VIDEO GAMES: AN EDUCATIONAL ART. A VIDEOLUDIC PROPOSAL FOR THE ENGLISH CLASSROOM

Alumno/a: Pina Arrabal, Álvaro
Tutor/a: Prof. D. Julio Ángel Olivares Merino
Dpto: Filología Inglesa

Junio, 2016
Table of contents

0. Abstract & Key words (p. 3)
1. Introduction: why video games (4-8)

2. Theoretical framework (8-59)
   2.1. Contextualization: high school, subject and basics of the research (8-10)
   2.2. State of the art (10-58):
      2.2.1. History of video games: art or mere entertainment? (11-20)
      2.2.2. Main video games genres and consoles (20-38)
      2.2.3. Fiction and narrative in video games (38-46)
      2.2.4. The didactic potential of video games (46-55)
      2.2.5. The ethics of video games (55-58)
   2.3. Key notions to teach English with video games: concepts and constructs (58-59)

3. Didactic unit (59-84)
   3.1. Title: “Within video games” (60)
   3.2. Justification (60-61)
   3.3. Contextualization (61-62)
   3.4. Timing (62)
   3.5. Key competences (63)
   3.6. Didactic objectives & Evaluation criteria (63)
   3.7. Cross-curricular issues & Interdisciplinarity (64)
   3.8. Assessable learning standards (64-65)
   3.9. Contents (65)
   3.10. Attention to diversity (66-67)
   3.11. Lesson plan: procedures (67-70)
   3.12. Lesson plan: materials (70-83)
   3.13. Evaluation tools (83-84)

4. Results of the implementation (84-90)
5. Conclusions (90-91)
6. References (92-95)
7. Appendixes (96-100)
8. Links to the videos included within the DVD (101)
0. Abstract & Key words

Abstract
The current work is aimed at proving the validity of video games as teaching aids for the English classroom, as well as at fostering their regular implementation in secondary education. To this end, we will project the theoretical contents covered in the first part of the work (dealing with video games in terms of history, genres, consoles, narrative, didactic potential and ethics) into the didactic unit –entitled “Within video games”– which is proposed in the second part. In addition, the results of the implementation of three video games in a real secondary education context will be analyzed in qualitative and quantitative terms. A DVD with supplementary material (videos and surveys conducted among students) is attached to this work.

Key words: Art, Edutainment, English, Ethics, Game-Based Learning, Gamification, Narrative, Secondary Education, Videoludic Learning, Video Games

Resumen
El presente trabajo tiene como objetivo demostrar la validez de los videojuegos como material didáctico para la clase de inglés, así como promover su implementación habitual en educación secundaria. Con este fin, proyectaremos los contenidos teóricos tratados en la primera parte del trabajo (que aborda los videojuegos en relación con su historia, géneros, consolas, narrativa, potencial didáctico y ética) en la unidad didáctica –titulada “Within video games”– que se propone en la segunda parte. Además, se analizarán, en términos cualitativos y cuantitativos, los resultados de la implementación de tres videojuegos en un contexto real de educación secundaria. Se adjunta, asimismo, un DVD con material adicional (vídeos y encuestas realizadas entre los alumnos).

Palabras clave: Aprendizaje basado en juegos, Aprendizaje videolúdico, Arte, Educación secundaria, Entretenimiento educativo, Ética, Gamificación, Inglés, Interdisciplinariedad, Narrativa, Videojuegos
1. Introduction: why video games

It is no secret that human beings’ way of learning is whimsical as life itself: in the same way that we face reality differently, our styles of learning and attitude towards the process differ in no less measure. Should this not be the case, there would be no room for intellectual heterogeneity and we would all be formed in the same mold; nobody would be below the average, but the prospects of our intellect would be permanently restricted by its own boundaries. It would be an actual dystopia.

Nothing further from the truth, humans do differ—and diverge—when learning, and it is precisely through the branching and the specialization of their skills that they nourish the collective wisdom that makes the world develop. We should thus regard the learning disparities among students as a chance to strengthen their various aptitudes and dormant talents, instead of as a touchy situation the educator has to cope with in the classroom.

Since the educational process does not occur by itself, teachers must make a wise and consistent use of the learning tools at their disposal to channel the students’ abilities duly. Rather than the teacher alone, it is the adequate management of the numerous pedagogical resources available that will contribute—among other things—to the students learning in a more proper and efficient way. Therefore, which and how many of these educational tools ought we to resort to when teaching?

Self-explanatory terms, educational tools, learning resources or, more technically, teaching aids refer to any medium, either physical (a textbook, photocopies handed out by the teacher, a board game, etc.) or digital (a computerized corpus, a song or a video), which is susceptible to being put to use for educational purposes. As to how many of them should be employed, we may keep within the tacit consensus that logic itself imposes: as many as it is strictly necessary; neither too many to overwhelm students with an excessive number of input sources, nor too few to fall into lack of variety time and time again.

However, which resources to use cannot be ascertained in such a systematic way. Far from being an aseptic decision, the selection of teaching aids for the classroom is highly dependent on the specificities and particularities each group of students—and even each single student—possesses; what works extraordinarily well in a group might not be appropriate whatsoever for another group, and vice versa. Even though there are certain occasions in which a specific way of learning could—and even must—be followed uniquely, this is not always the case. Whereas the range of educational tools must indeed be as wide as possible, the specific choice of which ones to apply in the lessons ought to be preceded by a thorough reflection upon the pros and cons that each option entails.
Under this premise, the current Master’s Dissertation (MD, hereinafter) is primarily aimed at putting one of these potential teaching aids forward: video games.

Over time, video games have reached a status that is nowadays far from the mere inconsequential entertainment they once were. Not only have they become the most relevant sector in economic terms, but they have also expanded their limits to an almost absolute artistic standing. Despite the substantial progress still to be made, it is an undeniable fact that video games have now the necessary potential to match such an influential art as literature, cinema or music both economically and artistically. Even more interestingly, video games can now be equated to the literary, the cinematic and the musical genres in regard to one of their most frequently highlighted workable applications: didactics.

Notwithstanding that none of the three aforementioned arts (literature, cinema and music) are didactic tools themselves — they are, indeed, arts — they can unquestionably work as such; cannot a pen, initially invented for writing, also be used for producing tapping sounds, playing (see ‘pen fighting’) or even for bookmarking? Assuming this as self-evident, the functional versatility of the genres to which we have just alluded finds its justification in the gap that separates their primary raison d’être — entertainment, artistic creation— from the further exploitable options that arise as secondary uses. In other words, we must admit a dichotomy between the presupposed utility of the tool and its actual applicability when implemented in a teaching context.

In order to theorize such distinction at a terminological level, we propose that one of the following pairs of contrastive terms be employed: mother utility — i.e. original usefulness of the tool— vs. derived utility; or primary nature vs. secondary nature (again, of the tool). According to this differentiation, the mother utility —or primary nature— of cinema is none other than entertaining the audience, whereas its use as a teaching aid for the classroom would correspond to its derived utility or secondary nature.

Understandably enough, none of these terms are axiomatic or unmistakeable per se, nor are intended to be; they are simple suggestions to denote a circumstance which, on the other hand, should be undoubtedly taken for granted: we can often use what surrounds us at our convenience, in such a way that most of the entities — physical or not— that can be operated by humans are likely to possess more than one single utility. More importantly, this maxim is not confined solely to quotidiant objects and everyday situations (though platitudinous to say, we can sit on a couch or place an object on it; kick a ball or decorate shelves with it, etcetera), but it is also applicable to mental processes and the channelling of knowledge in general. This is exactly what allows literature, music or cinema (exemplified above) to be used as teaching aids in the field of education, our concern in the current work.
Video games are not an exception, and they likewise possess a chameleon-like hallmark: they are mainly developed to entertain the player, but, at the same time, they can doubtlessly make him learn when playing. To put it simply, video games can work as perfectly valid educational tools if adapted adequately to the students (see section 2.2.4: “The didactic potential of video games”).

On the basis of this cornerstone, we can point out two principal objectives for our paper:

In the first place, this MD is intended to prove the validity of video games as teaching aids. To this end, we have planned a didactic unit for the subject of English with video games as its main banner (see section 3: “Didactic Unit”). Despite the increasing number of articles and books written about videoludic learning, which seem to corroborate the pedagogical practicability of the tool on paper, it is no less true that most of these publications are essentially theoretical. By contrast, there are not so many works in which an explicit proposal for using video games in the classroom (e.g. a didactic unit) is definitely posed. Many publishing houses of English textbooks are still even oblivious –if not reluctant– to include video games as a core part of their units.\footnote{See appendix 1: an image extracted from a recent English textbook which does include video games as a core part of its unit.}

Bearing these circumstances in mind, we have partially implemented our unit in a real classroom situation so as to verify empirically the actual teaching potential of video games, rather than just at a theoretical level. The results and data gathered (such as a post-activity survey conducted in the classroom) are indicated and fully analyzed in section 4, “Results of the implementation”.

Secondly, in addition to demonstrating that video games can indeed be valuable and trustworthy educational resources, we aim to promote their use as such among the teaching community. There would be no point in showing the utility of a tool that is not going to be applied subsequently. In this way, the present MD must also be understood as a pedagogical proposal on how to learn English through gaming. On the contrary, it must not be read as a biased suggestion or an imposition on using video games to teach; as it was remarked above, this work is mostly concerned with making teachers aware of the existence of this resource, for them to use it whenever they deem it appropriate and convenient. We intend to add another effective teaching method to the list, but not overlapping or playing down the importance of other equally valid ways of teaching. All in all, it is a well-known fact that the best teaching method is a combination of the already existing methods, depending on those classroom factors that only the teacher can anticipate (number of students in the classroom, their usual attitude towards the activities and level disparities, etcetera).
We can therefore abridge the two main objectives of our research (not to be confused with the objectives belonging to the didactic unit) as follows:

- To prove the pedagogical validity of video games through the partial implementation of the didactic unit planned.
- To foster the use of video games as a teaching aid for the English classroom.

Evidently enough, there is a conditional relationship between one objective and the other that determines their fulfilment: the second objective above cannot apply if the first one has not been met previously. Concurrently, the promotion of video games as teaching aids is per se a corollary of implementing them in the classroom, which confers the second objective a more implicit value within the scope of the research. The very title of our work—“Video games: an educational art. A videoludic proposal for the English classroom”—has been formulated as a symbiosis of both objectives.

The practical projection of the didactic unit must yet be preceded by a solid theoretical basis that lays the foundation for its implementation. As it was clarified above, we firmly believe that video games must by no means be conceived as educational tools in themselves, due to teaching not being their mother utility (entertainment is). In the worst-case scenario, a misconception about the intrinsic value of the videoludic device could wrongly distort the vision on video games, which is indeed the entertainment sector involving the most money in statistic terms nowadays. Logically, such jeopardy would arise not only owing to a mistaken distinction between the original and the derived utility of the tool put into use, but it would also be related to controversial issues such as the ethical and moral values of video games or the PEGI adequacy in the educational context (see 2.2.5: “The ethics of video games”).

All the same, we still consider that video games can be used as potent pedagogical resources, regardless of whether their purpose is essentially leisure-based and not teaching-related. On this basis, it is of vital importance that the teacher working with video games in the classroom be fully aware of what kind of tool he is using exactly; he must have a minimum of knowledge on what video games truly are. Otherwise, if the teacher regards them as a disposable implement for a one-off session, the practice is likely to lack authenticity (thus devaluing the lesson) and the image of the whole video game industry might be compromised from an educational point of view.

In the same way as education must mean teaching and learning—but not amusement—, video games must be considered as entertainment instead of education. Nevertheless, we are convinced that both fields can be reconciled in such a way that

---

2 PEGI (Pan European Game Information) is “an age rating system established to help European parents make informed decisions on buying computer games”. Visit the official website <http://www.pegi.info/en/> for more information.
students learn through gaming. In order to gamify the experience adequately –i.e. to make students learn while enjoying (and not enjoy while learning)–, the teacher has to be informed of the aspects encompassed within the following chapter of our study.

2. Theoretical framework

The present epistemological framework consists of three main sections: “Contextualization”, “State of the art” and “Key notions to teach English with video games: concepts and constructs”.

Whereas the first and the third part are directly related to the planning and the subsequent implementation of the didactic unit for the classroom, the state of the art constitutes a theoretical basis on video games. Given that there is a logical progression among the three sections, we ask the reader to regard the entire framework as a tripartite whole, rather than three unrelated subdivisions. The state of the art will otherwise be out of context, and the “Key notions” point would include potentially unknown references to aspects dealt with in the second part of the theoretical framework.

Needless to say, the three sections are also at the same level of relevance within the work. Despite the long extension of the state of the art, both the contextualization and the key notions comprise some basic elements that are explicitly reflected in the other pivotal part of this MD, the didactic unit. For the sake of clarity, we will make references to previous or subsequent sections of the work when necessary.

2.1. Contextualization: high school, subject and basics of the research

As noted above, the ultimate aim of this study is to apply a series of theoretical notions about video games in a real classroom context. To fulfil this purpose, I have taken advantage of my internship at a high school in the city of Jaén, I.E.S. Santa Catalina de Alejandria. I must express my gratitude to Ms. Rosa Anguita Ríquez –my tutor during my school placement– for allowing me to implement with her students some of the contents prepared for the didactic unit included in this work. Her total willingness to let me put the material into practice is also an important part of this research.

Whereas we have already justified the choice of video games as a pedagogical resource by alluding to their didactic potential (fully detailed in section 2.2.4), we have not yet commented on the suitability of the subject taught: English. Because of being a foreign language, the subject of English allows to include a broad spectrum of different topics in a non-forced way. Thus, the teacher can connect the use of English with a
large variety of themes which are, in turn, encompassed within the didactic scope of video games: literature, science, history, religion, music, sports... Without a shadow of doubt, English can be considered as one of the most appropriate subject—if not the most one—to implement video games in the classroom. We will go deeper into the concept of interdisciplinarity in point 2.3: “Key notions to teach English with video games: concepts and constructs”.

Although more and more specific literature related to the exploitation of video games in the classroom is being written, the lack of implementation in real educational situations is still rather conspicuous. Consequently, we deem that applying part of our didactic unit with students can contribute greatly in this sense, since it implies the transference of the theory to a plausible practice. Besides, the results obtained have provided us with relevant information in order to conduct further researches on the relation education-video games, as well as to renew the contents teachable through video games. Read “Results of the implementation” for more information in this regard.

We may categorize the research as an applied investigation, inasmuch as some of the contents prepared have been put into practice to gather data about the degree of validity of video games as an educational tool. In turn, the gathering of such data at classroom level converts part of the investigation into an action-research study, in which the teacher collects relevant information from his own lessons. These are the basics of our research, according to:

- The source of information: primary (students in the classroom) and secondary (bibliographical references for the theoretical framework).
- The approach: analytical, as it involves critical thinking skills and the evaluation of facts relative to the investigation itself.
- The goal: heuristic, due to the data being gathered through discovery.
- The data: in turn, according to:
  - Form: mainly qualitative (observations and non-quantifiable data), though partially quantitative as well (e.g. the after-activity survey).
  - Moment of gathering: synchronic (specific sessions during the internship at high school).
  - Method of analysis: mostly interpretative, because of the primary qualitative nature of the research.

Both the theoretical framework and the didactic unit designed are inseparable within the research, in such a way that the correct elaboration of the latter hinges
upon the knowledge presented in the former. By extension, the practical implementation of the didactic unit and its consequent analysis depend on the theory stated previously. So, the whole research must be understood as a combination of theory (the state of the art) and practice (the didactic unit and the analysis of its implementation), even though they are presented separately for the sake of structuring.

2.2. State of the art

Our state of the art is proposed as a theoretical grounding in video games: history of the sector, artistic value, main genres, types of consoles, etc. This background information, though not directly related to education, represents the reality of the video gaming industry and should be taken into consideration by the teacher at all times. Additionally, we have included a section dealing with the fictional and narrative side of videogames, which is one of the most researched aspects within the scope of ludology—or Game studies—and narratology. With this point, we intend to offer an insight on the broad spectrum of theoretical issues covered by the studies of video games in the abstract.

In section 2.2.4, the didactic potential of video games is highlighted from a theoretical point of view, so as to justify its choice for the implementation in the classroom. Likewise, we have included a succinct explanation on the ethics of video games (point 2.2.5) in order to make the teacher aware of the jeopardy that an inadequate use of video games could entail in the classroom, especially when the selection of games made by the teacher is not appropriate beforehand.

Accordingly, we might subdivide the state of the art into two sections:

a) Information not directly related to the educational use of video games, but to the sector in general: history, genres, narrative possibilities (points 2.2.1, 2.2.2 and 2.2.3), etc.

b) Information directly related to the educational use of video games (points 2.2.4 and 2.2.5).

Overall, the state of the art below provides an overview on the most relevant aspects of the video game industry. Whereas the second subsection is plainly classroom-oriented, the first subpart deals with non-classroom-oriented information which is, though, key to implement video games duly. As stated in the introduction, the teacher must have a basic knowledge about video games as an entertainment product—and even as an art, as it will be discussed in the next part—, instead of regarding them as mere teaching aids.
Up to this point, we have opted for not quoting or referring the reader to any bibliographical reference, since we considered convenient to establish the prime features of the work in an idiosyncratic and straightforward way. Hereinafter, we have consulted and quoted, where appropriate, a significant variety of other authors’ works—primarily English and Spanish—in order to achieve a complete and fully documented theoretical basis (see section 6: “References”). Even so, the following state of the art does not consist of a simple compilation of authors’ opinions; their different views have been studied, contrasted and filtered with our own knowledge to lay the theoretical foundation of our work. In this way, the quotations included within the state of the art represent a support to build and enrich our vision on the topics dealt with, but not necessarily our viewpoint itself.

Furthermore, a supplementary DVD has been attached to this Master’s Dissertation. Taking the video ludic and interactive nature of video games into account, there are cinematic and musical aspects that cannot be exemplified in a written work while maintaining their semiotic properties: it is possible to insert an image in the body of the text, but a video or a song cannot be reproduced without an external digital media. This being the case, we have opted for attaching a DVD with different videos that will complement certain contents when considered relevant, such as the main video game genres or particular examples of narration in video games. To avoid giving superfluous or redundant information, we will refer to the DVD only for those parts that are better clarified with a video owing to the complexity of their semiotic mode. In any other cases, we will simply include images, either in the body of the text or in the appendixes at the end of this work. Accordingly, the order of priority for the form of inclusion of the non-textual information is the following:

1) Images in the body of the text, when relevant enough.
2) Images in the “Appendixes” (section 7), when secondary but still illustrative.
3) Videos within the DVD attached, when a video mode is needed.

