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GRUPO DE INVESTIGACIÓN  
IMÁGENES, PALABRAS E IDEAS



Learning with video games

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## *Introduction*

This guide intends to show families and teachers that it is possible to learn with commercial video games and how this can be achieved. Its contents derive from the project **“Learning with commercial video games” where different experiences were carried out** in several multi-media workshops conducted in two Primary Education public schools during the 2006-2007 school year, in weekly sessions of approximately two hours. In these innovative spaces, students, teachers and researchers learned how to play with video games in an active, reflexive and critical way. Boys and girls, aided by other media designed for leisure purposes, such as films, photo cameras or blogs, deciphered the messages embedded in the video games and, based on them, created their own multi-media productions.

This work is part of an extensive project which has been the result of an interdisciplinary study coordinated by the research group Imágenes, Palabras e Ideas from the University of Alcalá, supported by Electronic Arts España, within the framework of its Corporate Responsibility Program. This document complements other materials through which the results obtained have been released. Interested readers may **request the project’s final report by emailing the contact addresses included in the back page**. The web page <http://www.aprendeyjuegaconea.com/> enables the follow-up of the experience undertaken in the workshops and offers specific activities to help in understanding the role of video games at home and in the school.

**The project “Learning with Commercial Video games” would not have been possible without everyone’s joint effort, especially the boys and girls, teaching body and the management teams at school CEIP Ciudad de Jaen (Madrid) and CEIP Henares (Alcala de Henares) and we wish to thank them for their participation.**

## *New games, a new childhood*

These images represent “old or traditional” and “new” situations in children’s leisure. When we observe them, the first thing we notice is the difference between the games then and the games now. Nowadays, children enjoy themselves surrounded by technological devices and objects. They dedicate their free time to speaking on their mobile phones, chatting on the Internet or playing with the video console.

Video games occupy a significant place within this technological universe surrounding the life of children and youngsters. More than eight million Spaniards are regular video game players and almost 30% of them are between the ages of 7 and 10 (Source: *Estudio de Hábitos y Usos Tecnológicos de los videojuegos*, ADESE, 2006). With these children in mind, as well as with their adult environment, we have developed this guide to help in the understanding of the processes that allow learning while playing.



## ***But, what's a video game?***

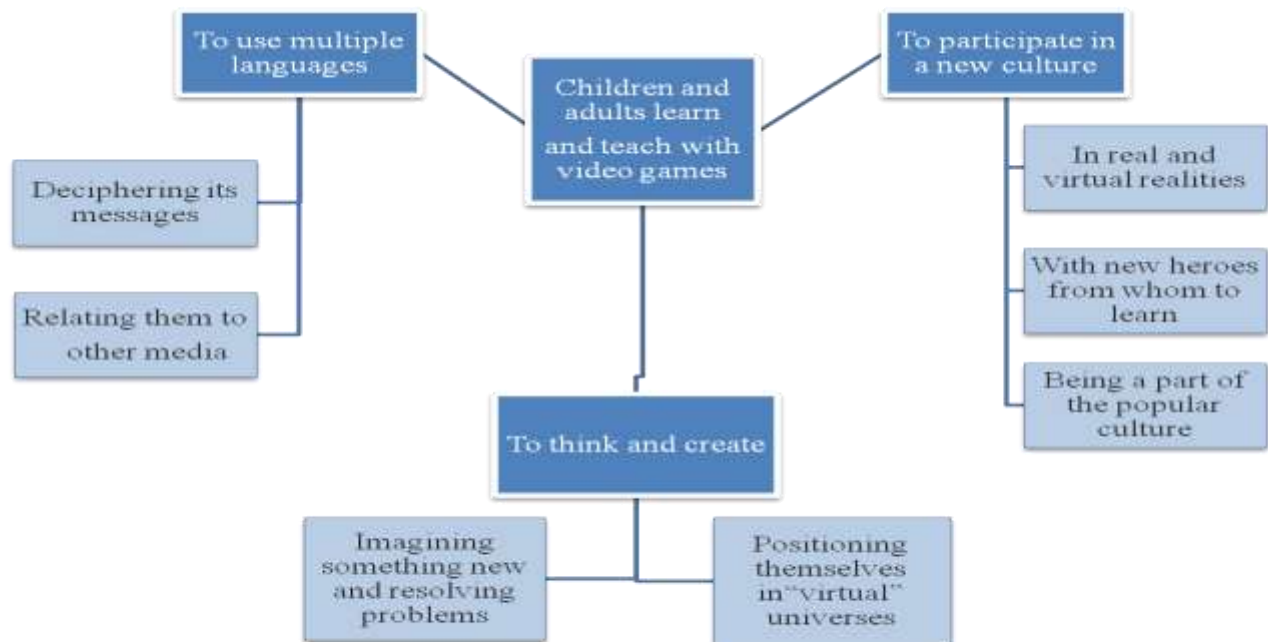
When we think about video games, the first images that pop into our head are usually the **computer or console's screens and controllers**. But there is much more beyond all this. What we are faced with when we turn on the video game is the result of the work from numerous professionals from the IT and design field, together with scriptwriters and other specialists in several fields of knowledge.

