult world, those involved in education, must constantly work for the development of an educational system that allows the child to acquire the ability to freely express his potential and to develop critical thinking so that he can consciously unhinge himself from an uncritical system of mass society, functional only to consumerism and to the passivity exerted by the media.

Through the acquisition of a critical way of thinking, the person is not conditioned by the ideas or by the dominant behaviors in society, rather, it is a necessary condition because it may increase ones level of freedom, which makes them able to read and interpret reality and, therefore, to oppose and resist to what, in reality, wants to enslave, by deceptively making one believe to be free. Only in this way the potential offered by video games could be used in a correct manner: that is, when the user will use the instrument as such or when they'll be inspired by genuine cultural interests, from the desire to know and understand, being able also to discern the real benefits from the deceptive ones. The message we want to convey to future generations, as well as to those not so young, is that what is new is not valid in itself, but one should explore to what extent that novelty is valid or not, that is to say, to what extent video games may be collocated in the optical of improving the person, that is, in the promotion and increasement of his liberty.

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