While this (audio)visual information is not essential to understand the written explanations, they do complement the latter and may be helpful to get a more accurate idea about some of the theoretical notions dealt. The links to the videos included within the DVD are also indicated at the very end of this TFM, below the appendixes. Additionally, we have also taken advantage of the DVD to attach the surveys filled by students after a video game-related activity done in the classroom (see section 4: “Results of the implementation”).

2.2.1. History of video games: art or mere entertainment?
As it occurs with the rest of the audiovisual media, video games have progressively emerged in a specific socio-cultural context. Although it was not till the 1970s that their consolidation as entertainment products for the masses started solidly, we must go back to the end of the XIX century and the beginning of the XX century to find the very grounds of the sector.

Still fascinated by the appearance of cinema —reserved for the wealthy classes of the time—, commonality witnessed the emergence of the first automatons, self-operating machines that descended spiritually from the Industrial Revolution. Though still rudimentary and limited in movement, these inventions of prospective amusement were echoed by themes parks and traveling structures, which began to make profits by simply allowing people to interact with the machines in exchange for a coin. The interactivity of these incipient machines —some of which were similar to the present marble and dispensing machines for kids (see appendix 2)—, was gradually perfected, and more and more successful mechanical machines were invented: The Automated Skill Shooter (1894), considered as the first shooting-machine with rifle; The Erie Digger (1924), which allowed the user to pick up fluffy toys with a mechanical hook; Baffle Ball (1930), resembling a Pinball machine; or the famous Spanish Futbolín (1937) (Planells, 2015: 72-73).

However, despite their evident game-like essence, the factor of computerization that characterizes modern video games was still missing in all these mechanical machines. It was during the Second World War when some scientists from the United States, intending to decipher the secret codes used by the German submarines, established the bases of the modern theory of computerization and, by extension, of video games. Particularly, it was Claude Shannon, an American mathematician and engineer, who, in cooperation with the British mathematician Alan Turing, pointed out Artificial Intelligence (AI) as the key field into which research should be focused.

With the Second World War already ended, two pioneering physicists, Thomas T. Goldsmith and Estle Ray Mann, published the patent of what may be considered as the first interactive electronic game ever: the cathode-ray tube amusement device. Conceived as a missiles simulator, the game made use of analogical circuits —i.e. non-digital— to control the beam of the tube and the position of a dot in the screen (Blitz, 2016). Curiously enough, this embryonic video game was inspired in the radars that, a few years before, had been used in the largest massacre in human history.

The decade of the 50 was marked by the succession of different devices which, though probably far from being regarded as video games yet, did imply a ludic experience for the user. During this period, the aforementioned mathematician, Shannon, presented his paper “Programming a Computer for Playing Chess” (1950),
which included the germinal ideas of some current chess programs; Alexander S. Douglas created, in 1952, the program OXO, which was a simple version of the traditional tic-tac-toe, as well as the first game which used a digital screen; and William Higinbotham did likewise when inventing Tennis for Two about 1958.

As stated by Bakie (2009: 4), Tennis for Two might indeed be considered as the first video game ever: “Who invented the first video game? As far as historians can tell, it was in the United States Department of Energy. Specifically, it was a man named William Higinbotham who was the head of the Instrumentation Division for Brookhaven National Laboratory”. In the game, two players smashed a ball back and forth on an analog computer. Despite not showing any score at the end of each volley, the game certainly had a winner and, intentionally or not, it even included some basic sound effects (see video “Tennis for Two” within the DVD).

Three years later, in 1961, three students from the Massachusetts Institute of Technology (MIT) created Spacewar!, a shooter game with vector graphics which paved the way for a new generation of video games: the first domestic video games console, Odyssey (1966) (see appendix 3); the first video games requiring a coin to play, Galaxy Game and Computer Space (both from 1971); and, most remarkably, Pong (see picture 1). Created by Nolan Bushnell and Teb Dabney, this almost canonical game marked a sea change in the sector thanks to its simple-but-addictive playability, up to the point that many books on the history of video games separate the age before Pong from the age after Pong (Kent, 2002).

Since then, the gaming sector has not but enjoyed an almost relentless development. In parallel with the technological progress, the success of video games has brought huge economic benefits through the professionalization of the sector. Thus, iconic franchises such as Pac Man, Tetris, Super Mario Bros, Mega Man, Sonic, Kirby, Pokemon, Street Fighter, Mortal Kombat, Final Fantasy and a long etcetera were created by emblematic companies such as Nintendo, SEGA, Capcom, Sony, Konami, EA, 3 Shannon’s paper can be fully read on: <http://vision.unipv.it/IA1/aa2009-2010/ProgrammingaComputerforPlayingChess.pdf> (last visited: 17/05/16).
Hudson, Square Enix, Bandai Namco or Atari, to mention but a few of them (Montagnada, 2008).

Throughout its entire history, the video gaming sector has only showed signs of weakness in 1983, when a severe downturn, caused by a destructive chain of negative events (such as the excess of low-quality video games flooding the market or the emergence of domestic computers as more advanced platforms), provoked significant changes in the industry. As a consequence of the crash occurred in the United States (thousands of unsold Atari games were even buried in the desert of New Mexico), there was a determining rise of the industry in Japan, where some of the companies mentioned above –such as SEGA or Nintendo– started to give birth to sheer national and worldwide symbols: Mario and Luigi (Super Mario Bros, 1985), Link (Zelda, 1986), Samus Aran (Metroid, 1986) or Pikachu (Pokemon, 1996), among many others.

Bearing such exponential growth in mind, it is no surprise that, three decades later, video games are the most powerful sector in economic terms. Quite recently, the online-first-person-shooter video game Destiny (Activision, 2014) was launched onto the market with a total production cost of 380 million euros, the most expensive video game –and probably commercial product– ever. After the very first day of launch, the income was already close to 500 million euros. Statistically, it is a fact that the video game industry makes more money than cinema and music together (Sánchez, 2014). But, should video games be regarded as art, in the same way as cinema and music undoubtedly are? Or are they just a blockbuster way of entertainment with no artistic properties?

**Video games: Art or mere entertainment?**

If, to answer the question, we limit ourselves to analyze their economic position in the current industry, then the answer leaves no room for interpretation: video games could not be art, because art –however difficult it may be to define– is simply indifferent to money. The profit obtained being greater or lesser does by no means correlate to the video game being more or less artistic. In other words, it is not the economic position the artwork occupies in the social scale that attributes its artistic qualities, if any. So, what is necessary for a work to be considered as art?

While controversy is inherent to the definition of art, it is possible to enumerate a series of features that every human manifestation susceptible to be regarded as art should possess. In this way, according to the aesthetic principles (Parker, 2004), beauty, power of attraction and a more than ordinary significance may stand for the basic requirements each artwork must fulfill to be appreciated as such. Accordingly, as clarified by Parker (2004: 16), “although every work of art is an expression, not every expression is a work of art”. They must indeed meet, at least, one of the three
mentioned canons, any of which imply an unequivocal appellation to the feelings of the receptor.

Yet, we believe that the intrinsic qualities of the artwork are not enough per se. It is human beings, through their capability to perceive, feel and get excited, who ‘activate’ the artistic condition of the object. As a manifestation of mankind, art is interpreted in an inevitably subjective way, just as our value judgments and personal estimations are. While our existence as corporeal beings dwelling the world is an objective fact insomuch as we are material entities, our appreciations and the way in which we are appreciated by our equals is subjective, because the human filter channeling emotions transcends the physicality of the five senses. Sentiments and feelings –the activators of art, by extension– are located in the field of the intangible.

Even though the object seems to epitomize all the characteristics that are presupposed of art, it will not be an artwork unless we recognize it as such, precisely because it is us who have previously attributed those features and who validate or deny them. Understood as an abstract concept, art is but a mere connotation envisaged and uttered by human beings to associate non-palpable qualities (such as beauty, evocative power or emotional charge) with another product of human invention which, in this case, does exist factually⁴. Both the canons applied to ascertain art and the application of the canons itself are, thus, subjective processes.

By this maxim, Michelangelo’s David would not be art in itself, no matter the author’s artistic intentions behind, until the receptor appreciates it as such. What is more, it would be art for the person or people in particular who has or have esteemed it, but not for those who lack the will to conceive it in artistic terms. With this theory, we do not intend to question nor deny the artistic purposefulness of the author’s work, but simply to attribute the ascertainment of art to the receptor’s view, and not to the aim of the artist when creating his artwork.

Often, the author’s artistic intention is very difficult to confirm as completely truthful (because he died a long time ago or, simply, because he has not expressed what his intention was when envisaging the work), but we still tend to conjecture about it, at times in excess and even wrongly. On the contrary, nobody can call to question a personal vision of an artwork, as it constitutes part of each person’s mental inventory and even of his idiosyncrasy and way of conceiving life. We think that the full-fledged art status of a given work can only be validated in a personal and individualized way, independently of what others’ view on that same work is. External influences when judging the (art)work might affect and even devaluate the individual’s

⁴ Evidently, we understand perfectly that cinema or video games, though presented through a semiotic channel different to the real world we inhabit, belong to the physical world as well, i.e. they have actual material properties. When we refer to the “field of the intangible”, we basically mean a level, other than the substantial world, where human feelings and emotions are encompassed.
impression. Ideally, the appreciation of art should be a dialogue between just the work and the receptor, with no other elements influencing the latter’s appraisal process.

On the other hand, a problem may arise if the work ceases being interpreted through individuality. When many receptors have coincided in regarding the work as art, there is a tendency to collectivize their vision as choral, thus breaking their individual views. A good example of this is classical art, which society seems to recognize as canonical and unmistakable even when many receptors—not people—might not regard it as such. In this case, we consider that the choral conception of the artwork is illusory, since it is rooted in a communal perception that excludes individuality for the benefit of a random group of people which, however large, is thought to share the same artistic vision. In turn, this desultory group is usually mistakenly called ‘society’, ‘civilization’ or even ‘humanity’. In other words, a given work is universalized as artistic even when there may not be a conclusive consensus among the receptors of such work.

Following this line of thought, we believe that the individual perception of art must prevail over that of the community, as the idea of public appreciation is too vague and indeterminate for valuating art reliably. In the same way as the aforementioned canons to ascertain art are subjective, we may assert that also the appreciation of art is, in short, individual and subjective. Hence, there is no point in wondering about what it is art and what is not art at a particular level (e.g. a specific painting or film): we may categorize it according to abstract disciplines (cinematic, literary, musical art), but not take for granted the artistic status of all the existing works encompassed within such categories.

Though highly theoretical and philosophical, we considered necessary to approach the estimation of video games as art by introducing our belief about how art should be looked upon. Obviously, to deal with the debate about the artistic condition of video games we must first demarcate the measuring canons of art from the subjective nature that we have just attributed to them. Otherwise, the answer would be as straightforward—and perhaps as perfunctory—as claiming that the artistic value of a work is, simply, unavoidably subjective. While we logically defend the reasoning stated above, we likewise understand that, for the sake of our theoretical foundation, the artistic power of video games ought to be measured by considering the aforementioned canons, however incongruous this may be in relation to our view of art. What is more, we will reach similar conclusions about the artistic facet of video games; it is the method and process of ascertainment that changes, but not its final estimation.

Dismissed the economic profit as a plausible factor raising video games to artistic condition, we could apply the aesthetic principles of art to the video games detailed in
our historical review: most likely, none of them would be worthy of artistic consideration. Was *Pong* (1972) a manifestation of art? Arguably, it is not beautiful—nor intends to be—its significance is not artistically relevant—just two white vertical bars scrolling up and down to smash a white dot—and, rather than power of attraction, it is its addictive playability that seduces the player. According to the artistic canons, *Pong* is still a mere entertainment product⁵. How can then a video game be considered as art?

In truth, it has been over time, with the development of modern video games, that they have gained enough qualities to make us revise the definition of *art*. Maybe because it was still a very recent cultural product in comparison to the longevity of other disciplines, or because video games certainly began as no more than a mere entertainment with no growing prospects, it is anyway a fact that the innovation and the increasing technical power of the sector have marked a significant change in the understanding of video games. Probably, it was not till the 90s when video games started to be endowed with conspicuous narrative and plastic properties. Before that time, both the visual and the storytelling power of video games were very limited.

We have intentionally omitted the revision of modern video games in our previous historical review, since we will name and use many of them as examples in the following point: “Main video games genres and consoles”. Nonetheless, it is highly advisable that the reader knows for a fact the artistic level that a video game can reach. To this end, we have included a video of *Journey* (Thatagamecompany, 2012) within the DVD for the unknowing reader to realize what certain video games can render in artistic terms. To mention but a few, *Ōkami* (Clover Studio, 2006), *Heavy Rain* (Quantic Dream, 2010) or *Entwined* (SCE Worldwide Studios, 2014) can also serve as good examples. In any case, the list of video games with arguably artistic features is remarkably wide nowadays.

Almost a decade ago, Smuts⁶ (2005) already affirmed: “Video games combine elements from narrative fiction film, music and sports. They are arguably an art or sister art of the moving image, specifically, a form of digital animation”. Since then, technology has not but progressed, and with it the possibilities of enlarging the aesthetics experience shown in a video game. In this line, Grant Tavinor (2009: 1) underscores the growth of the sector in the last few years, at the same time he suggests an expansion of the artistic horizons known up to date:

---

⁵ This does obviously not impede the receptors from regarding it as art—again, the appreciation is subjective; it rather means that the game typifies none of the most recognizable artistic properties applied to measure the artistic degree of the work.

For many people, I suspect, the image of videogames is still one of rather crude digital entertainments: pixilated space invaders moving jerkily across a screen, yellow discs munching glowing balls, and tiny men climbing ladders and jumping barrels might come to mind. But recent times have seen the technical and artistic sophistication of games grow to an amazing degree. Many videogames are now simply stunning in their graphical and auditory depictions. In a manner similar to the development of representational techniques in other art forms, digital artists and craftspeople have explored the artistic potential of the new medium and are now producing results arguably equal to the other representational arts.

In accordance with Tavinor, we may claim that video games have not been recognized as potential artistic manifestations because of simple prudence. As hypothesized above, the short age of the sector could have slowed down its reception as a discipline comparable to the traditional ones (literature, cinema or music).

On the other hand, other authors completely dismiss the possibility of video games being art. It is the case of the film critic Roger Ebert (2010), who states that “video games can never be art”. One of the reasons he argues is that, as games, they are restricted to a series of conditions indispensable to be video games: “One obvious difference between art and games is that you can win a game. It has rules, points, objectives, and an outcome”. Should we eliminate those distinctive features, Ebert (2010) maintains that the game “ceases to be a game and becomes a representation of a story, a novel, a play, dance, a film”. But, is the game-like essence of video games necessarily incompatible with art?

Under the umbrella of ancient definitions, video games will indeed never be art. However, when Plato defined art as the imitation of nature, he certainly could not shape his definition around the existence of cinema and video games, as they did not exist. As quoted above, an expansion on the horizons of art might be required; not because we claim so, but because human progress itself demands it. Even if we accepted the artistic immanence of a single artwork, the abstraction of art—as a concept—lacks the quality of perpetual. Art is a changing activity carried out by humans: it is people that must shape the conceptualization of their creations, not adapt themselves to the way in which their artworks have been traditionally conceived.

Even if we assumed that video games are not art in themselves, it would still be undeniable that there are artistic manifestations lying underneath the process of creation of the video game. It is the case of conceptual art: sketches and drawings of landscapes, characters and objects appearing in the video game that are conceived for both the sake of design and the creation of art related to the video game itself. Picture number 2 shows a conceptual image of a landscape from Call of Juarez: Gunslinger

---

7 Online source, in <http://www.rogerebert.com/rogers-journal/video-games-can-never-be-art> (last visited: 19/05/16). This reference also applies to the following two quotations in the paragraph.
(Techland, 2013). Most of these representations could fit within the canons that determine the art state of a work.

2. *Call of Juarez: Gunslinger* (Techland, 2013) – An artistic representation of one of the Wild West landscapes that appear in the video game

A last question arises about the overgeneralization of video games as art. To deal with it, it may be helpful to wonder first: are all films art? As Prinz (2007: 1) clarifies, they evidently are not: “Intuitively, some films qualify as artworks and others do not. Few would deny that *Un Chien Andalou* qualifies as art, while many would feel little temptation to apply this honorific to the average Hollywood blockbuster, television melodrama, or sleazy porn flick”. If we apply the canons, only a few films are likely to transcend as art. Still, nobody doubts to call cinema *the seventh art*.

From our point of view, the case of video games is very similar. Despite the fact that the whole sector has nowadays the potential to produce video games with artistic features –this is, at least, our view–, not all of them will respond affirmatively to the aesthetics principles. This is why, in our theoretical dissertation about the ascertainment of art, we have separated the artistic side of the abstract categories from that of the particular (art)works encompassed within them.

When the technical potential of the sector was much lower, Smuts (2005), again, concluded:

> Although all video games should not be considered art, recent developments in the medium have been widely recognized as clear indications that some video games should be regarded as art works. Of course, the status of an art for is never decided apart from its products. Without masterpieces, arguing that video games can be art seems premature. “Max Payne” and “Halo” are two of the best games ever produced, but they are not great art. I expect that in the course of time current video games may seem as artistically insignificant as Lumière actualités, with little more than historical significance. Perhaps it is a trivial feat, but several recent games have reached levels of excellence that exceed the majority of popular cinema. The potential of the medium seems clear: good if not great video game art is in the near future.
More than a decade later, it seems that Smuts foresaw rightly. In essence, wondering if video games are art is the same as wondering what art is. Whatever our conception of the latter, we consider that the potential of video games for fitting within the aesthetics canons must not be obviated. Not all video games will be art, in the same way as not all books, films and songs are; but, as a whole abstract discipline, video games have already shown enough potential to be considered as the eighth art. At the very least, they are an undeniable cultural product in current society.

### 2.2.2. Main video games genres and consoles

As the electronic entertainment sector grew in popularity, so the number and variety of video games commercialized increased exponentially. The vast catalogue of video games available, each of them offering different game experiences to the player, flooded the market. With this increment, the masses started to play games which resembled each other: shooting alien ships, going over obstacles to rescue a princess, driving cars, fighting another opponent, etcetera. The possibility of classifying video games in some way had become real and even necessary.

The first attempt of classification was made by Chris Crawford, author of *The Art of Computer Game Design* (1984). The book mainly focused on the player’s activities and experiences for gameplay. The taxonomy appearing in the book became soon obsolete, but it did open the way for further and more accurate classifications. In the 1990s, coinciding with one of the golden age of video games history, there was already a consensus on some of the main genres. Nowadays, most of the specialized magazines on video games include a purchasing guide which is structured around the genres taxonomy, easily recognized by the players who wish to know the type of game they are going to find (see appendix 4: front page of one of the specialized magazines in video games, *Hobby Consolas*).