The universe hidden behind the video game, a true work of art in many instances, is built while respecting very complex rules that the player must become familiar with. Discovering these rules allows the player to actively participate, create and explore fantasy worlds, resolve problems and, even, apply sport strategies to a simulated reality.



## *Learning from video games*

What can we teach and learn through video games? An answer to this question is included in the following figure, which summarizes some of the results from our research in the classrooms.







After exploring and analyzing the activities carried out by boys and girls at home or in class, we have discovered some of the video game characteristics:

- They can become an educational tool and not just a game.
- They are a bridge to join leisure and education.
- They allow us to overcome cultural, generational and even physical barriers.
- With their help, boys and girls learn together within new educational scenarios.

## *Playing or Learning, a false controversy*

Boys and girls can continue to play for a period that may seem too long at times. Why do **they not want to stop playing? Why don't** they quit even if they have to go back to the beginning constantly? Because they enjoy themselves by attempting, again and again, to search for the solution to a problem or overcome the challenges and tests necessary to complete the game.

When a child plays with a video console or with the computer, in addition to enjoying a time of leisure, he or she learns to plan his or her actions, look for solutions and find new resources to be successful.





## *Let's see an example*

When we played with the Sims in our workshops, we were able to see how a social simulation video game, with a very open purpose and without a unique goal, posed attractive challenges and tempting problems that children had to resolve.

- With the Sims the child can design characters with their own identity and create a virtual life for them. For example, they plan their work and their families.
  - **The player also becomes and “architect” and designs his or her own house.** To do this, he or she has to choose, among several models, the one that better adapts to the characters.
- When starting to build the house and plan the family, the player must be capable of organizing his or her actions and defining the order in which they will be implemented.
  - In addition, he or she will have to choose between the different alternatives, materials and designs.
- Moreover, the players must not only create the world surrounding the Sims, but, subsequently, they are the ones in charge of taking care of the characters created, as they do with themselves (food, cleaning, etc.).



## Learning to decipher video game messages

Learning to read and write has been one **of humanity's great achievements, the door that has revealed new worlds.** Written texts constitute a large archive of knowledge, stored through out centuries.

Currently, technological advances allow us to use, in conjunction with writing, other means of expression in our daily life. We are referring, for example, to television, cinema or, more recently, the Internet. These media use new means of communication whose languages we must learn.

It is not enough to know how to read and write, it is also necessary to learn how to decipher the messages conveyed by the media through images, sound and the multiple ways in which these resources intertwine.

Carol and Pablo, two children who participated in the workshops, wrote a blog in which we can see how they combined written texts with a drawing to recount their experiences with video games (<http://carolypablo.blogspot.com/>) to other children who did not participate in the activity.



How can we achieve the learning of the language hidden behind the video games? **What messages do the game's designers want to convey?** To reveal this, during the workshops we explored screens such as the one depicted in the photograph. We talked about the colours, special effects or the design of the characters.

The fact of sharing the feelings conveyed by video games when a dark tone is used, or a closed space, a cheerful music, can be a good way to begin to understand their messages.



# *Video games, a bridge between multiple learning technologies*

Traditional and new means of communication coexist in the information society. Each one needs the other to survive and they must mutually adapt to survive. Imagine Internet without the previous existence of newspapers or the printing press, would it not be unthinkable?

Clearly, each medium has its own characteristics to convey messages. For example, with the console, the player is much more active **and can control the character's actions**. Films or literature, in the other hand, do not allow the reader or spectator to take part in the development of the storyline.