Although the topic of genres goes far beyond a simple typology (not only in video games, but also in literature and other artistic disciplines), in this section we will limit ourselves to provide a succinct list of the main video games genres. As highlighted in section 2.2, this classification forms part of the basic information about video games every teacher ought to know before applying video games as a teaching aid in his lessons. It would be illogical that a teacher uses a video game in the classroom without even knowing the basics of its gameplay.

---

8 By definition, *gameplay* is “the overall nature of the experience defined by a pattern of interactions and games rules” (Lee, J. H., Karlova, N., Clarke, R. I., Thornton, K., & Perti, A. [2014]). In contrast with *playability* (the property of being playable), *gameplay* refers to the entirety of experiences the player has during the interaction with the video game.
Instead of adhering ourselves to a single typology, we have compiled our own classification out of four basic sources: Arsenault (2009); Lee, Karlova, Clarke, Thornton & Perti (2014); Fritts\(^9\) (s.f.); and Hannah\(^{10}\) (s.f.). In any case, the reader must know that almost no taxonomy includes significant variations affecting the content. The principal types of video games existing are broadly the same, but many of them do introduce different nuances or subdivisions that modify the structure of the typology slightly. As indicated by Arsenault (2009), “one man’s genre can be another’s sub-genre”, and vice versa.

We consider that the genre classification must be as unambiguous as possible. To this end, we have omitted many inferable sub-categories (such as the different sports [hockey, tennis, football, skateboarding, wrestling, etc.] within the sports games), as well as specific features which, rather than (sub-)categories in themselves, represent the intrinsic qualities of the video game (e.g. its visual presentation or perspective in the screen\(^{11}\)). We have named examples of games belonging to each genre, in addition to have included numerous images from, at least, one representative game for each case. When pertinent enough, we will also refer the reader to videos within the DVD attached.

✧ **Video games genres**

- **Action games**: the player has to make use of his aim, ability and/or reflexes to go over obstacles or enemies. They are very popular among players who seek quick and direct entertainment.

  - Fighting: the player controls a fighter that must defeat another fighter, controlled either by another real user or by the Central Processing Unit (CPU). The perspective of combats can be lateral or three-dimensional, as well as the design of the graphics of the game themselves. Examples: *Street Fighter, Tekken, Super Smash Bros, BlazBlue, Dragon Z: Budokai Tenkaichi*, etc.

\(^9\) Power Point presentation, in <http://cs.slu.edu/~fritts/csci142/schedule/csci142_game_genres.pdf> (last visited: 19/05/16).

\(^{10}\) Power Point presentation, in <http://www.di.ubi.pt/~agomes/tjv/teoricas/01-genres.pdf> (last visited: 19/05/16).

\(^{11}\) Consult the following online glossary for a fully detailed list of all the genres, subgenres and main thematic and technical features: <http://www.mobygames.com/glossary/genres/> (last visited: 19/05/16)
3. *Naruto Shippuden: Ultimate Ninja Storm 4* (CyberConnect2, 2016)

- **Beat ‘em up**: in this case, there are several enemies that the player must defeat to advance to the next level. *Streets of Rage* and *Final Fight* are two classic examples, whereas *Splatterhouse* and *God of War* belong to a more modern tendency. If the character wields a sword or similar, as it is the case of *Golden Axe*, *Devil May Cry* or *Heavenly Sword*, they are usually called *hack and slash*. Practically, they can be understood as the same subgenre.


- **Arcade**: games typical of arcade games machines, with particularly intuitive gameplay and graphics. Examples: *Space Invaders*, *Asteroids*, *Pac-Man*, *After Burner*. Though these games vanished along with the arcade machines, they have recently been remade and uploaded. See appendix 5, *After Burner: Climax* (modern version of *After Burner*).
Platforms: though with doses of action, this video games are less combat-based in order to favor the mobility and capability of exploration of the character, who has to go over different obstacles and platforms to progress. Some very well-known sagas are Crash Bandicoot, Super Mario Bros, Sonic the Hedgehog or Donkey Kong.

- **Shooting games** (*shooters*): as its name indicates, in this genre the protagonist makes use of fire weapons to overcome his enemies, which requires great aim and reflexes on the part of the player. These games usually give priority to the graphic potential and the dynamism of gameplay (with some logic exceptions). Depending on the vision of the character controlled by the player, we distinguish:
  
  o First-person shooter: we only see the weapon of the character we control, thus having to rotate the camera to orient the vision. This specificity endows the game with a higher degree of subjectivity and immerses us fully in the story of the protagonist. Examples: *Wolfenstein,*

- Third-person shooter: we see the entire character, to which we control from an isometric or rear perspective that gives more objectivity to the game. Examples: Tomb Raider, Uncharted, Dead Space. Some of these games also offer the possibility of exploring three-dimensional open worlds, in which case they are known as sandbox games. It is the case of Grand Theft Auto, inFamous or Red Dead Redemption.

7. Red Dead Redemption (Rockstar Games, 2010)

- Shoot ‘em up: the perspective is two-dimensional (2D), with the possibility of mixing some 3D elements to increase the sensation of depth. In turn, the view can be vertical (Space Invaders, Hitogata Happa) or lateral (Metal Slug, R-Type).

8. Metal Slug X (SNK Playmore, 1999)

- **Strategy**: the player must make use of his intelligence to manage a wide number of characters, data or objects which allow him to achieve a specific
goal. The theme is frequently warlike, usually related to great socio-historical conflicts. We distinguish two main types:

- **Real-time strategy**: while the player prepares his movement, the CPU is also doing the same, thus not being interruption during the shifts of players’ turns. It is the case *Age of Empires, Imperivm or StarCraft*.

- **Turn-based strategy**: each player has a turn of action, in which the other player cannot act. Some significant examples of this variant are *Fire Emblem or Civilization*.

- **Simulation**: these games recreate situations and activities that, in some cases, could take place in the real world because of their life-simulating nature. In spite of their authenticity, they exclusively belong to virtual fiction.
o Driving simulators of different vehicles: *Gran Turismo*, *World of Tanks*, *Silent Hunter*, *Forza Motorsport*, *MotoGP*... Some of these games can be complemented with a peripheral, commonly a steering wheel specifically designed for the game (see appendix 6). The view is usually adaptable to the player’s taste: first-person (e.g. inside the car, more immersive) or third-person (less immersive).


o Construction simulators: *Minecraft*, *Zoo Tycoon*, *Farmville*, *Anno*... The setting can be realistic or not, either belonging to the past, the present or even to an imagined future.


o Life simulators (human beings or animals): *The Sims*, *Tamagotchi*, *Animal Crossing*... These games recreate life itself, giving the player the power to decide character’s lives within the limits of the ludofictional world.
- **Sports games**: they simulate almost any kind of real-life sports, such as tennis, football, golf, basket, skate, swimming, hockey, the Olympic Games… Some famous games are *Virtua Tennis*, *FIFA*, *Mario Golf*, *NBA Live* or *Madden NFL*. The graphics and characters appearing can be realistic or fictionalized.

- **Role or RPG games**: turn-based or not, these games tend to have long and profound storylines, constructed around deeply featured characters which improve their abilities and skills as the game progresses. The perspective can be aerial (seen from above), third-person or even first-person. They are very popular among the most expert players of the sector, who spend many hours playing online games that allow the user to contact and interact with other real players all over the world. There are many games belonging to this genre: *Final Fantasy*, *World of Warcraft*, *Diablo*, *The Witcher*, *Sacred*, *Kingdom Hearts*… They are frequently set in futuristic, fantastic or historical worlds.
- **Music games:** these games are mostly oriented to the interaction with a musical score or song. The player sings or plays the song following the rhythm marked by the game and he obtains a score at the end. Most of them require a peripheral, such as a microphone or a guitar (see appendix 7) to activate the gameplay. Two well-known sagas are *SingStar* and *Guitar Hero*, each of them including many versions specialized in specific singers, bands or music periods.

- **Party games:** as its name suggests, these games are specifically thought to be played in parties, with friends and other real players. Because of this, they tend to include many mini-games with a direct gameplay that invites the players to compete in a friendly way. We can name *Mario Party, Wii Party, Kinect Sports* or *Shrek Super Party*. Logically, the existence of this category does not imply that other non-party games cannot be played with friends in parties and meetings.
- **Puzzle games**: this genre emphasizes puzzle solving. The types of puzzles the player can find include pattern recognition, word completion, sequence solving and the use of logic in general. Games like *Tetris, Lemmings, Sokoban* and *Catherine* belong to this category.

- **Graphic Adventure games**: rather than controlling a character, in these games the player must interact with the objects and the environment in order to make the story progress. While they may look similar to puzzle games, in graphic adventures puzzles are a mean which leads to an end, and not an end in itself. *The Secret of Monkey Island, Grim Fandango* and *Sam & Max* epitomize the genre quite well.
As the reader can notice, the variety of video games nowadays is huge. On the contrary to what happened two or three decades ago, when games were mostly action-based and attracted a predominantly young masculine audience, there are now video games almost for all ages and kinds of people. Although we could have added more subgenres, we consider that the classification above covers practically the entire catalogue of video games available, since the categories tend to overlap each other quite frequently and the inclusion of certain subgenres might have been unnecessary. This is why we have not mentioned genres such as Adventure (a combination of platform action games and puzzle games) or Survival Horror (action games with terror as main topic). Lastly, it is worth mentioning the existence of a quite recent new genre, normally known as Interactive Fiction or Interactive Movie, which we have intentionally omitted in the list.

In essence, Interactive Fiction games are digital films in which the player is given a series of choices during the development of events. Depending on the election, the progression of the story will be one or another. In this way, the player is empowered to judge and shape the story within the limits of the fiction created. Despite its resemblance with graphic adventures, we think that these games must constitute a completely different category because of their unique way of narrating. The main precursor of this genre is the company Telltale Games, which has taken fictional worlds from films, TV Series, comics and other video games to expand their universe throughout different chapters. Back to the Future: The Game (2010), The Walking Dead (2012), The Wolf Among Us (2013), Tales From the Borderlands (2014) and Game of Thrones (2014) are some examples. Concerning the latter, we have included an interesting video within the DVD (named “Game of Thrones”) in which three actors of the popular TV series speak about the game by Telltale (the voices of the characters in the game are the real actors’). We recommend watching the video, as being
acquainted with this new way of narration will be helpful to understand part of section 2.2.3: “Fiction and narrative in video games”.

- **Video games consoles**

  Obviously enough, video games require a specific device to function, in the same way as a film requires a DVD or a Blu-ray player (depending on the format) to watch it. Essentially, to play a video game the user needs:

  - A video game console or computer.
  - The video game, whichever the format: cartridge, chip card, CD, DVD, Blu-ray, etcetera\(^\text{12}\).
  - A TV, unless the console is handheld.
  - Needless to say, electric light or a battery powering the handheld console.

  Over time, the digital entertainment systems have largely grown in technical potential (graphic engine, processing speed...) while leaving the previous generations of consoles behind. The development of the video game industry has been directly correlated with the invention of more and more potent video games consoles. What is more: throughout their short history, it has been the consoles that have been delimiting the beginning and the end of each video games generation. The importance of the consoles in the configuration of the video game sector is only comparable to the invention of printing for literature or the cinematograph for cinema. Therefore, we deem it fundamental to have a basic notion about the path travelled by video games heretofore.

  The history of video games is frequently divided into eight generations, each of them closely linked to the video games existing. As we did with the genres, we have compiled the information about the eight generations from three main sources: Forster (2005); Montagnada (2008); and Polsson (2015), an updated database which covers “any standalone electronic game machine with a graphical display”. For the sake of succinctness, we have simply written a brief introductory note for each generation, together with the list of consoles they comprise and some of the most representative games released during each of them. As the reader can imagine, the dates between brackets provided for each generation are estimated in most of the cases. They must be taken as a mere temporal reference, instead of as clear-cut boundaries delimiting each generation.

\(^{12}\) In the last few years, the digital format (i.e. Internet distribution without a physical medium) is becoming more and more common. Although the usual way of selling video games is still physical, the tendency might be different in the future. Many books and, especially, magazines are regularly edited in digital format as well.
- **First generation (1972-1977):**
  It started with the release of Magnavox Odyssey and it ended when manufacturers abandoned the mass market to develop the first consoles based on microprocessors.
  
  - Magnavox Odyssey (1972)
  - Atari Pong (1975) [picture 20]
  - Coleco Telstar (1976)
  - Nintendo Color TV Game (1977)
    - The most significant game of this generation is *Pong* (1972), which the rest of the developers included with slight variants adapted to their consoles.

- **Second generation (1976-1992):**
  The dominance of Atari was counteracted by Colecovision (more than 6 millions of units sold) and Mattel, which developed the first console with a 16-bits processor (Intellivision). Besides, the first handheld consoles started to be commercialized. The 1983 Atari crash occurred during this generation.
  
  - Atari 2600 (1977)
  - Intellivision (1978)
  - ColecoVision (1982)
  - Nintendo Game & Watch (handheld) (1980) [picture 21]
  Due to the 1983 Atari crash, many American companies ceased manufacturing consoles. Japanese companies like Nintendo and SEGA took advantage of this situation to develop their first consoles and gain the hegemony in the sector for many years.
  
  - NES/Famicom (1983) [picture 22]
  - Atari 7800 (1983)
  - Sega Master System (1985)
  - Game Boy (handheld) (1989)

- **Fourth generation** (1987-1996):
  Commonly known as the “16 bits era”, this generation began when the Japanese company Nippon Electric released the console PC Engine (TurboGrafx-
16, in North America). Some famous characters from the previous generation, such as Mario or Sonic, became icons among the masses during this generation.

- PC Engine (1987)
- Sega Mega Drive (1988) [picture 23]
- SNES (1990)
- Neo Geo (1990)
- Game Boy Pocket (handheld) (1996)

  This generation is mostly known as the “32 bits era” and, occasionally, as the “64 bits era” because of the console Nintendo 64. This generation is especially remarkable because the graphics started to be three-dimensional thanks to the release of SEGA’s Sega Saturn and Sony’s PlayStation.
  - Atari Jaguar (1993)
  - Sega Saturn (1994)
  - PlayStation (1994)
  - Nintendo 64 (1996)
  - Game Boy Color (handheld) (1998) [picture 24]

- **Sixth generation** (1998-2007): Known as the “128 bits era”, this generation started at the beginning of the XX century. All the home consoles of this generation possess ergonomic controllers, external memory cards and, most remarkably, Internet connection to play online. Sega Dreamcast and Playstation 2 were the consoles of this generation with the greatest commercial success.
  - Sega Dreamcast (1998)
  - PlayStation 2 (2000)
  - Xbox (2001) [picture 25]
  - Nintendo GameCube (2001)
  - Game Boy Advance (handheld) (2001)

25. Xbox (2001)
Seventh generation (2005-2014): This generation encompasses consoles released from 2005 onwards by Nintendo, Microsoft and Sony. Its most notable features are the High-Definition (HD) graphics of the game (Xbox 360 and PlayStation 3) and the integration of controllers with movement sensors (Wii). This generation put an end to the bits that had characterized video games since the third generation.

- Xbox 360 (2005)
- PlayStation 3 (2006)
- Wii (2006) [picture 26]
- PlayStation Portable (PSP) (handheld) (2004)


Eighth generation (2012-): This is the current generation. Owing to the proliferation of tablets, smartphones and smart TVs, there has been speculation about this generation being the last one of home consoles. However, despite the many sales of companies like Apple (in 2012, almost 60 millions of iPads were sold), the technical potential of the home consoles manufactured by Nintendo and, especially, Microsoft and Sony is still much larger.
- Wii U (2012)
- PlayStation 4 (2013) [image 27]
- Xbox One (2013)
- PS Vita (handheld) (2011)
- Nintendo 3DS (handheld) (2011-2014)


27. PlayStation 4 (2013)

As remarked above, the future of further next-gen home consoles could be uncertain according to some analysts, who argue that the mobile platforms (Android, iOS) and the Internet distribution system have gained ground to traditional consoles. In our opinion, the situation is precisely the opposite: while mobile phones and tablets do provide the user with intuitiveness and easy handling, the technical potential of current home consoles cannot be equated by any other device other than next-gen computers. In the worst case scenario, the future of home consoles might hinge upon a reformulation of the ones already existing, but not upon their extinction. The first device of Virtual Reality (VR), Playstation VR, is indeed about to be released this year (see appendix 8 and video “PlayStation VR” within the DVD). Considering the exponential growth of technology throughout the last decades, it would be no surprise that the future of video games shifted to a next dimension: introducing ourselves within the video game.

13 There have been up to five different versions of this handheld console: Nintendo 3DS (2011), Nintendo 3DS XL (2012), Nintendo 2DS (2013), New Nintendo 3DS (2014) and New Nintendo 3DS XL (2014).
When applying video games to the English classroom, there are obviously many more resources than simply the consoles listed above: educational online games, computer games involving teamwork and the most recent gamification strategy, which certainly takes root in video games. The didactic potential of video games will be particularized in section 2.2.4.

2.2.3. Fiction and narrative in video games

Without a shadow of doubt, one of the most idiosyncratic features to video games is their unique narrative potential, which has attracted the attention of various researchers (ludologists, narrativists, narratologists and experts on semiotics in general) in the last decades. Analyzed from the perspective of their significance, video games are definitely much more than a ludic proposal.

However, this fact has not always been admitted: in their early years, video games were regarded as an idle pastime, an absorbing but pointless activity with no intrinsic narrative properties. This was, obviously, a quite mistaken standpoint, as even the first generations of video games narrated a story activated by the player’s interaction with the game: Super Mario overcoming obstacles to rescue princess Peach from the tyrannical enemy Bowser (the classic “damsel in distress” situation) in Super Mario Bros (1985); a human combat ship shooting alien invaders coming from the outer space in Space Invaders (1978); or a fantasy story about a group of characters – gnomes, elves, wizards, warriors– going on a journey to save the world in Dungeons & Dragons: Tower of Doom (1993).

As video games became more advanced in technical terms, so their narrative possibilities increased. This potential has not gone unnoticed by academia, which has even compared the narrative power of video games to that of other disciplines such as cinema. Dawn Stobbart (2012:19) stated recently:

> It is evident that the video game has the potential to grow into a sophisticated narrative form rivalling the efforts of filmmakers of the 21st Century, who are exploring the potential of animated film by creating an interactive experience in which the player is not only an observer, but also an active participant in the outcome of the narrative.

Video games have created their own fictional narrative universe from their videoludic specificities, such as the player’s power of interaction or the subsequent modifications affecting “the inter-worlds identity” (Planells, 2015: 12) of each game, i.e. how the fictional world shapes depending on the external interaction of the player. To put it simply, video games have become a system with high narrative possibilities by exploiting the exclusiveness of one of their multiple semiotic channels: interaction. In addition to the textual and the audiovisual channels (typified by literature and cinema,
respectively), video games have added an interactive pattern, which breaks with the traditional narrative formulae. Without interaction as a differential element, the narrative characteristics of a video game would be the same as those of literature or cinema. In other words, video games are necessarily nourished by interactivity; without this feature, they would simply be books or, most likely, films, but not games because they would lack their integral property.

Taking their tripartite narrative into account, it is therefore no surprise that the fictional worlds within video games have given rise to fiction books directly based on their videoludic source of origin. The existence of these books confirm the degree of narrative complexity that certain video games can reach, enough to be recreated in a different semiotic channel and, in some cases, even to be expanded by adding new stories, characters and settings to the ecosystem originally created in the video game. Some books based on homonymous video games are:

- *Doom: Knee-Deep in the Dead*, by Dafydd ab Hugh and Brad Linaweaver (2013).

For instance, in the novel *BioShock: Rapture* (see appendix 9: book cover), the author narrates the event previous to what occurs in the video game, thus widening the original fictional world. Fictional worlds are defined by their incompleteness (Dolezel, 1999), in such a way that there is always a possibility to broaden the limits of the fiction. A good example is the saga *Star Wars*, whose fictional universe is mainly set by the seven filmic episodes but is also expanded by the alternative stories appearing in comics and video games –*Star Wars: Battlefront* (EA, 2015) the last of them–.

*BioShock* (2K Games, 2007) is indeed a suitable title to exemplify what a video game can reach in narrative terms. Conceived by Ken Levine, who took the philosophy

---

14 This same list will be used in the didactic unit. See 3.10: “Attention to diversity”.
of Ayn Rand as a point of departure, this video game takes us to Rapture, a utopian submarine city which, after a civil war mainly caused by the inhabitants’ massive consumption of a drug called ADAM, has ended up as an anarchic place at which the protagonist arrives. The psychological depth of its political and philosophical ideas – embodied by Andrew Ryan, the founder of Rapture (as well as an evident anagram alluding to Ayn Rand) –, the way in which the plot unfolds, and its exquisite Art Deco aesthetics make of BioShock a very worthy videoludic uchronia, apart from a paradigm of the narrative potential of video games.

The list of books based on video games is anyway much larger than this brief selection. It is also noticeable that there has been an increase on this kind of publications in the last few years. This circumstance is closely related to the technical enhancement that video games have experienced for some time now, since their narrative possibilities have grown in equal measure. Nevertheless, there are also many video games that have shaped their narrative features from very well-known literary works. Some significant examples are:

- The War of the Worlds (1982), from H.G. Wells’ homonymous work (1898).
- Tomb of Dracula (1982), from Bram Stoker’s Dracula (1897).
- Super Don Quixote (1984), from Miguel de Cervantes’ Don Quijote de la Mancha (1605).
- Topo Soft (1989), from Jules Verne’s Journey to the Center of the Earth (1864).
- Dune II (1992), from Frank Herbert’s Dune (1965) saga.
- I have no mouth and I must scream (1995), from Harlan Ellison’s homonymous work (1967).
- The Return of the King (2003), from Tolkien’s The Lord of the Rings: The Return of the King (1955).
- Call of Cthulhu: Dark Corners of the Earth (2005), from H.P. Lovecraft’s The shadow over Innsmouth (1936).
- Dante’s Inferno (2010), from Dante Alighieri’s Divine Comedy (1320).
- Metro 2033 (2010), from Dmitri Gljuvski’s homonymous novel.
- Alice: Madness Returns (2011), from Lewis Carroll’s Alice in Wonderland (1865).

Born in Russia, Ayn Rand (1905-1982) was an American philosopher, novelist, screenwriter and playwright. In her philosophy, she defended reason as the only way to acquire knowledge, in opposition to religion and faith. She supported rational and ethical egoism while rejecting altruism.
In this case, we observe that there are many video games from the XIX century, even though their technical potential was still very limited. This fact corroborates the ease with which video games adapt other fictional worlds to their specific semiotic channel, even when the boundaries of interactivity are highly restricted by the existing technological options. In this sense, modern video games such as *Dante’s Inferno* (EA, 2010) or *Alice: Madness Returns* (EA, 2011) have been able to accommodate complex concepts and surrealistic undertakings to their videoludic inventory with great success.

For example, by analogy with Alighieri’s *Divine Comedy*, the former introduces an array of classical characters (the poet Virgil, who guides the player throughout Hell; Cleopatra and her lover, Marcus Antonius...) and mythological entities (Lucifer, king Minos, Cerberus, the ferryman Charon...) to recreate the original work and adapt it to a playable experience. Besides, there is a readjustment of abstract ideas such as the Christian Deadly Sins, which give name to the Circles of Hell through which the protagonist, Dante, must go to save his beloved, Beatriz: Limbo, Lust, Gluttony, Greed, Heresy, Violence, Fraud and Treachery (see video “*Dante’s Inferno*” within the DVD). Once again, the fact that a video game can deal with this kind of non-physical elements, integrated within the interactivity of the adventure, makes clear that the narrative –and artistic– potential of current video games is almost as immense as that of a literary work.

This obviously does not mean that literature is in the shadow of video games or any other disciplines. Quite the opposite, the connotative possibilities of literature are unassailably larger than those of any other media, because they evoke different realities through words and mental buildings rather than through visual elements. Whereas cinema and video games give no room for imagination, as they depict their fictional worlds visually, literature forces the reader to construct his own world while reading.

But, how does the narration in video games take place, and what are the main videoludic types of narrative? At a theoretical level, the narration in video games must compulsorily be underpinned by a fictional world which gives room for narrative. Without a previously set ludofictional environment, interactivity –the differential narrative element in video games– cannot occur, thus preventing narration almost completely. As envisaged by Planells (2015: 12), ludofictional worlds can be studied from three different dimensions:

1) Static macrostructural dimension: the formal system itself, within which interaction gives rise to possible sequenced narrative worlds. It is focused on game design.

2) Dynamic microstructural dimension: the plausible subworlds, characters and actions that exist within the fictional macrostructure. It is focused on gameplay.
3) Metaleptical dimension: the effects that the external interaction of the player produces in the fictional world. It is focused on play, which is in turn justified by means of metalepsis.\textsuperscript{16}

As it can be inferred, these three dimensions are stratified in such a way that they feed back each other: the metaleptical dimension cannot be understood without the dynamic microstructure, which in turn needs the static macrostructure to represent the possible worlds within the game. In reverse, the macrostructure can be conceived without the other dimensions, but it would be similar to an empty space pending of being filled to exist factually. Without any of these three dimensions, the concept of video game as an interactive fictional world fails. By extension, it is only from this matryoshka-like structure that the narrative may emerge at fiction level.

Traditionally, there was a debate about video games being able to tell stories or not. On the one hand, the so-called ludologists –mainly represented by Gonzalo Frasca and Jesper Juul– regarded narratology as a menace to establishing a new discipline with video games as its main object of study. For them, games were systems of rules rather than stories, thus focusing their attention on the experience of play. As summarized by Simons\textsuperscript{17} (2007), “by emphasizing the importance of the player’s gaming experience ludologists seem to want to say that to understand games one needs to have hands-on experience with games”. In other words, a theory of narrative cannot be applied if not with a deep previous knowledge on video games as entertainment products.

On the other hand, narratologists –represented by Janet Murray and Brenda Laurel– conceived video games as any other narrative medium susceptible to be integrated within the scope of traditional narrative (Planells, 2015: 75). This stance was soon answered by ludologists, who, admitting the explicit presence of narrative within video games, tried to search for some common ground. Espen Aarseth (1997: 5) argued: “To claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet, as this study tries to show, the difference is not clear-cut, and there is significant overlap between the two”. In the same line, Frasca opted for rejecting the most restrictive ludology and, following Mateas (2002), proposed to difference between narrativists, i.e. scholars who uses “narrative and literary theory as the foundation upon which to build a theory of interactive media”; and narratologists, i.e. scholars who work with narrative postulates independently of the object of research (Planells, 2015: 82).

\textsuperscript{16} In narratology, the concept of metalepsis refers to the transgression of the narrative levels, thus breaking the logic of the fictional world. An example of metalepsis could be a situation in which a character speaking in TV suddenly starts talking to the character that is watching that same channel at home.

\textsuperscript{17} Online source, in <http://gamestudies.org/0701/articles/simons> (last visited: 21/04/16).
Over time, and after reaching its pinnacle in 2003, with the congress of Digital Games Research Association (DIGRA), the debate proved itself to be self-contradictory, since both approaches were needed to duly determine the degree of narration in video games: while the narratologist must certainly have a minimal knowledge on his object of study –video games–, the ludologist has to accept narrative as the specialized field of study capable of analyzing games’ narrative potential. Curiously enough, the circumstances were similar to our dichotomy between the mother and the derived utility of video games, remarked in the Introduction of this MD: the teacher is the professional prepared to teach, but, when using video games, he must also have an overview on their main characteristics (history, genres, power of narration) in order to implement them efficiently.

The debate finished, Henry Jenkins (2004: 119-120) established “five points where we might all agree” in relation to the role of narrative in video games. This is a synthesis of his five ideas:

1) “Not all games tell stories”. Although most of them do, it is no less true that games such as Tetris, Snood or Blix lack any narrative purpose.
2) “Many games do have narrative aspirations”. Moreover, they may be of relevance to understand issues related to the artistic and social value of video games as cultural products.
3) “Narrative analysis need not be prescriptive”. Dealing with video games as narrative creations does not imply to prioritize narratology over gameplay and the ludic experience itself –ludology–.
4) “The experience of playing games can never be simply reduced to the experience of a story”. However narrative they are, video games are definitely a playable experience.
5) “If some games tell stories, they are unlikely to tell them in the same ways that other media tell stories”. As already remarked, video games possess specificities that differentiate their forms of narration from those of literature or cinema.

Assumed that video games can tell stories, we must now wonder which types of videoludic narratives exist. To do so, we will take Óliver Pérez’s (2012: 170) three formats of narrative organization as a point of departure [information translated from Spanish to English]:

a) A format in which the compositional narrative units are organized sequentially.
b) A format in which the compositional narrative units are organized in a non-sequential way (the player’s interaction marks the linearity of such narrative units –quests\textsuperscript{18}–).

c) A format combined from the previous two, where the quest-like structure is within a main narrative plot that encompasses diverse ‘packs’ of quests in a specific temporal order.

With these three formats of narrative in mind, it is possible to infer multiple types of narration in video games. Following Jenkins (2004), we may find:

- *Embedded narratives* (p. 126): pre-generated narratives that precede the player’s interaction. The back story and cut scenes\textsuperscript{19} are potential elements of this kind of narrative.

- *Emergent narratives* (p. 122). They arise from the player’s interaction with the world of fiction, the designed levels and the rule structure. As it can be imagined, the number of possibilities here is almost infinite and varies from one play session to another. Every single movement will make the emergent narrative varies.

- *Evoked narratives* (p. 123). These narratives relate to a previously existing world, which the player is likely to know beforehand. A good example is *Alice: Madness Returns* (2011), in which the universe is not the same than the one appearing in the book (the Alice of the video game is more adult, and Wonderland is a bloody and more hostile territory) but the player already knows the character and the space, despite their variations. These narratives certainly evoke to another world of the same fiction.

- *Enacted narratives* (p. 124). Games with this kind of narrative prioritize the exploration of an open map, in which there are locations with “micronarratives”. Though the game has a main story, it is only through the gradual activation of these micronarratives that the general story develops.

As Jenkins’ types of videogame narrative date back to more than a decade ago, new possibilities have arisen in video games since. In this sense, we believe that one of the most remarkable new types of narratives is related to the gathering of collectible elements during the gameplay.

\textsuperscript{18}In video games –mainly RPGs–, a quest is usually a secondary mission, non-compulsory to progress in the main story. The fact that they are optional implies that it is the player who can decide which quests to do and when to do them. In other words, the player is empowered to arrange the narration of the story to his whim within the boundaries of the gameplay.

\textsuperscript{19}Cut scenes are cinematic sequences in which the player cannot interact with the game. Instead, the scene makes the story progress in the way the creators have predetermined when designing the video game.
These collectables are frequently scattered all over the fictional worlds of modern video games, in which the possibilities of exploring an open environment where these objects may be located are much larger than in linear classic games. The player is not obliged to pick all the collectibles up in order to make the main story progress (i.e. the game can be beaten without picking them up), but, if he does, there is a possibility – depending on the game – that a brief narration comes into view. In the case of the picture above, from Alice: Madness Returns, if the player presses the button indicated in the screen to recover the memory, Alice will experience a mental regression to the past, thus remembering part of her broken memories through other characters’ conversations. The sequence lasts only a few seconds, but they are an unequivocal narrative fragment within the game.

The most common collectibles triggering this kind of narratives are dispersed letters and audio excerpts, in which the player reads or listens to messages from other characters without the gameplay being necessarily interrupted. In any case, not all video games include collectibles as narrative-activators; a game may have collectibles just for the sake of the player picking them up. While not many video games from the XIX century included collectibles as a supplementary part of the narration, this practice has become much more habitual in the last years. We propose that this kind of narrative be called fragmentary narrative, in relation to the fragments that must be picked up to activate the narrative.

It might be possible to list a few more types of videoludic narratives (for example, how will Playstation VR, the aforementioned virtual reality device announced for October 2016, be analyzed from the point of view of narratology?), but we consider that the ones already explained are enough for the sake of our theoretical framework.

As the reader may have noticed, the potential of video games to tell stories is inarguable. Logically enough, we do not intend that teachers using video games in their lessons master all the information explained above, since most of it belongs to
However, we do believe that they must know of its existence and be able to extract the most basic information: video games possess a high narrative potential; there can be various types of narratives within the fictional world of each game; books, cinema and video games usually feedback each other in narrative terms, etcetera. Most importantly, the teacher must know that the narrative part of video games is certainly exploitable in the classroom if the activities are planned wisely enough (see next point).

2.2.4. The didactic potential of video games

Independently of the school subject, the use of video games as a teaching aid has long been object of debate in the educational sphere, where there are both detractors and steadfast defenders. In this MD, as already highlighted, we take a stance in favor of their use, if and when this is adequate and educationally relevant. Although we mainly intend to prove the validity of video games as pedagogical resources through implementation in a real classroom context (see sections 3 and 4), we can anyway theorize their benefits and some of their most extended and advisable applications. Due to our proposal being intended for Spanish secondary education students, we have opted for selecting a majority number of bibliographical references from Spain in comparison to previous sections, where the sources have been mostly English.

According to Pindado (2006: 64-65), video games are involved in the social side of the individual, as they decrease impulsive behaviors and antisocial or self-destructive conduct. In other words, video games can be considered as excellent regulators of self-control and tolerance, thus improving mood through pleasure and achievement, as well as the total socialization of the individual and his teamwork and leadership capabilities. Physiologically, video games are also conceived as a great support, since they participate in the optimization of the immune system, in the connection with the limbic system (emotional center) with the vegetative nervous system, in the regulation of blood pressure and pulse, in the reduction of anxiety and in the correction of certain deformities and physical disabilities. It is the case of the recent Spanish video game Arcade Land (Koth Studios, 2016), which has been released on last 26 April by Sony as a videoludic experience adapted to people with cerebral palsy. Needless to say, anyone can play it, as it is a compilation of six updated classic arcade games (see appendix 10 and video “Arcade Land” within the DVD).

No less interesting is the role of video games in the (meta)cognitive, sensorial and perceptive field (Marcano, 2006: 136). Video games can develop the stimulation of senses, reflexes and different psychomotor abilities such as laterality or spatiality; observation, assimilation and retention of information, thus reinforcing attention and memory; and creativity, thanks to fantasy and the access to alternative worlds and
cultures (either real or imaginary). Likewise, electronic games play an essential role in intellectual development or the so-called visual-motor coordination, closely linked to hand-eye abilities, physical-mental activities and other psychomotor skills associated to visual perceptions and their subsequent intelligent and coherent answer in the individual. In this sense, we may remark those video games that simulate or strategize situations (Simulation and Strategy video games), as they intervene in the improvement of various real-life capabilities and practical abilities such as decision-making and strategy planning; the resolution of problems and conflicts; the organization, management, manipulation and use of different elements, materials and tools, etc. Most importantly, video games are considerably useful as entertainment systems for diverse disciplines such as aviation, driving of different vehicles or economy.

In the educational sphere, video games, as fundamentally ludic and entertainment media, foster the capability of self-improvement and motivation towards the learning of various subjects such as Physics and Chemistry, Natural Sciences, Ethics, Philosophy, History and, obviously, languages. Moreover, the adequate use of video games (mainly achieved with the intervention of family and teachers) not only has an effect on curricular contents, which are perfectly attachable to the academic or professional curriculum, but also on the development of a sensible, logical-critical and analytical way of thinking. In this way, video games could work as an important remedy to the problems which they themselves include: sexism, racism, intolerance, drug and narcotic abuse... However, we must be aware that it is only through the positive contents and values that video games, as technological and communication media, transmit nowadays and, especially, through their wise use –revised by teachers and parents– that they can be educationally convenient. Otherwise, the effect might be negative (see 2.2.5: “The ethics of video games”).

Quoting Fabricatore (2000), we may summarize the general advantages of video games as follows:

1) Analytical capabilities.
2) Strategic thinking, insight and logical reasoning.
3) Psychomotor skills.
4) Enrichment of the players’ knowledge base (both through the acquisition of new information, or the modification of previously acquired data).

Needless to say, all this information has been obtained because video games have served as educational research tools, which makes clear that they can also be useful in the research field. Particularly, video games can be used to check students’ talents and skills in different areas, such as mathematics, reading, socialization or language. As the reader may realize, research through video games is not new; Griffiths (2002: 47), who
also pointed out the same benefits that we have already highlighted, confirmed this fact more than a decade ago:

Some evidence suggests that important skills may be built or reinforced by videogames. For example, spatial visualization ability (i.e. mentally, rotating and manipulating two-and three-dimensional objects) improve with video game playing. Video games were also more effective for children who started out with relatively poor skills. It has also been suggested that videogames may be useful in equalizing individual differences in spatial skill performance. For over 20 years researchers have been using videogames as a means of researching individuals.

More recently, the educational community has introduced a novel practice for the classroom, derived from the video gaming sphere: gamification. As defined by Fabricatore & López (2014: 110), “gamification refers to the use of gaming elements to enhance user experience and engagement in non-gaming systems”. This implies that, for instance, the teacher would organize certain lessons emulating a role video game or, more specifically, following a quest-like structure: students will be rewarded for participating or answering well, a long-term ranking could be established to foster friendly competitiveness at a classroom level... Students could this way feel more identified with the subject and even enhance their performance thanks to their higher motivation.

Logically enough, this does not mean that the teacher should substitute his usual evaluation system, such as an exam or an oral presentation; suggesting gamification to the detriment of the habitual teaching work would certainly be contradictory. Rather, it is proposed as a complement for the daily routine, so as to make it more pleasant and student-engaging. While we support the insertion of new educational proposals – if and when they are coherent enough–, we will by no means justify their gratuitous implementation just for the sake of innovation. Under this premise, we do believe that gamification is an interesting potential resource for the classroom, whichever the subject.