Video games can become a bridge between **the many communication channels**. Let's see how this can be achieved.



In our workshop, the Harry Potter universe offered the opportunity of formulating different interesting questions to help the younger ones reflect upon certain issues:

*What happened to Harry during the video game?*

*Did he live through the same adventures as in the film?*

*Or as in the novel?*

These questions encourage a dialogue on how different media can approach the same topic. Over time, we will understand their similarities and differences.

For educational institutions and families, it is a challenge to contribute towards these children being not just passive recipients but also critical individuals capable of thinking on their own and communicating their ideas through different media.





## *Popular culture and video games*

Sometimes we differentiate between the culture shared only by a few, the intellectual elite, from another one we call popular culture, accessed by a wide array of people. The latter is the one we are **interested in right now, because it's the one in which video games are immersed.** Players value not just the act of playing, but a whole universe of material objects and ideas around the video game, a shared world expressed through words, images and sounds.

Working with the children in class, on the basis of the contents that are present in these cultural manifestations, increases their motivation towards learning. For example, in our research, we have analyzed how children find it easier and more meaningful to learn how to write when the text is related to a popular hero such as Harry Potter. These characters are present in their daily lives through small treasures, cards, toys, caps, etc- as shown on the photograph.



In our research, we have revealed several ways of learning from the popular culture present in video games. We will now refer to two different situations that came up during the workshops and which contributed towards an education in values.

**Let's first consider sports practices.** For example, after playing NBA Live or FIFA, children discussed support and collaboration strategies among the players, both at home and in the classroom. Furthermore, they were motivated to attend a game in the actual pitch, and they wanted to improve their game not just on the screen but also in the playground during recess.

**Secondly, let's see another example** related to the video game The Sims. With these characters, children designed cities, including their inhabitants and their corresponding professions. From there, interesting discussions were brought up regarding the differences that may exist among people, their interests, their spaces and their cultural environments.



## *Video games help in making friends*

Video games can be a powerful tool to learn how to live in a society. In our workshops we have observed numerous situations where children learned to collaborate by using video games.

Playing with a video game, when other people are also participating in the experience, can be done in many ways. For example, to solve complex situations posed by the video game it is necessary to verbally express our strategies and convey them to our peers. In this way, **the player's ideas become explicit and contribute to enriching the group.**

### *Playing while sharing time and space*

Using the multiple controllers of the console to jointly achieve the purpose of the video game or suggesting alternatives when we watch a player are some examples of collaboration.

What can be learned when multiple players participate at the same point of the game, faced with the same screen and with the same purpose? For example, playing with Harry Potter in our classrooms children had to discover and resolve together the challenges raised and move the characters in a coordinated way. Knowing how to collaborate, as required by the game, is a necessary skill not just in a virtual universe but also in our daily lives.



## *Participating in a “community of players”*

Internet has opened new possibilities within the universe of video games. For example, playing through the Internet with someone we don't even know and who may be, even, in another part of the world is another situation from which one can learn. Sometimes playing is not a requirement; it's enough to communicate through the Net to share our knowledge and resources regarding a specific video game. The computer screens included here allow us to illustrate this point.

In our workshops, children learned to participate in these communities and were able to publish their own blogs, which became new communication channels. Their families and their friends could read on the Internet what had happened when they played in class and several different communities were created around the video games used.



# *Video games: between real life and a virtual world*

Video games, similarly to films, books or television, transport us to an imaginary world.

What is so attractive about virtual worlds, those universes generated by the computer but that are so impressive due to their proximity to reality? They offer the possibility of being spectators and actors at the same time within a fictional world, of living new experiences next to our heroes.

We refer to simulation video games that, in some cases, recreate our reality. This is what happens when we play a basketball or football game. At other times, they allow us to build stories with Harry Potter or The Sims.



<http://www.es.ca.com> Madrid, CHIP Henares, Curso 2006/07



During the video game, we can interact in a virtual world we have personally built. Children are aware of these processes, as expressed by Carol in this paragraph regarding her experience while playing with Harry Potter, published on her blog.



*"Hi guys!*

*I'm going to do my homework. I liked it a lot: in the film I liked the dance, and in the video game when the Horntail dragon came after you.*

*Why? In the film I have learned that it doesn't matter who you pull for, the important thing is to participate in the video game because I have learned to dream."*

*(<http://carolyablo.blogspot.com/>)*

## *New heroes from whom to learn*

Pau Gasol, Harry Potter or The Sims, main characters of some of the video games, have become new social heroes. They walk, jump, relate to each other, achieve new challenges every day and, above all, allow players to have the power to control their actions.