If we particularize in the subject that concerns this MD –English–, we must assert that the number of resources available is especially significant. This is principally due to one reason: like any other language, English is, above all, a vehicle of communication. As such, it represents –or, at least, should– a path to an end rather than an end in itself. The English speaker may make the most of his knowledge to communicate, to read foreign literature or, simply, to reach further knowledge; but studying English for the sake of doing it is, though perfectly possible and absolutely laudable, quite unlikely in secondary education students, whose future horizons are still narrow. Therefore, not being an end in itself, the subject of English possesses a great advantage in relation to other subjects: interdisciplinarity (see section 2.3), or the possibility to incorporate a
vast range of alternative topics within its curriculum. One of those many topics is video games.

Furthermore, we are firmly convinced that English ought to be regarded by students as what it is, a language, and not as simply a high school subject. Even if they regard it as a subject—which it is, indeed—they should anyhow be able to see beyond: the actual purpose of studying the language. If students tend to learn English in private academies or once they are grown-up, it is, among other reasons, because they stigmatize their experience at high school and extend it to English, thus not discerning beyond the limits of the evaluation system and the curricular aspects of their textbook. This is why we truly consider that a lesson plan based on video games can fit well in secondary education, as it permits the teacher to make the process of learning more ludic and, more importantly, to use English in a potentially real context: playing video games in English—which involves many skills simultaneously, discussing about them in English, writing reviews about them in English... We will refer to this methodology as videoludic learning.

Hence, which are the main aspects of the English subject that can be learnt, either partially or fully, by means of video games? We may divide them into two interrelated fields: linguistics, or language aspects; and narrative, or literature aspects. Since we have included many of these elements in the didactic unit—the practical projection of this theoretical explanation—we will limit ourselves to make an abridgment of the didactic utility of video games in these two areas.

**Linguistic utility of video games**

According to authors such as Marcano (2006: 135-136), video games could be defined as “excelentes aceleradores del aprendizaje” (“excellent learning accelerators”) or decisive elements that the author compiles as “alfabetización digital” (“digital alphabetization”). In the field of linguistics, experts such as Etxebarría (1998: 177-178) have long insisted in the great capability of video games to increase the relationship and communication abilities, even as possible resources for certain language disorders.

Other academics, such as Marín & García (2005), assure that video games provide the learner with “habilidades necesarias para identificar y aprender vocabulario y conceptos numéricos” (“necessary abilities to identify and learn vocabulary and numerical concepts”), e.g. the acquisition of new and unknown words that are, though, easily inferable within the context of the video game. Likewise, Pindado (2005: 64) highlights the high value of video games in the development of verbal skills, at the same time he remarks the immense educational possibilities of video games in the linguistic field: it is here where families and, particularly, the teacher must exploit the full potential of electronic games by being guides, moderators and advisers, no matter how efficient and skilful they are when playing video games for mere entertainment.
It is under this premise that we may channel our proposal for Spanish students learning English. We must also underline the importance of choosing one video game or another, as different abilities may be improved depending on the video games genre (see section 2.2.2: “Main video games genres and types of consoles”) that the teacher has chosen (Aragón, 2011: 98-99). This being the case, arcade or platform video games (e.g. Super Mario Bros, Sonic, Pac-Man, etc.) will not develop the cognitive and perceptive abilities in the same way as sports video games (e.g. FIFA, Wii Sports, Mario and Sonic in the Olympic Games, etc.) or fighting games (Mortal Kombat, Street Fighter or Tekken) will do. Considering that the linguistic aspects are mainly acquired through texts, we recommend the use of adventure and role video games (Pokémon or Final Fantasy), in which the text has an essential role in the game to progress; as well as strategy and logic games (Age of Empires, Civilization, Trivial, Buzz, Monopoly…) that require the use of language to make an appropriate management of the virtual resources available.

This is a schematic summary (own production) of some of the main linguistic contents that can be enhanced through video games:

- **Lexis:**
  Vocabulary is definitely one of the areas in which video games can improve the player’s level of English. The range of different words a single video game can include is huge, from very basic words to literary, technical or slang vocabulary.

  o Adverbs of place: useful to express directions, movements and locations: up, back, right, left, towards, backwards… They can also be combined with verbs:
    - Adverbs denoting movement and dynamism: move back and forth, turn to the left/right, go ahead…
  o Loan words, technical and academic terms: non-native students of English –Spanish students, in our case– can learn words belonging to the gaming community that are already universalized or very extended in English: backup, joystick, dualshock, reset, delete, pause, server, online, chat, select…
  o Abbreviations and acronyms: PEGI (Pan European Game Information), MMO(RPG) (Massive Multiplayer Online Role-Playing Game), PS4

---

20 Similarly, the teacher could use video games to teach Spanish to English students or any other language to which the video games used have been translated.

21 As a personal experience, I can assure that I have learnt many –advanced– words in English by simply playing video games. It is highly advisable to take notes of them while playing, either in a sheet of paper, a computer or –as I usually do– with the “Notes” mobile phone application.
(PlayStation 4), Nintendo DS (Dual Stick), L1-L2/R1-R2 (buttons: Left 1-2/Right 1-2), CD (Compact Disc), DVD (Digital Versatile Disc), HD (High Definition), HQ (High Quality)...  
- Elementary vocabulary related to the basic gaming commands: press, circle, triangle, square, attack, defend, continue, equip, choose, protect, jump, etc.

- Morphology:
  Students will reflect upon well-known video games titles, quotations and frequent gaming words in an intuitive but certainly metalinguistic way. They obviously do not have to know the grammar terms used below for the sake of our summary.

  - Inflection: Prince of Persia vs. Princes of Persia, Assassin’s Creed vs. Assassin Creed, “I am what Gods made me” vs. “I am what God made me” (quote from God of War), etc.
  - Affixation (prefixation and suffixation): in-credible, de-stabilize, over-fly, child-hood, success-ful, poke-ball, super-ball, ultra-ball, bird-er, bad-ly...
  - Back-formation or clipping: Spiderman > Spidey.
  - Blending: edutainment (= educational entertainment).

- Syntax:
  As in any other English text, students are likely to read sentences with the most frequent syntactic patterns of the language, thus absorbing the constructions in an indirect way. Again, we are referring to an inductive process that the player does by simply playing the game; unless the teacher requires it, there is no further need to make the process explicit. This is particularly useful to those English learners playing at home by leisure, as they learn almost automatically.

  - Common syntactic constructions: “Congratulations. This story is happy end. Thank you” (from Ghosts ‘N Goblins), “A winner is you” (from Pro Wrestling), “Everything is teetering on the edge of everything” (from Spec Ops: The Line), etc.
  - Sentences according to the speaker’s intention:
    - Affirmative: “It’s Fear that Gives Men Wings” (from Max Payne).
    - Exclamative: “He’s behind you!” (from Resident Evil).
    - Interrogative: “Have you ever remembered… your childhood?” (from Final Fantasy VIII).
‘Wish’ sentences: “If only I could be a great Pokemon trainer” (from Pokemon).

- Types of sentences:
  - Compound: “People live and die” (from Prince of Persia), “You die as a hero or you live enough to become a villain” (from Batman), “We can’t give you freedom, but we can give you the know-how on how to acquire it” (from Call of Duty).
  - Complex: “They say that knowledge is power” (from Prince of Persia), “I am back from a world where such words are meaningless” (from Metal Gear Solid), “Just when you thought you had reached the deepest depths of horror, it suddenly got worse” (from Max Payne).

As the reader can notice, there are a lot of video games –either modern or not– that include a vast range of textual information: instructions, in-game tutorials, messages to interact with other characters, subtitles... Even if a video game is played as a simple hobby at home, the player can learn many of the aspects listed above simply by playing the game in English (which we highly recommend), at the same time he improves his listening skills when characters speak. Following this method, learning will come naturally without the player even realizing it. However, there is a key premise for this to happen: students must be aware of the benefits of playing video games in English; otherwise, if they do not play in English, the learning of the language will be very limited. Teachers should raise awareness in their students in this sense, as there is a truly significant difference between playing video games in English and not doing it. This is not different from watching a film, reading a book or listening to a song in English. Students simply have to feel motivated enough to do so.

On the contrary, in the classroom this situation changes from a mere recommendation for free time to an obligatory task carried out by the teacher. This may have both positive and negative effects: while the teacher has now the authority to control the process of learning, such process might fail if the activity is not authentic enough. Students are likely to not enjoy as much as when playing at home, thus preventing the acquisition of the aforementioned contents. This is why the selection of the video game and the planning of the activity for the lesson must be preceded by a careful reflection on how the activity could be more successful regarding motivation and, especially, degree of learning. Although certain video games are specifically designed to learn English (which we obviously recommend), we think there are also video games lacking this label that can be perfectly valid as teaching aids. There ought to be a balance between one kind of games and another (see 2.2.5: “The ethics of video games” for more information).
Narrative utility of video games

Far from being restricted to the theoretical studies we have dealt with in the previous section (2.2.3: “Fiction and narrative in video games”), the narrative of video games is equally an exploitable resource to teach English. In this sense, Ostenson (2013: 72) remarks that “despite the dominant position the traditional written narrative has assumed in the modern English classroom, we must acknowledge that this is not the only (or even, always, the best) medium for telling stories”. Ostenson – an expert in teaching with narrative video games – does not intend to claim that video games are the best medium, but simply that they are a very acceptable one. Probably, there is not a ‘best’ or a ‘worst’ medium for telling stories –or, at least, there would not be a consensus on it–; there are just different media which, depending on different factors (such as the number of students, their level of English and degree of motivation…), would fit better or worse.

We believe that video games are indeed highly exploitable in narrative terms. However, there is a problem of temporal organization that must be solved appropriately. Some teachers tend to stigmatize the use of the narrative side of video games to teach languages in the classroom because, unlike the linguistic aspects, narrative takes more time to understand the whole of it, i.e. to read an entire book, watch a film or beat a video game. In this, they are certainly right: playing an entire narrative video game from beginning to end is definitely more time-consuming than playing a single level of a video game or a mini-game that has been previously designed to learn English.

To deal with such hindrance, we would consider three main options:

1) In ideal conditions, students would play the video game on their own, as if it were part of their homework, and would go to class with the game already beaten, ready to comment on the storyline and the narrative aspects as if they had read a book. Unfortunately, there is no certainty that all students possess the necessary devices to play the video game (computer, console and TV, the video game…). The teacher should by no means order such a task to his students, unless he knows for granted that all of them will be able to play the video game (either solo, in pairs or in groups).

2) Watching the narrative scenes of the video game, instead of playing it entirely. This is a much more plausible option, since there are many videos on Youtube that compile exclusively the cut scenes and the most narrative parts of certain games. Yet, this would imply an evident devaluation of the video game: it would be like watching a film, since interaction –which also generates narrative, as we studied in section 2.2.3.– is completely omitted. In other words, it would be similar to read just a summary of a book, trying
anyway to analyze it in class as if the whole book had been read. Again, we would not recommend this option.

3) As a most advisable option, we suggest that a part or parts of the game be played in situ at classroom level, by using the resources of the high school (a digital blackboard might be enough, depending on the game) or some external devices brought by the teacher. There is no problem in playing for one hour and commenting the narrative aspects as you play with all students. There is no need to finish the game if the teacher simply delimits a chapter or a period of time to play it. Cannot the first or the second chapter of a book be read and commented during one or two hours of class? Video games are not an exception in this regard.

Once the way of playing is decided, the teacher only needs to choose an appropriate video game with a potent narrative side. Besides, it must adapt to the student’s level of English and to their age, since a violent or unsettling video game is definitely not a good option to teach young students (though they can be used at other levels, as we will briefly study in next section: 2.2.5: “The ethics of video games”). Ostenson (2013: 76) has proposed a video game that we also consider suitable for teaching narrative in English: Dear Esther (Thechineseroom, 2012). A video, named “Dear Esther”, is included within the DVD.

A final game I’ve used more recently is Dear Esther, a game that eschews some of the traditional gaming elements (solving puzzles or completing tasks) and focuses almost exclusively on the exploration of a deserted island and the uncovering of a rather complex backstory. This game emphasizes narration and exploration, with some beautiful atmospherics and a haunting narrator. [...] This game, I think, can do more to help students see the future potential of video games as a storytelling medium.

As explained by Ostenson, Dear Esther gives the player the possibility to move freely around the island while reading (see image below) and listening to the story. It is an unmistakable example of videoludic learning in which English is used as a vehicle of communication –to comment on the storyline–, instead of as a vocabulary list to be memorized or a simple grammar explanation. While both the vocabulary list and the grammar explanations are doubtlessly necessary, this game-based activity is optional but highly recommended as a complement for the former. It is a different way of putting the theoretical knowledge into practice, at the same time students realize they can use English to play and enjoy a video game.
29. Dear Esther (Thechineseroom, 2012) – An image of the island where the story is set with the text of the narration shown below

At the end of the activity, Ostenson asks his students a series of questions on the narrative side of video game so as to check their degree of comprehension and abstraction in relation to the story, as well as to foster their critical sense in English. Some of the possible questions proposed by Ostenson (2013: 76) are:

- Is there a setting? Which one?
- How many characters are there? What do you know about them?
- What is the story about? Is there a plot?
- Does it remind you of any other story you have read/watched?
- Is playing a video game too different from reading a book or watching a film? Which system do you prefer?

Evidently enough, this practice can be applied to many other video games; this is just a specific example. As an alternative, we propose asking students to write a review on a video game, either the one they have played in the classroom or any other of their like. Many of the magazines and websites specialized on scoring the quality of video games divide their final assessment in four or five different parts: graphics, gameplay, sound, originality and length. Students could be taught how to write a review by following such structure, which would be explained and exemplified by the teacher. In this way, video games would also be used to improve the students’ writing skills, at the same time we awake a taste for narrative in them. We have included this task as a core part of our didactic unit.

2.2.5. The ethics of video games

Although we consider it preposterous to stigmatize video games according to the inclusion of certain contents (such as violence, sex or drugs), we understand that the issue has been given enough relevance to deal with it in a brief way. Unnecessary to say, we do not defend that students are asked to play violent or obscene games
without a justified reason; this would indeed be reproachable because, as we have already mentioned, the choice of the video game for the classroom must be careful and intelligent enough considering the specificities of the students. It is the indiscriminate and biased criticism to video games, pointed out as “a public-health threat to children and youths” (Anderson & Bushman, 2001: 358), that we do regard as unjustified.

Five years ago, Pérez & Ortega (2011) made a proposal to use the video game The Movies (Lionhead Studios, 2005) as an educational resource. After listing its positive effects (collaborative attitude, friendship and loyalty, optimism, self-confidence, critical sense, responsibility...), they warned that the video game could also promote negative values such as unmoral competitiveness, ambition, interest, pessimism, treachery, squandering, slackness, passivity or imposition. But, are video games so influential in configuring both the positive and the negative moral values of the player as an individual? Video games belong to fiction –like a novel or a film–, and any resemblance with reality is pure chance insomuch as video games, though platitudinous to say, drink from our world to shape their respective fictional universes.

From our perspective, the personality of individuals is highly predetermined since birth. Obviously, circumstances can condition the actions carried out by the individual, but not his true inner personality. There is a difference between stealing for the sake of maliciousness and doing it owing to circumstances (poverty, hungry...). We will not deny that the action is the same, but the second kind of thief is likely to be aware of the incorrectness of his acts, while the former will simply not be. This is what we mean when referring to the values promoted by video games: the upright individual will probably commit no murder nor physical abuse, no matter how many violent video games he plays; whereas an evil person will probably act wrongly independently of playing violent video games or not. In other words, we believe that the possibilities of the player’s behavior being significantly modified by the video game are almost nonexistent. Still, since this debate became especially controversial among the parents of young players, the PEGI system –already mentioned in the Introduction– was created:

![Image of the PEGI classification for video games](image)
This age rate system provides with basic information about what kind of inadequate contents children may find while playing: bad language, discrimination, drugs, fear, gambling, sex and violence. Besides, the ‘online’ drawing warns about possible risks derived from the interaction with other players: insults, dubious questions... In these cases, it is obviously parents that have the authority to allow their children to play certain games or not. Likewise, teachers are under the obligation of choosing games that are truly adequate to teach their subject. If the subject is English, a violent game is definitely not an advisable option. Nevertheless, if we want to educate students in values in the subject of Ethics, then a violent game could be a good option. It is the case of Tobias Staaby, a Norwegian teacher who resorts to games such as The Last of Us (Naughty Dog, 2013), Skyrim (Bethesda, 2011) or The Walking Dead (Telltale, 2012) to teach moral and ethical values in his classroom (Darvasi, 2014). Thanks to the latter, for instance, Staaby put their students under the same dilemma the protagonist of The Walking Dead experiences: should we euthanize a character that is suffering? Stealing someone else’s meal to survive? By forming groups to debate these questions, violent games can also be of great help to teach non-linguistic aspects.

Certain video games are frequently categorized as educational, because they are presupposed a high educational value: Reader Rabbit (The Learning Company, 1986), Gus Goes to Cybertown (Modern Media Ventures, 1993), Storybook Weaver (MECC, 1994), Dr. Kawashima’s Brain Training (Nintendo, 2005), Urban Jungle (Autoklub Rijeka, 2005) or inLiving (Creative North Studios, 2008), to name but a few of them. Nonetheless, as the reader may have noticed, we have intentionally not mentioned any of them, because what video game cannot be educational? This question condenses indeed the essence of both our research and didactic proposal.

We do not intend to prove how a series of so-called educational video games can be applied in teaching, but how video games in general can serve as educational tools. Our distinction between the mother and the derived utility of video games is not gratuitous: educational games do have education as their mother utility, but that does not mean that non-educational games can be used in education as well. What is more, they are probably more authentic regarding spontaneity and enjoyment among students, who will not have the feeling of being doing another class activity to learn English. Rather, if the session is planned and conducted properly, students may appreciate more deeply the teacher’s effort and, more importantly, they will see English in the real context of an entertainment product. As the reader will check, we have included three main video games within our didactic unit, two of which are not educational per se. Obviously, doing so entails a higher risk because, if the choice is not adequate, the teacher might be blamed for teaching inappropriate content to his students, but we believe that it is worth the effort to risk and innovate.
To put an end to this section, we want to reiterate that video games are not ethical or unmoral in themselves; the choices by parents and teachers are. The fault of a child seeing sex scenes in a game such as *Dragon Age: Inquisition* (BioWare, 2014) –a very good game in terms of storyline and gameplay– is not the video game’s not even the developer’s; it is the parents’ and the teachers’ who allow it, when the PEGI system has informed them about it. We consider that criticizing video games for including violence or sex is as absurd as branding a gore or a horror film as violent and inadequate for children. What would a David Cronenberg’s film or a Lovecraft’s work be without its macabre touch? More than educational resources, films, books and video games are fiction. As such, we think that their moral or ethical values should not be questioned, since they simply belong to fiction and have no further rationalization in the real world. Parents and, particularly, teachers must certainly be very careful concerning what their children and students play, but none of us should denounce a work of fiction which may include inappropriate contents for them.

2.3. Key notions to teach English with video games: concepts and constructs

Before projecting the aforementioned theoretical content in the didactic unit, we consider it necessary to clarify a series of notions on which the lesson plan has been based. Particularly, we will refer to three fundamental concepts—*game-based learning, videoludic learning and interdisciplinarity*—and to three constructs (i.e. motivating ideas) which typify our didactic proposal at classroom level.

❖ Fundamental concepts

We must first distinguish clearly between *game-based learning* and *videoludic learning*, as they are not the same.

The former is a broader term related to any kind of learning that is partially or fully based on games. Such games, though, are not necessarily electronic: they can be board games, card games, dice games, mental and guessing games, conversation games, street games, drinking and singing games and a long etcetera. Video games are also encompassed within game-based learning, but the category is not exclusively limited to them.

On the other hand, videoludic learning is indeed restricted to video games. It is a much more reduced category that includes only those games that require an electronic device to work: computer games, video games, mobile phone games, TV games... Our proposal is therefore mainly focused on this kind of learning, despite belonging to the wider category of game-based learning as well.

Lastly, by interdisciplinarity we understand the integration of curricular contents belonging to subjects other than the one being taught. As we highlighted in point
2.2.4, English is particularly exploitable in this sense; as a language, we can integrate topics from Science, Music, History, Literature or Technology and deal with them as with any other content. Since video games are interdisciplinary per se, inasmuch as they also encompass elements from mathematics, art, popular culture or science, we believe that the combination ‘video games + English’ may result in a powerful synergy with regard to the quality and variety of the contents studied by students.

**Constructs**

We may underline the following three constructs as basic ideas supporting our didactic proposal:

- **Importance of motivation in the classroom.** By playing video games, students are supposed to learn in a more intuitive and unconscious way, thus favoring the acquisition of some contents that could otherwise be tedious to teach theoretically.

- **Student-focused teaching.** Although not all of the material must be prepared with the sole idea of making the lesson ludic, it is convenient that certain lessons are planned this way every so often. Needless to say, the application of such material has to be authentic, as a false implementation will most probably depreciate the lesson.

- **Communicative competence.** The implementation of video games in the classroom impels the students to interact orally with their partners. Moreover, the versatility of video games offers the teacher the possibility to prepare a varied range of communicative activities to gain fluency and pronunciation.

These three constructs are evidently at the same level of priority. Far from being separated ideas, they form part of a unitary whole: the use of video games in the English classroom.

3. **Didactic unit**

We have tested three different video games with students (two of which do not belong to the so-called ‘educational genre’, as we mentioned above). The conclusions of such implementation are dissected in section 4, “Results of the implementation”. Obviously, the rest of the didactic unit is almost entirely related to video games as well, in such a way that the contents of the English unit are approached by integrating gaming-related issues within every skill: speaking, reading, listening and writing (and interaction, if we consider it as a fifth skill). Accordingly, students will read texts about
video games, write their compositions about video games, listen to an audio about video games, etc.

As explained in section 2.1, the implementation of the three video games took place at I.E.S. Santa Catalina de Alejandría (Jaén), during my period of internship. Nonetheless, for the sake of the didactic unit below, we have opted for not circumscribing the proposal to any high school in particular. In the end, as stated in our second major objective (see “Introduction”), we expect that video games can be used regularly in any educational center, not exclusively in one which has specifically promoted such practice. This is why we have simply hypothesized the classroom described in the following didactic unit. There is not necessarily a resemblance to reality.

3.1. Title: “Within video games”

We have chosen the title “Within video games” so as to call students’ attention from the very beginning of the unit. Thanks to this short-but-appealing title, the student is likely to feel interest, thus wishing to go deeper into the contents. Moreover, the use of the preposition within immerses the reader in the topic of video games, at the same time it gives the teacher room for explaining such preposition to students, who will probably not know its meaning and main uses yet. If accompanied by eye-catching illustrations in the first page of the unit, students will feel attracted by the topic even before starting to learn it.

3.2. Justification

Planned for the first year of non-compulsory secondary education (NCSE), this didactic unit is accordingly justified by LOMCE. Particularly, it follows the stipulations appearing in the Royal Decree 1105/2014, of December 26th (BOE number 3 of January, 3rd), whereby the core teachings corresponding to CSE are established. At the time of writing, the legislation of LOMCE lacks any further Decree or Order to be mentioned, so we refer to the aforementioned Royal Decree as the only valid legal reference encompassed within LOMCE.

According to the legislation in force, students will work the four main skills listed in the BOE number 3 of January, 3rd: “1) Comprehension of oral texts. 2) Production of oral texts: expression and interaction. 3) Comprehension of written texts. 4) Production of written texts: expression and interactions”. In this way, this didactic unit covers all the contents stated by the current legislation, at the same time it fosters the key competences established by the Royal Decree 1105/2014 (2014: 4) in an integrative, practical and effective way:
For an effective acquisition of the competences and their effective integration within the curriculum, it will be necessary to prepare integrated learning activities that allow the students to progress towards the learning results of more than a single competence at the same time. The development of the Linguistic Communication competences [...] will be potentiated.

In reference to the Common European Framework of Reference for Languages (CEFRL), the present didactic unit also fulfils the following competences:

- **Linguistic competence:**
  - Grammatical: present and past modal verbs (have to, should, ought to, must, can, could, might, may).
  - Lexical: vocabulary related to video games and reviews.
  - Phonological: pronunciation of the names of video games genres.
  - Orthographic: writing of the names of video games genres.
  - Orthoepic: correlation between writing and pronunciation.

- **Sociolinguistic competence:**
  - Register differences: informal language and formal writing (review).

- **Pragmatic competence:**
  - Discourse: coherence, cohesion, style and register, logical order and thematic organization.
  - Functional:
    - Microfunctions: factual information (reporting) and expressing and findings on attitudes (emotions).
    - Macrofunctions: narration, exposition, commentary and description.

### 3.3. Contextualization

These are the main elements to be born in mind regarding the high school and the students for whom the didactic unit is planned.

- **Course:** 1º year of NCSE (1º Bachillerato). Humanities and Social Sciences mixed group.

- **Temporal and spatial context:**
  - Number of students: 33 students, 20 of whom are female and 13 male.

---

22 As mentioned above, this information has been invented for the sake of the didactic unit. Any resemblance to reality is pure coincidence.
- Type of classroom: room medium in size, where students sit in pairs distributed in three columns.
- Resources: chalk blackboard, digital blackboard, computer for the teacher and laptops in another room (if needed).
- Physical conditions: adequate acoustic conditions, though luminosity is reduced early in the morning.

- Level and features of students:
  - Pre-Intermediate level (A2-B1), though the disparities are significant as some students come from bilingual groups whereas others do not.
  - Ethnic precedence: all students are Spanish, with the exception of one Chinese girl, who also speaks Spanish as a native language; one Colombian boy and a British-Spanish bilingual girl.
  - Remarkable specificities: there is one student with Asperger Syndrome, who works at the same pace of his partners (no curricular adaptation) but presents some difficulties to think in abstract and link ideas. The bilingual student is much more advanced than the rest of students, so the teacher provides her with additional material from time to time.
  - Relevant previous knowledge: all students have already studied present modal verbs, though the past form is new to most of them. They have never seen a didactic unit based on video games before, but most of them have played video games at some point and some others play them regularly as a hobby.

### 3.4. Timing

Each lesson is 50-55 minutes in length. Since it is the 1\(^{\text{st}}\) year of NCSE, there are three sessions per week, distributed as follows:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>3(^{\text{rd}}) hour (10:15-11:15)</td>
<td>-</td>
<td>4(^{\text{th}}) hour (11:45-12:45)</td>
<td>6(^{\text{th}}) hour (13:45-14:45)</td>
</tr>
</tbody>
</table>

The didactic unit will be taught in four different sessions: Tuesday, Thursday and Friday (1\(^{\text{st}}\) week); and Tuesday (2\(^{\text{nd}}\) week). Approximately, the unit could correspond to the month of February or March (unit 5 or 6 in a textbook). The specific dates provided in section “3.11. Lesson plan: procedures” are a mere estimation.
3.5. Key competences

1) Linguistic communication
2) Mathematical competence and key competences in science & technology
3) Digital competence
4) Learning to learn competence
5) Social and civic competences
6) Initiative and entrepreneurship
7) Cultural expressions & artistic awareness

Thanks to the interdisciplinary nature of video games, we have proposed a lesson plan including all the seven key competences stipulated by LOMCE. In addition to the self-explanatory competences, we have to clarify that the video game *Keep Talking and Nobody Explodes* includes technological elements related to science (competence 2); and the review that students will have to write fosters their critical sense and initiative (competence 6).

3.6. Didactic objectives & Evaluation criteria

<table>
<thead>
<tr>
<th>Didactic objectives</th>
<th>Evaluation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>To get familiarized with the basic notions about video games</td>
<td>If the student knows the basic notions about video games</td>
</tr>
<tr>
<td>To use correctly the present and past modal verbs in contexts related to video games to give orders and instructions</td>
<td>If the student can use correctly the present and past modal verbs in contexts related to video games to give orders and instructions</td>
</tr>
<tr>
<td>To make an adequate use of adverbs of movement and directions when playing video games</td>
<td>If the student can make an adequate use of adverbs of movement and directions when playing video games</td>
</tr>
<tr>
<td>To write a well-structured review on a video game</td>
<td>If the student can write a well-structured review on a video game</td>
</tr>
<tr>
<td>To understand texts and videos dealing with video games in English</td>
<td>If the student can understand texts and videos dealing with video games in English</td>
</tr>
<tr>
<td>To foster teamwork by playing video games that require cooperation with partners</td>
<td>If the student has worked in team when playing video games that require cooperation with partners</td>
</tr>
</tbody>
</table>
3.7. Cross-curricular issues and interdisciplinarity

Cross-curricular issues included, according to Royal Decree 1105/2014 (LOMCE):

- Reading comprehension
- Oral and written expression
- Audiovisual communication
- Information and communication technologies
- Entrepreneurship
- Civic and constitutional education
- Equal rights and opportunities for disabled people
- Coeducation (equal rights & opportunities for men and women; prevention of gender-based violence)
- Education for peace
- Health education

As far as interdisciplinarity is concerned, there are curricular elements from, at least, the following subjects:

- Art
- Biology
- Ethics
- History
- Literature
- Mathematics
- Music
- Technology

3.8. Assessable learning standards

As stipulated by LOMCE, all the assessable learning standards below are quoted directly from BOE number 3 of January, 3rd (2014). The translation from Spanish to English is personal.

The student identifies the main points and relevant details of a shorter or longer formal or informal conversation of certain duration between two or more interlocutors around him, if and when the acoustic conditions are good, the discourse is structured and there is not an idiomatic use of the language (p. 436).

The student participates in informal face-to-face conversations [...], in which he describes with a certain degree of detail facts, experiences, feelings, ambitions [...]. He tells stories, as well as the plot of books and films, indicating his reactions [...]. He expresses with kindness his beliefs, agreements and disagreements, and explains and justifies his opinions and projects (p. 437).
The student follows without problems the storyline of fiction stories and of clearly-structured short novels, which has a simple and direct language in a standard variety of the language, and he understands the personality of the different characters and their relations, when one and the other are described clearly and with enough detail (p. 438).

In those cases where the quotation does not refer explicitly to video games –but to books or films–, we should understand that also video games are encompassed within these paragraphs from BOE.

3.9. Contents

This is a schematic summary of the contents (structured according to four thematic nuclei, as indicated by LOMCE) that students will study in our unit, “Within video games”. The activities are arranged in sequence and developed fully in point “3.11. Lesson plan: procedures” and “3.12 Lesson plan: materials”.

<table>
<thead>
<tr>
<th>Listening</th>
<th>Speaking and interacting</th>
<th>Reading</th>
<th>Writing and interacting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will listen:</td>
<td>Students will speak and interact:</td>
<td>Students will read:</td>
<td>Students will write:</td>
</tr>
<tr>
<td>To a video about video games,</td>
<td>To discuss their favorite video game genre.</td>
<td>The text –about video games– chosen for the unit.</td>
<td>A review (of 150-200 words) about a video game in particular.</td>
</tr>
<tr>
<td>with multiple choice, fill in the gaps and true or false questions.</td>
<td>To play Keep Talking and Nobody Explodes and Jeopardy with their partners.</td>
<td>The grammar contents of the unit (present and past modal verbs, related to video games).</td>
<td>The written exercises (reading, grammar) included in the unit.</td>
</tr>
<tr>
<td>To the pronunciation of the main video game genres (repeating the words afterwards).</td>
<td>To sing when playing Ultrastar (optional).</td>
<td>The different instructions of the video game Keep Talking and Nobody Explodes.</td>
<td>The steps for defusing a bomb when playing Keep Talking and Nobody Explodes, if necessary (alternatively, they can be memorized).</td>
</tr>
</tbody>
</table>
### 3.10. Attention to diversity

<table>
<thead>
<tr>
<th>Supplementary activities*</th>
<th>Students with additional needs</th>
<th>Remedial material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books based on video games**</td>
<td>“Video game history”, an easily understandable video (see video “Video Game History” within the DVD)</td>
<td>Exercises from the Workbook.</td>
</tr>
<tr>
<td>Writing a professional review on a video game, instead of the simplified version planned for the rest of students.</td>
<td>Specific photocopies handed out by the teacher: modal verbs in present, a more reduced list of gaming vocabulary…</td>
<td>Various games on websites and the internet.²³</td>
</tr>
</tbody>
</table>

*These supplementary activities, exclusively planned for the bilingual student in the classroom, will only be carried out with the mutual agreement of the student. They will not be imposed on her, but simply suggested as a recommendation to improve her high level of English. Needless to say, the student will not be excluded from the general dynamics of the classroom, as she will be assessed in the same way as the rest of her partners. This material cannot be used to evaluate the student.

**If the bilingual student wants to read one of these books, she will be able to choose among the following titles:


- *Doom: Knee-Deep in the Dead*, by Dafydd ab Hugh and Brad Linaweaver (2013).

***The book *Ready Player One* is not based on a specific video game, but it is a science fiction novel dealing with the topic of video games in an alternative way. This is why it is listed in a different space.***

### 3.11. Lesson plan: procedures

This is a step-by-step summary of the four sessions, which includes the activity (briefly described), the interactive patterns that take place, the necessary materials, resources and the timing. The materials are attached in point 3.12: “Lesson plan: materials”. In “Material & Resources”, we have omitted those elements that are obvious in the context of a classroom (basic furniture, wastepaper basket, etc.). The dates and times provided are merely illustrative, in such a way that the teacher must be prepared –as any other teacher– for any possible contingency forcing to modify the sequencing of the activities.

Instead of including five or six sessions with an excessive amount of material, we consider it more adequate to plan only four consistent sessions. By doing so, we will prevent students from feeling overwhelmed and, more importantly, the number of sessions will be easily adjustable: if four sessions have not been enough because the students’ learning pace is slow, the duration of the unit could be prolonged to a fifth or even a sixth session; not to deal with new contents, but to finish and revise the already explained materials. As with any other didactic unit, the teacher prepares his lessons but it is his students that set the pace of each of them.

- **Session 1** (Tuesday 12 February). Introduction – Basic vocabulary list and brief speaking about video game genres, reading ("Video games are good for you!") and video game: *Ultrastar* (optional).
<table>
<thead>
<tr>
<th>Activity</th>
<th>Interaction patterns&lt;sup&gt;24&lt;/sup&gt;</th>
<th>Material &amp; Resources</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the topic: vocabulary of video game genres</td>
<td>T → C</td>
<td>Textbook, blackboard and digital blackboard (optional)</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Warming-up - Speaking: brief discussion about each student’s favorite video game genre/s</td>
<td>Pair work</td>
<td>Textbook</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>
| Task - Reading with activities: “Video games are good for you!”<sup>25</sup> | T → C  
C → T | Textbook, blackboard and digital blackboard (optional) | 30 minutes |
| Video game: Ultrastar (optional, only if any student/s feel like singing in English) | Individual or pair work | Digital blackboard or laptop brought by the teacher; microphones | 10 minutes |

**Session 2** (Thursday 14 February). Grammar – modal verbs in present (revision) and past, with grammar exercises related to video games.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Interaction patterns</th>
<th>Material &amp; Resources</th>
<th>Timing</th>
</tr>
</thead>
</table>
| Revision of present modal verbs: brief theoretical reminder and one grammar activity to refresh | T → C  
C → T | Textbook, blackboard and digital blackboard | 10 minutes |

<sup>24</sup> Meaning of the abbreviations: a capital T alludes to teacher; a capital C refers to the whole class; and a letter S makes reference to students (either individually or in groups).

<sup>25</sup> Extracted from: <https://learnenglishteens.britishcouncil.org/skills/reading-skills-practice/video-games-are-good-you> (last visited: 02/06/16).
Past modal verbs: inductive (1º) and deductive (2º) explanation

Textbook, blackboard and digital blackboard

10 minutes

Modal verbs exercises

Individual work

Textbook, blackboard and digital blackboard (optional)

35 minutes

Session 3 (Friday 15 February). *Keep Talking and Nobody Explodes* and *Jeopardy* – Students will play the former while putting in practice the modal verbs learnt the previous day, as well as some adverbs taught at the beginning of the lesson. Taking advantage of the groups being already formed, they will also play a game of *Jeopardy* in teams.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Interaction patterns</th>
<th>Material &amp; Resources</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of useful words to be used during the game</td>
<td>T → C</td>
<td>Blackboard</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Pre-task - Instructions of <em>Keep Talking and Nobody Explodes</em>: brief video to learn the mechanics of the game</td>
<td>T → C</td>
<td>Digital blackboard</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Main task: <em>Keep Talking and Nobody Explodes</em> in groups of 4-6 people</td>
<td>Group work</td>
<td>Laptops (previously requested). Alternatively, the teacher can bring his laptop (one is enough)</td>
<td>30-35 minutes</td>
</tr>
<tr>
<td><em>Jeopardy</em>, a second game with the same groups</td>
<td>Group work</td>
<td>Digital blackboard</td>
<td>10-15 minutes</td>
</tr>
</tbody>
</table>
Session 4 (Tuesday 19 February). Pronunciation, listening and writing – Students will learn the correct pronunciation of certain gaming-related words, will do a listening exercise with questions and will start to write a review on video games (which they will finish at home).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Interaction patterns</th>
<th>Material &amp; Resources</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronunciation exercise: listening and repeating gaming-related vocabulary</td>
<td>T → C C → T</td>
<td>Digital blackboard. Alternatively, a cassette or a tape recorder can be used</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Listening: “Why People Think Video Games Are Just for Boys”</td>
<td>Individual work</td>
<td>Digital blackboard or cassette/tape recorder</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Pre-task - Review on video games: example and explanation on how to write it</td>
<td>T → C</td>
<td>Textbook, blackboard and digital blackboard</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td>Task - Writing the review (they can finish it at home)</td>
<td>S → T</td>
<td>A blank page to write the review</td>
<td>20-25 minutes</td>
</tr>
</tbody>
</table>

The questions in the exam will be directly related to the contents studied throughout these four sessions. As already stated, the number of sessions can be prolonged according to the students’ needs, especially if they still have difficulties with the grammar contents. In this case, the teacher will resort to the remedial material (consult “3.10. Attention to diversity”).