When we play, assuming and controlling our heroes' activities, we adopt different identities.

Having become heroes, as players we are capable of facing different problems and searching for the most appropriate solution for each one of them. The fact of **“consciously” living in a virtual world that we** can critically compare with our daily reality allows us to reflect upon our own values and choices.



We could say that the success or failure of our characters is the result of our **decisions and actions**. The video game's hero reflects our own acts as if we were looking at ourselves in a mirror. It's really us?

The Sims Video game is an example of the importance of taking care of our character as we take care of ourselves.



Madrid, CEIP Ciudad de Jaén, Curso



If we have a pet, as the case was in the workshop The Sims 2 Pets, we must be aware of the care it needs and how it must be provided by all of us. On the other hand, if we create different characters, as in the case of the original The Sims 2, we must follow certain rules and take into account certain values in order for our character - which

## *Learning to create with video games*

How can we turn children and youngsters into creative individuals? How can video games help? **Let's start with the act of creating.** It has often been considered as a skill reserved for a few selected beings, creators of great works of art or exceptional scientific discoveries.

The photographs of the work performed by the children in our workshops, after having played, prove that creating is a skill present in all individuals to a greater or lesser extent. It implies generating new ideas and building something new, either in the material world or beyond. Video games may contribute to developing the creative capability in a dual way.







Firstly, if there's a human skill that must be fostered when approaching creativity, it is our imagination, maybe greatly forgotten in schools. For example, the photograph shows an imaginary world created by the players based on the combination of different elements. The main difference with films or television is that in video games we actively participate in **the creative process, we don't just watch, we actually build our dream home.**

Secondly, video games can also teach how to solve problems and use reasoning processes by discovering multiple solutions to the challenges raised. Sometimes they are simple, but it is necessary to understand the rules hidden behind the screen. At first the task is not easy for those of us who were born before they came into existence, it is only possible to **teach through video games if we've learned how to play with the young ones and we let them assume the role of teachers within this process.**





## *Educating with video games: some conclusions*

The daily work in class between students and teachers at CEIP Ciudad de Jaen and CEIP Henares allowed us to observe and analyze how video games can become educational tools. Subsequently we have compared our findings with other specialists, educators, video game designers or people who wish to understand how video games generate new leisure situations from which to learn. In the following paragraphs we display the main results from the research, which can be found in **full in the report “Learning with video games” (Project UAH and EA 2006/2007)** and the webpage <http://www.aprendeyjuegaconea.com/>. We now summarize some of the conclusions, being aware of their excessive simplification.



*Video games motivate and generate innovative strategies to learn and teach*

Video games allow learning in situations that are close to the daily lives of children and this is where their power to motivate the learning process lies. Individuals learn much better when the information received makes sense to them. For example, when solving **problems related to “certain heroes”, strategies used are more easily perceived as something useful and, hence, it will be easier to apply them to other similar situations.**

This learning generalization among different contexts where children play with video games may contribute to improving the knowledge and communication in the family or classroom.

Moreover, we do not learn on our own. And video games create situations that foster the relationship among people, whether these people are present or absent, within our closest environment.

*Video games teach how to understand new expression and communication media*

The different media complement each other in their means of expression, and it is therefore necessary to understand all their languages. The difference between a video game and other media is that individuals intervene much more actively in the message conveyed on the screens. Without the player there would be no game, nor a story to be told.

## Teaching with video games: some conclusions

Furthermore, we have confirmed that using video games in the classroom, together with other media such as photographs or films, enables children to become aware of their differences and their similarities.

*Video games allow us to think, create and imagine within a virtual world*

When we analyze how children interact with **the video game's screens, we discover that** they participate as actors in the universe reflected on the screen, what has become known as a virtual world.

In our study we have observed that boys and girls clearly differentiate **their experiences in this “virtual world”** from the ones that take place in their real life.

In any case, the video game generates situations that require active and efficient participation to solve problems, which may imply a creative process in the discovery of new solutions.

This capability to think and create, search for new answers to new problems, is specially useful in a world with increasingly faster changes that demand for children, future adults, to have an extensive capacity to react and adapt themselves.



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