3.11. Lesson plan: materials

This section gathers all the materials prepared for the previously summarized lessons. The way of dealing with them is obviously subjected to each teacher’s rules and ways of conducting the class.
Session 1

- Vocabulary:

<table>
<thead>
<tr>
<th>Video game genres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adventure</td>
</tr>
<tr>
<td>Arcade</td>
</tr>
<tr>
<td>Fighting</td>
</tr>
<tr>
<td>Shooter</td>
</tr>
<tr>
<td>Racing</td>
</tr>
<tr>
<td>Strategy games</td>
</tr>
<tr>
<td>Music games</td>
</tr>
<tr>
<td>Role-playing games (RPG)</td>
</tr>
<tr>
<td>Platform games</td>
</tr>
<tr>
<td>Sports games</td>
</tr>
</tbody>
</table>

- Speaking (in pairs):

+ Which kinds of video games do you like the most? Why?
+ What is your favorite video game? Why?
+ Could you recommend me a video game? What does make it so special?
+ Are there any video games you don’t like? Which ones? Why?

- Reading: “Video games are good for you!”

  o Pre-reading. Match the types of computer game with the definitions.

a) Platform game            d) Role-playing game (RPG)
b) Fighting game            e) Strategy game
c) Shooter                   f) Racing game

1) A game in which the player controls a central character. They explore the game world, solve puzzles and take part in tactical fights to complete their quests.

2) A game that requires careful planning and tactics to achieve victory, often from a godlike perspective over the game world.

3) A game whose main focus is combat involving guns or other projectile weapons such as missiles.

---

Both the reading and the activities have been taken from the British Council website: <https://learnenglishteens.britishcouncil.org/skills/reading-skills-practice/video-games-are-good-you> (last visited: 06/06/16).
4) A game that involves travelling and jumping across platforms, often with obstacles and other elements like ladders.

5) A game that focuses on one-on-one combat against an opponent.

6) A game in which the player races against opponents in some type of transportation.

For years video games have been criticised for making people more antisocial, overweight or depressed. But now researchers are finding that games can actually change us for the better and improve both our body and mind.

Games can help to develop physical skills. Pre-school children who played interactive games such as the ones available on Wii have been shown to have improved motor skills, for example they can kick, catch and throw a ball better than children who don’t play video games. A study of surgeons who do microsurgery in Boston found that those who played video games were 27 per cent faster and made 37 per cent fewer errors than those who didn’t. Vision is also improved, particularly telling the difference between shades of grey. This is useful for driving at night, piloting a plane or reading X-rays.

Games also benefit a variety of brain functions, including decision-making. People who play action-based games make decisions 25 per cent faster than others and are no less accurate, according to one study. It was also found that the best gamers can make choices and act on them up to six times a second, four times faster than most people. In another study by researchers from the University of Rochester in New York, experienced gamers were shown to be able to pay attention to more than six things at once without getting confused, compared with the four that most people can normally keep in mind. Additionally, video games can also reduce gender differences. Scientists have found that women who play games are better able to mentally manipulate 3D objects.

There is also evidence that gaming can help with psychological problems. At the University of Auckland in New Zealand, researchers asked 94 young people diagnosed with depression to play a 3D fantasy game called SPAX and in many cases, the game reduced symptoms of depression more than conventional treatment. Another research team at Oxford University found that playing Tetris shortly after exposure to something very upsetting – in the experiment, a film of traumatic scenes of injury and death was used – can actually prevent people having disturbing flashbacks.

The effects are not always so positive, however. Indiana University researchers carried out brain scans on young men and found evidence that violent games can alter brain function after as little as a week of play, affecting regions in the brain associated with emotional control and causing more aggressive behaviour in the player. But Daphne Bavelier, one of the most experienced researchers in the field, says that the violent action games that often worry parents most may actually have the strongest beneficial effect on the brain. In the future, we may see many treatments for physical and neurological problems which incorporate the playing of video games.
After reading the text out loud and commenting on vocabulary with the teacher, the students will do the following comprehension activities:

- **Choose the correct option to complete the sentences:**

  1) Only relatively recently have people started to realise ___.
     a. the harmful effects of video games
     b. the beneficial effects of video games
     c. how much we don’t know about video games’ effects
     d. how much video games affect the people that play them

  2) Very young children show improved ___ after playing video games.
     a. muscle control and co-ordination
     b. social interaction
     c. decision-making
     d. ability to differentiate between different colours

  3) Playing video games helps doctors ___.
     a. do operations and read X-rays
     b. make decisions under pressure
     c. operate complex equipment
     d. tend to more than one patient at a time

  4) Video gamers' decision-making speed is significantly improved by ___.
     a. years of gaming experience
     b. long periods of game playing
     c. playing video games in short bursts
     d. certain types of video games

  5) Women who play video games demonstrate ___.
     a. faster reactions speeds
     b. reduced stress levels
     c. better spatial awareness
     d. better multitasking ability

  6) In one research study, the video game Tetris helped people to ___.
     a. improve their concentration
     b. overcome depression
     c. forget disturbing experiences
     d. make decisions faster
7) Research shows that violent video games ___.
   a. have no negative effects on players
   b. only affects players’ brains after extended hours of play
   c. may have positive and negative effects on the brain
   d. only affect players’ brains in beneficial ways

8) In the future, computer games may be used for ___.
   a. treating a variety of medical problems
   b. training doctors to deal with emotional pressure
   c. helping parents to deal with difficult teenagers
   d. treating prisoners with a history of violent behaviour

o Fill the gaps with the correct word from the box:

<table>
<thead>
<tr>
<th>field</th>
<th>behaviour</th>
<th>errors</th>
<th>shades</th>
<th>difference</th>
<th>scans</th>
<th>attention</th>
<th>skills</th>
<th>decisions</th>
</tr>
</thead>
</table>

1) Playing video games improves the speed at which people can make _____.

2) Video gamers also demonstrate an improved ability to pay ____ to several things at once.

3) Pre-school children who play video games have been shown to have improved motor _____.

4) Playing video games also has a beneficial effect on vision, increasing players’ ability to tell the ____ between varying ____ of grey.

5) Surgeons who play computer games work faster and make fewer _____.

6) Researchers from Indiana University investigated the effects of violent video games by doing some brain ____ on video gamers.

7) Their research showed that violent video games affect emotional control and may cause more aggressive _____.

8) Daphne Bavelier is one of the most experienced researchers in her _____.
- **Video game: Ultrastar (optional)**

*Ultrastar* is a PC music video game in which the player/s sing/s –either solo or in couples– any song that you have previously downloaded from the internet. The last 10-15 minutes of the lesson will be devoted to play it.

However, we think that students should not be obliged to sing if they do not want (usually because of shyness). While other teachers might do so –they have the right–, we will not force any student. The activity is proposed to make the lesson more pleasant, not to give students a bad time. If any student wishes to sing, these 10-15 minutes will be devoted to simply listening to the songs (and, if they are finally driven, they could sing altogether).

❖ **Session 2**

- **Revision of present modal verbs.**

  o Brief theoretical explanation conducted by the teacher: *have to, can, must, could, may, might, should and ought to.*

  o Grammar activity: fill in the gaps with the correct form of the present modal verbs we have revised. More than one option could be correct.

    1) You ____ jump across the bridge or you’ll have to restart the whole game again.
2) Your character ____ wield that weapon yet, you need to level him up.
3) You ____ visit the capital of the kingdom to buy new equipment. It’s just an advice.
4) Lena ____ to play so many video games. The doctor has recommended her to give her eyes a break.
5) The seller ____ get angry at you if you leave without buying anything.
6) We ____ to finish this quest first. Otherwise, we won’t be able to continue.

- Past modal verbs:

  o Inductive and deductive explanation. Sentences to infer (i.e. deduce from the context):
    - She could have won the match, but she didn’t have enough confidence.
    - John must have trained. He is almost unbeatable now.
    - You shouldn’t have purchased that armor. It barely protects your hero.
    - There is a rumor that Sony might have developed a new video game console.
    - You may have beaten me this time, but I will come back stronger than ever.

Once students have tried to deduce the meaning and use of past modal verbs and the teacher has explained it to the whole class, they will put their knowledge into practice with the following exercises.

  o Complete the following sentences with a modal verb + have/has, in affirmative or negative, and the participle form of the verbs in brackets. More than one option is possible.

1) You ________ (practice) a lot. I can’t beat you now.
2) Maria ________ (stay) playing video games at home. Everyone missed her at the party.
3) The designers ________ (include) dialogues between the characters of the game. They are quite boring.
4) They ________ (win) this assault, but not the war.
5) Your wizard ________ (escape) from battle, but you opted for immolating him in battle instead.
Complete the text with the correct form of past modal verbs using the verb in brackets. More than one option might be possible.

When Alf realized that he ________ (save) the entire kingdom from the dwarfs’ invasion, he ________ (avoid) regretting it. To achieve so, he ________ (defeat) all the waves of enemies, but he ________ (move) a single muscle of his body. Although his friends tried to cheer him up, he knew that he ________ (be) braver. However, one thing is clear: Alf ________ (lose) this battle, but he will train hard to take back the kingdom that he ________ (never lose).

Fill in the gaps with past modal verbs. More than one option is possible.

1) I am sure the legendary warrior was here. There is a trail of blood all over the forest.
   The legendary warrior ________ been here.
2) Someone told me that an elf called Sigur visited the sea yesterday, but I saw him here so he ________ been in the sea.
3) Where is my uncle? He was going to bring me a new video game.
   I don’t know, he ________ missed the train.
4) I was supposed to bring a video game for my nephew, but I don’t have it. I ________ forgotten something so important for him.
5) Her mother accidentally broke her new video games console. She ________ been very angry with her.

In case students finish the activities soon and there is still time after correcting them, the teacher might reward them with a Jeopardy game (see next session).

Session 3

List of useful words to be used during the video game:
+ Adverbs: upside-down, backwards, right, left, up, down, straight.
+ Nouns: top, bottom, colored strip, lit indicator, label, tail, vowel, column, line, position, dot, dash, symbol, square, circle, triangle, labyrinth, radio frequency.

(Any other words that may be necessary to play the game will be taught on the go)
- **Pre-task**: instructions on how to play *Keep Talking and Nobody Explodes*.

Students will watch the first five minutes of a video (see video “Keep Talking and Nobody Explodes” within the DVD) so as to learn the basics of the game. Meanwhile, the teacher will freely stop the video to comment on any words or aspects that he may consider relevant. The video lasts more than thirty minutes, so students can watch the rest at home if they feel like to.

Afterwards, students will form groups of 4-6 people, and each group will be assigned a module on how to defuse the bomb. These are the instructions for one of the modules:

<table>
<thead>
<tr>
<th>On the Subject of Wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wires are the lifeline of electronic devices, electricity is the lifeline. Wires are like the arteries. The veins? No, arteries...</td>
</tr>
<tr>
<td>- A wire module can have 3-9 wires on it.</td>
</tr>
<tr>
<td>- Only the one correct wire needs to be cut to disarm the module.</td>
</tr>
<tr>
<td>- Wire ordering begins with the first on the top.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3 wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>If there are no red wires, cut the second wire. Otherwise, if the last wire is white, cut the last wire. Otherwise, if there is more than one blue wire, cut the last blue wire. Otherwise, cut the last wire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4 wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>If there are more than one red wire and the last digit of the serial number is odd, cut the last red wire. Otherwise, if the last wire is yellow and there are no red wires, cut the first wire. Otherwise, if there is exactly one blue wire, cut the first wire. Otherwise, if there is more than one yellow wire, cut the last wire. Otherwise, cut the second wire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5 wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the last wire is black and the last digit of the serial number is odd, cut the fourth wire. Otherwise, if there is exactly one red wire and there is more than one yellow wire, cut the first wire. Otherwise, if there are no black wires, cut the second wire. Otherwise, cut the first wire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6 wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>If there are no yellow wires and the last digit of the serial number is odd, cut the third wire. Otherwise, if there is exactly one yellow wire and there is more than one white wire, cut the fourth wire. Otherwise, if there are no red wires, cut the last wire. Otherwise, cut the fourth wire.</td>
</tr>
</tbody>
</table>

31. *Keep Talking and Nobody Explodes* manual\(^{27}\) (p. 5).

---

- **Task**: playing *Keep Talking and Nobody Explodes*.

In essence, one of the groups has to defuse a bomb by describing the other groups what they see in a series of different modules, which appear in the bomb on the screen. This is an example of a basic bomb (easy difficulty) containing three modules:

![Bomb Image](image_url)

32. *Keep Talking and Nobody Explodes* (Steel Crate Games, 2015).

In turn, the other groups are assigned their corresponding ‘manual of deactivation’, where the instructions on how to proceed with each module of the bomb are included. The groups with the manuals have to tell the deactivators how to defuse the bomb. Thus, both the group of deactivators and the experts in defusing have to interact with each other to defuse the bomb: the former have to describe orally what they see, and the latter listen to what their partners say in English and tell them what to do in order to accomplish the mission.

The video game involves reading (instructions of each module), speaking, listening and, what is more important, interaction and cooperation to succeed. Although the mechanics of the game may not be easy to understand at first –mainly because the game is best learnt while playing, rather than taught out of context–, students are likely to have a good time while using English in a real gaming situation (see section “4. Results of the implementation”). The teacher will also rotate the groups after each game, in such a way that all students play both roles: the deactivators’ and the experts’ with the manuals.

Depending on how students manage to defuse the bomb, the level of difficulty could be raised by the teacher, thus coping with a higher number of more difficult modules.

- **Video game**: *Jeopardy*.

Taking advantage of the already formed groups, the last minutes of the classroom will be devoted to play another game: *Jeopardy*. 
The game basically consists in forming groups (no matter how many students in each, as the game is adaptable to any number) to answers questions per turns. Each group is asked to choose a category of questions with its corresponding score (from 100 to 500 points); the more points bet, the more points that team receives if they get the answer right (if they get it wrong, they lose that same number of points). In this case, the five categories of questions are logically related to video games: “Video Game Companies”, “Video Games”, “Invention of Video Games”, “Most Popular Games” and “Future of Video Games”. It would not be a mistake to define Jeopardy as a game about video games.

The brevity of each game makes of Jeopardy a suitable option not only for this lesson in particular, but for any other moment in which there are 10-15 minutes free. Needless to say, the version of the game can be chosen among a large variety of different topics: school, food, animals, furniture... Depending on the type of question, students may gain in vocabulary, reading, listening and speaking.

_session 4_

- **Pronunciation exercise.**

Students will listen to the pronunciation of the words in the table below. Right after, they will repeat them, either individually or at class level.

---

28 Image taken from the online game, available in: <https://jeopardylabs.com/play/video-game-jeopardy51> (last visited: 03/06/16)
- **Listening**: “Why People Think Video Games Are Just For Boys” (video included within the DVD).

Students will watch the video twice, while completing the following two exercises. Then, they will watch the video for a third time so as to check their answers. The teacher will pause the listening when it is convenient.

**o Fill in the gap with the correct word (only one word is needed).**

1) Early video games, like *Pong*, were totally ____.
2) Everything changed thanks to the video game ____ of 1983.
3) Nintendo had to choose the side. They went with boys, and then they marketed to those boys ____.
4) And after decades of this kind of advertising, we now think of video games as being the exclusive ____ of the male sex.
5) ‘Games are games, Jake. All that means is that ____ consoles, like PS4 and Xbox One, are refusing to serve huge untapped market’.

**o Answer the following questions.**

1) Who was Roberta Williams?
2) Why did the 1983 video games crash take place?
3) Which has been called “one of the worst games of all times?”
4) According to Adam, why shouldn’t video games be understood as ‘only for males’?
- **Pre-task**: how to write a review on video games.

Students will have to write a 120-150 words review about a video game of their choice: for consoles, computer, mobile phones... They can surpass the limit of words, but they should not be too short. In this step, they will learn how to do it.

- **Students will first read the following review as an example:**

  Review on *Child of Light*[^29]

  **Introduction**
  All is not well in the kingdom of Lemuria. Darkness has befallen the land, and it’s up to Aurora to take a stand. (...) You play as red-haired heroine Aurora in *Child of Light*, a platformer and RPG that opens up when she gains the power of flight.

  **Audio**: 90
  There’s no voice work beyond the narration at the occasional juncture, but the orchestral music is memorable, into your subconscious it’ll puncture.

  **Visuals**: 80
  Deftly hand-drawn using the *Rayman* UbiArt engine, the watercolour style is certainly worthy of mention.

  **Playability**: 85
  Playing *Child of Light* is impossible to hate; exploring, battling and its straightforward RPG systems are genuinely great.

  **Delivery**: 75
  You’ll be playing *Child of Light* for a fair few hours, upgrading your skills and magical powers. Beyond the eight or so hours of story, side quests and exploration, you’ll find little reason to revisit the Lemurian nation.

  **Summary**: 80 (Great)
  Ubisoft Montreal has conjured a fairy tale world that you’ll enjoy spending time in, a wondrous RPG adventure with its own line in rhyming.

- **Final task**: writing the review.

  The teacher will ask students to observe the formal structure of the review above, while clarifying them what to write in each section:

  - Introduction: brief commentary on the plot of the video game analyzed.
  - Audio: music, quality and variety of the sounds, if it is dubbed or not…
  - Visuals: colors of the images and cut scenes, type of graphical design…
  - Playability: gameplay options and control of the character, degree of amusement and difficulty to beat the game, etcetera.
  - Delivery: total duration of the video game in hours.
  - Summary: succinct conclusion on the game bearing all the previous aspects in mind.

  Then, students will have 20-25 minutes to start writing their reviews, which they will finish at home before giving them to teacher. They are, therefore, allowed to consult dictionaries and online resources.

3.13. **Evaluation tools**

Students will be evaluated according to the following percentages:

- **Written exam**: 60%
  - Grammar: 20%
  - Reading: 15%
  - Vocabulary: 15%
  - Listening: 10%

- **Final task (writing)**: 25%
  - Evaluated in terms of:
    - Structure of the review
    - Grammatical richness and correction
    - Lexical variety

- **Attendance and participation**: 15%

The following graphic summarizes these percentages in a visual way.
4. Results of the implementation

As remarked in the introduction, this MD is intended to “prove the pedagogical validity of video games through the partial implementation of the didactic unit planned” (p. 7). To this end, I have organized different lessons in which the video games included within the didactic unit—*Keep Talking and Nobody Explodes*, *Ultrastar* and *Jeopardy*—have been implemented in a real classroom context. Once again, I must express my gratitude for my tutor during my teaching internship at I.E.S. Santa Catalina de Alejandría (Jaén), Ms. Rosa Anguita, who gave both my partner—Jesús Bravo—and me the opportunity to conduct these lessons and to put the aforementioned video games into practice.

I have limited myself to test the core parts of the unit (i.e. the three video games). The rest of the didactic unit has not been implemented because 1) the options of doing so were logically restricted by my teaching possibilities; and 2) most importantly, the rest of the contents in the didactic unit would anyway prove nothing about video games being valid as teaching aids or not. Some teachers might—wrongly—believe that the mere fact of including curricular elements related to video games (e.g. a reading, a listening or a speaking about video games) does indeed mean implementing video games as educational tools. Nothing further from the truth, we understand such practice as simple interdisciplinarity: the potentiality of English—both as a subject and, obviously, as a language—to deal with various topics, among which video games are one more of them. Again, there is a significant difference between bringing a film for students to watch it in the classroom and simply making them discuss about cinema in English. The latter is probably a pretext for interacting in English, while the former

---

30 As already commented, I implemented the video games during my internship as a practice teacher. Because of this, and though my tutor gave me total freedom during the lessons, I was logically more restricted in this sense than if I were an actual remunerated teacher.
does represent the implementation of the discipline (cinema, video games) in an educational context.

This being the case, we have considered that playing video games with students—always with the purpose of teaching English, evidently—and perhaps the only way of proving the validity of video games as teaching resources. The implementation has taken place in levels other than the 1º year of NCSE. Particularly, the results dissected below correspond to the 1º, the 2º and the 3º year of compulsory secondary education (CSE). Far from being a problem, this situation has even represented an advantage: as we mentioned in the introduction (p. 6), video games possess a chameleon-like property that makes them adaptable to almost any level of English. A better or worse implementation depends rather on the specific group of students, independently of their age, level or course. In this way, the adaptation to the 1º year of NCSE can be carried out by simply increasing the level of difficulty, in the case of Jeopardy and Keep Talking and Nobody Explodes; and by selecting songs that are richer in terms of idiomatic language and pronunciation, in the case of Ultrastar.

Concerning the type of information gathered, we must say that the data collected is mostly qualitative. This implies that we have mainly considered non-quantifiable information, such as the students’ degree of involvement in the activity, their personal post-lesson impressions and their efficiency when doing the task. More particularly, this is the case of the implementation of Jeopardy and Ultrastar, which will be briefly analyzed at the end of this section.

Nonetheless, as already remarked, I have also conducted a baseline survey of students after implementing Keep Talking and Nobody Explodes in the previous lesson. In this case, the data will be quantified by means of figures and basic percentages, obtained from the students’ answers to the five questions in the questionnaire. We indeed consider that this part of the research is one of the most significant evidences proving the validity of video games as teaching aids. All the polls have been scanned and included within the DVD (see folder “Surveys”). The survey was completely anonymous, though two students did write their names (probably by mistake).

Since the mechanics of the video games implemented has already been clarified in the development of the didactic unit (see point “3.12. Lesson plan: materials”), we will limit ourselves to analyze the data gathered. In order to make the comprehension of the data easier, we will opt for writing most of the figures with numbers, rather than with letters.
Implementation of *Keep Talking and Nobody Explodes* in 2º year of CSE

As we have polled the students of this group, we will take the survey as a corpus from which conclusions about the teaching validity of the video game can be extracted. The poll was written in English and included the following five questions:

1) Did you know the game before playing?
2) Did you enjoy the activity? Why / Why not?
3) Was it difficult to play the game in English?
4) Did you learn anything new? What?
5) Would you change anything? What?

This 2º year of CSE group was a bilingual one, with a very good general level of English. There were 28 eight students in the classroom, though two of them did not fill the poll: one was missing and the other became ill and had to leave. Since we are only interested in students’ opinions, we will not take any possible grammatical mistake into consideration. In case of grammar problems, we will simply consider what they intended to mean. Their answers are dissected below in quantitative terms.

1) “Did you know the game before playing?”
   - ‘Yes’: 53.8% (14 students)
   - ‘No’: 46.2% (12 students)

   Surprisingly or not, 14 students asserted to know the game beforehand: more than a half of the students that filled the survey (almost a 54%). More specifically, 3 of them claimed to have watched the game on Youtube. This high percentage reflects the degree of knowledge that these students in particular have on modern technologies and video games.

2) “Did you enjoy the activity? Why / Why not?”
   - ‘Yes’: 92.3% (24 students)
   - ‘No’: 7.7% (2 students)

   24 students asserted to have enjoyed the activity. On the contrary, 2 students said they did not, alleging that “it was a little boring” and that his “group was always speaking” (though he “liked the game”), respectively. In general, most of them remarked that it was a “funny” and “different” activity, which broke their daily routine at high school. Some others also highlighted teamwork or, simply, their fondness for video games. Judging by the questionnaire and by my personal impression as a teacher, the activity was very well received by most of the students.
3) “Was it difficult to play the game in English?\(^{31}\)"
- ‘Yes’: 42.3% (11 students)
- ‘No’: 57.7% (15 students)

The percentage is quite similar in this case. Some of the students who did not find it difficult remarked the intuitiveness of the video game and the constant help of the teachers to make it easier. On the other hand, some of the students who found it hard recognized that they did not understand it well and that it would have been easier for them to play in Spanish. More curiously, one student wrote that it was difficult to play in English “because you are under pressure\(^ {32}\)”. Obviously enough, this student meant that the game was quite demanding per se (remember, the players must defuse a bomb by giving instructions to each other in English), in such a way that playing in English could slow down their pace when cooperating. All the answers to this question are logically symptomatic of each student’s command of the language, as well as of their degree of confidence when interacting in English.

4) Did you learn anything new? What?
- ‘Yes’: 84.6% (22 students)
- ‘No’: 15.4% (4 students)

The majority of students answered ‘Yes’, whereas only 4 students stated that they learnt nothing. Most of those who did learn coincided in the same contents: vocabulary. Many of them were indeed able to mention some of the words that we taught them during the lesson: wire, upside-down, backwards, release, keypad, lying down, otherwise, defuse… Some other students remarked that they had learnt to cooperate with their friends or, simply, to communicate better in English. Two students were also ironic when affirming that they now knew how to defuse a bomb (in reference to the main goal of the video game).

5) Would you change anything? What?
- ‘Yes’: 19.2% (5 students)
- ‘No’: 80.8% (21 students)

Most of the students expressed their satisfaction with the activity and said that they would not change anything. On the contrary, there were 5 students who would make some changes; not by chance, they refer to the same aspect: the organization and the number of people in each group. Certainly, I very much appreciate their constructive criticism, because the organization was indeed one of the most difficult elements we had to cope with.

\(^{31}\) In those cases where students did not give a ‘Yes/No’ answer, but responded with expressions such as “not so much” or “a little”, we have counted their answers as the more close to ‘Yes’ or ‘No’. In this way, “not so much” means ‘No’ and “a little” or “so so” means ‘Yes’.

\(^{32}\) “Pression”, in the original.
In a different question, there was also one student who said that he or she did not know how to play at the beginning. Although this was an isolated case and almost the whole class knew how to act and enjoyed the activity, it is no less true that organizing it entirely is a quite demanding task for the teacher conducting the lesson. My personal impressions as their teacher (i.e. the qualitative information) was indeed very positive: these lessons offer evident proof of the teaching validity of video games. However, I also concluded that the activity must be very well-planned beforehand, as the situation breaks the daily routine and could derive in chaos if the teacher gets overwhelmed.

**Implementation of Jeopardy in 1º year of CSE and PMAR (3º year of CSE)**

*Jeopardy* has been implemented in two different levels, 1º ESO and PMAR (similar to diversification, in 3º ESO). In both courses, the results obtained have been very positive. As I did not poll students in this case, the information provided below—a brief reflection on the implementation—must be taken as completely qualitative.

Although we have suggested a video game version of *Jeopardy* in the didactic unit, I carried out this implementation with the normal version of the game: food, clothes, animals and school objects. This is simply due to these students lacking the necessary background on video games (the one that we have proposed in the lesson plan as basic knowledge on the subject); without having taught anything about video games, we considered that they were unlikely to answer certain questions about video games correctly. In any case, this variation only implies that *Jeopardy* has been implemented as a video game dealing with clothes, animals and school objects, instead of with video games.

In the case of the 1º year of CSE group, students—still children, rather than adolescents—felt motivated from the very beginning of the activity, when we let them make up groups of approximately five persons. It was a fact that they enjoyed competing in a friendly way with the other groups, their degree of implication thus being very high. Most importantly, they could put the vocabulary they had learnt throughout the whole course into practice, by telling the word that corresponded with the image on the screen: fish, strawberry, heels, corridor, skirt, cheetah, sharpener, scissors... They got most of the pictures right, as their level of English was very good overall (they were also a bilingual group) and they could ponder on the decision at team level. Besides, the digital blackboard made the activity much more attractive for students, at the same time it facilitated the task of the teacher.

With regard to the implementation in the PMAR group (3º year of CSE), the results were markedly positive as well, though the context was obviously different because of the lower level of the students. While these students (six females) were frequently unmotivated and unwilling to study, they showed a great level of activation during this
lesson; it was definitely the novelty of playing a video game and the healthy competition embedded within the activity that caused such a level of interest. Since the level of difficulty is adaptable, as we have already mentioned, students ended up realizing that they knew more than what they initially thought. They even asked us why we had not played before (evidently, the teacher must know the moment for doing these activities because they cannot be done every day, not even every week).

*Jeopardy* has proved to be a very advisable option to implement video games in the classroom due to its intuitiveness and easily understandable gameplay. More importantly, it allows the teacher to revise vocabulary and teach new words in a ludic and enjoyable way. My placement tutor during the internship also had a very positive impression of the video game, and assured that she will make use of it from now onwards.

**Implementation of Ultrastar in PMAR (3º year of CSE)**

Unlike the previous implementations of *Keep Talking and Nobody Explodes* and *Jeopardy*, *Ultrastar* has been put into practice throughout different sessions. Since the proposal was so well received by most of PMAR students, my partner and I decided to satisfy their request and give them the opportunity to sing in English every now and again, during the last 10-15 of the sessions.

As the reader can imagine, they felt completely reluctant to play *Ultrastar* at the beginning, as they did not want to sing in front of their partners. Nevertheless, most of them ended up feeling driven to do it. Although their level was low in general, the fact of doing something different motivated them. Only two students (out of seven who came in different days) refused to sing completely. Since, as already stated in the didactic unit, we understand that students should not be obliged to sing unwillingly, we let them stay at their seats while listening to the songs as if it were a listening practice.

The truth is that, despite their limitations in English, they showed good will to, at least, reproduce the sounds as they appeared on the screen. In some cases we selected some songs ourselves (such as “We Are the Champions”, by Queen), whereas in others we let them decide among a list of songs in English. Very occasionally, we also let them sing some of their favorite songs in Spanish, as a kind of reward when the lesson had been particularly demanding or too grammar-based.

All in all, we can affirm that the systematic implementation of *Ultrastar* in this group has also proved its validity as a teaching aid for the English classroom. Instead of using a cassette, *Ultrastar* offers the possibility of singing as the lyrics appear on the screen. Besides, the fact of using microphones to play and receiving a score at the end of each game gives a sensation of entertainment and leisure while learning that is
difficult to achieve with any other system. If we want students to put their English into practice by singing, *Ultrastar* is one of the most credible by means options among video games.

5. Conclusions

In the introduction of this MD two main objectives were set:

- To prove the pedagogical validity of video games through the partial implementation of the didactic unit planned.

- To foster the use of video games as a teaching aid for the English classroom.

In view of the results obtained, we can conclude that both objectives have been fully met.

Although further research in this field is still needed, we believe that this work has proven not only the pedagogical validity of video games, but also their suitability to be used as teaching aids whenever the teacher deems it appropriate. Video games will not always be a convenient educational resource—as any tool is—, but they may be ideal to teach certain contents with a higher degree of effectiveness and involvement on the part of students. Far from lacking professional rigor, the teacher who knows when and how to use video games in the classroom can be considered as a committed and motivating professional, to whom students are much more likely to listen and follow. Evidently enough, working with video games in the classroom is not a requisite whatsoever to be a good teacher, but just another way of increasing the quality of the lessons.

In parallel, we have proposed a feasible didactic unit to fulfil our second objective: to promote the implementation of video games in the classroom (both in English and in any other subject). In this sense, it is of vital importance that the lesson plan is consistent not only with the area of application—secondary education—, but also with the sector from which the teaching aid is taken: the video games sector.

As reiterated throughout this work, video games are part of a self-sustaining industry that exists independently of the educational sphere. It is the teaching world that should adapt to the specificities of video games when their use in the classroom is deemed relevant, by means of qualified teachers who truly know the didactic potential of video games. In this regard, the theoretical framework of this MD compiles the basic information that any teacher using video games in the classroom ought to bear in mind when planning the lesson.

In reverse, trying to impose educational values on video games for them to be didactic is, as we see it, a mistake which might compromise both video games and
education itself. As remarked in the introduction, we consider it essential to know that video games are not meant to be educational; they simply can be used to teach. This maxim is only non-applicable to the so-called ‘educational’ video games, which are indeed designed and conceived with the sole purpose of educating the player (in driving, running a company or learning English).

However, as stated in point 2.2.5 (“The ethics of video games”), this work was not intended to prove the validity of the so-categorized ‘educational’ video games, since the pedagogical value of these games is already taken for granted. Instead, we have implemented two out of three video games that no one sensible enough could classify as educational: Ultrastar is a music video game and Keep Talking and Nobody Explodes is related to strategy and puzzle-solving. In both cases, as analyzed in “Results of the implementation”, the video games selected worked as perfectly valid educational tools.

This MD has, therefore, fostered video games through both the aforementioned implementations in real classroom contexts and through the didactic unit designed in section 3. In this last case, we consider that the lesson plan proposed fits perfectly within both the legal stipulations and the teaching requirements of any other English unit. In other words, it could be fully implemented with positive results on the students’ process of learning. Yet, these results will not depend exclusively on the contents themselves, but they will be subject to factors such as the level of students, their degree of motivation and, most remarkably, the teacher’s capability for transmitting such knowledge.

In short, we have tried to prove that video games can be a very useful teaching aid among a large list of exploitable pedagogical resources. If any, the stigma on video games must be removed; it is the teacher that has the responsibility of making a good use of them. Video games are not the best nor the worst option to teach, but simply another possibility with which teachers can count when the conditions in the classroom are appropriate to work with them. Teaching English –and any other subject– with video games obviously requires a larger effort on the part of the teacher, who must have perfectly planned the activity beforehand and has to monitor a session in which he is not the center of attention any longer. Nonetheless, the fact of breaking with the routine and learning in a ludic way will not go unnoticed for students, who will appreciate their teacher’s dedication in a way or another.
6. References


Online resources:
- British Council (s.f.). “Video games are good for you!”. Available in: https://learnenglishstudents.britishcouncil.org/skills/reading-skills-practice/video-games-are-good-you (last visited: 06/06/16).


**Others:**

- Royal Decree 1105/2014, of December 26th (BOE number 3 of January, 3rd).


Appendix 1: an image extracted from a recent English textbook which includes video games as a part of its unit.

Appendix 2: a marble machine.

Taken from: <https://i.ytimg.com/vi/rh7FlvXyMI8/maxresdefault.jpg> (last visited: 17/05/16).

Appendix 3: Odyssey, the first domestic video games console.

Taken from: <https://qph.is.quoracdn.net/main-qimg-c08e65bae28cae5cb002db3dda94b108?convert_to_webp=true> (last visited: 17/05/16).
Appendix 4: front page of one of the specialized magazines in video games, *Hobby Consolas*.

Taken from: <http://www.hobbyconsolas.com/sites/default/files/resize/users/Javier%20Abad/hc292_01-428x600.jpg> (last visited: 19/05/16).

Appendix 5: *After Burner Climax* (SEGA, 2006)

Taken from: http://d2x7js8mtamps9.cloudfront.net/f-15e_st01_02.jpg (last visited: 08/06/16).
Appendix 6: steering wheel designed for the video game Gran Turismo 6.

Taken from: <http://www.playseat.com/page_content_files/gran-turismo-6-seat.jpg> (last visited: 22/05/16).

Appendix 7: specific guitar for the video game Guitar Hero: Metallica.

Taken from: <http://blogocio.eleconomista.es/imagenes/guitar-hero-metallica-playstation-3_21433-1.jpg> (last visited: 22/05/16).

Appendix 8: PlayStation VR, the first Virtual Reality (VR) device invented.

Taken from: <http://www.mediatrends.es/wp-content/uploads/2016/03/sony_playstation_vr_morpheus_2.jpg> (last visited: 22/05/16).

Appendix 10: a player enjoying Arcade Land (Koth Studios, 2016).

Taken from: <http://www.alfabetajuega.com/multimedia/imagenes/201604/144751.alfabetajuega-arcade-land-6-150416.jpg> (last visited: 25/05/16).
8. Links to the videos included within the DVD

The videos are ordered following their appearance in the body of the essay.

Last visited: 17/06/16

- **Tennis for Two**: <https://www.youtube.com/watch?v=6PG2mdU_i8k>
- **Journey**: <https://www.youtube.com/watch?v=mU3nNT4rcFg>
- **BioShock Infinite**: <https://www.youtube.com/watch?v=IhCwn8QQGVI>
- **Game of Thrones**: <https://www.youtube.com/watch?v=-okR4bKsZfi>
- **Playstation VR**: <https://www.youtube.com/watch?v=cw6x80Qdzak>
- **Dante’s Inferno**: <https://www.youtube.com/watch?v=UUOZRU_Dyg>
- **Arcade Land**: <https://www.youtube.com/watch?v=1zuOvyK5E1o>
- **Dear Esther**: <https://www.youtube.com/watch?v=D7VJ4IP-05A>
- **Video Game History**: <https://www.youtube.com/watch?v=xt3ccmwN5ZU>
- **Keep Talking and Nobody Explodes**:  
  <https://www.youtube.com/watch?v=tP8xtU2RzSQ>
- **Why People Think Video Games Are Just For Boys**:  
  <https://www.youtube.com/watch?v=UlnrV06-YDQ>