The Educational Potential of Video Games: Its Evaluation Through a Rubric

El potencial educativo de los videojuegos: Su evaluación a través de una rúbrica

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ABSTRACT

Video games are a widespread leisure resource associated with entertainment, relaxation and escape through play. The research questions its educational potential. The aim of the study is to provide a rubric capable of evaluating the educational potential of any video game. There is no record of a comparable tool applicable to any video game. A qualitative and phenomenographic methodology was chosen. Forty-two interviews were conducted with teachers and experts from the video game industry. From the theoretical review and the analysis of the testimonies, we obtained as a result the ECV 5* ("Educational Classification of Video games 5*") tool. The most relevant conclusion was that the educational potential of a video game is evaluable and transferable information. Thus, the ECV 5* can serve as a reference for the design and consumption of the resource, as well as for a better discernment of how far a video game can go in the education of a person. Its practical intention is to provide the data of its educational value in an easy and intuitive way: from 0 to 5 stars. It could be a way for users, educators, companies and society in general to be more aware of the educational potential of any video game, for its design, use, purchase and sale, selection, etc.

RESUMEN

El videojuego es un recurso de ocio muy extendido asociado a entretenimiento, distensión y evasión mediante el juego. La investigación indaga sobre su potencial educativo. El objetivo del estudio es aportar una rúbrica capaz de evaluar la educatividad de cualquier videojuego. No se tiene constancia de una herramienta comparable aplicable a cualquier videojuego. Se optó por una metodología cualitativa y fenomenográfica. Se realizaron 40 entrevistas a maestros y a expertos de la industria del videojuego. De la revisión teórica y el análisis de los testimonios se obtuvo como resultado la herramienta CEV 5* («Clasificación Educativa de Videojuegos 5*»). La conclusión más relevante fue que el potencial educativo de un videojuego es una información evaluable y transferible a evaluadores de videojuegos, padres, profesores, usuarios, técnicos de la industria del videojuego y la sociedad en general. Así, el CEV 5* puede servir de referencia para el diseño y consumo del recurso, así como para un mayor discernimiento de hasta dónde puede un videojuego llegar en la educación de una persona. Su intención práctica es aportar el dato de su educatividad de un modo fácil e intuitivo: de 0 a 5 estrellas. Podría ser un modo de que usuarios, educadores, empresas y la sociedad en general puedan ser más conscientes del potencial formativo de cualquier videojuego, para su diseño, uso, compraventa, selección, etc.

1. Introduction and State of the Art

According to Aarseth (2007), video games are universal, as they are played by people of all ages and latitudes; AEVI (2020) and Newzoo (2022) understand them to be part of the culture of the West and the East. According to Newzoo (2022), the video game world includes 3,198,000,000,000 active players and moves more money globally than music and cinema combined, reaching 196.8 billion USD in 2022. It seems to be a consolidated social phenomenon (Piñeiro-Naval & Serra, 2021; Várallyai, Herdon, & Botos, 2015).

The video game is not only leisure: it is based on a practice where the player has fun and incentive (Gonzalez Tardon, 2010, 2014) and implies that the subject longs to play individually or in a group. For Darvasi (2016), video games are far from being a waste of time: their aesthetics and dynamics approach relevant topics, such as peace, conflicts or the simulation of situations. In addition, they reinforce decision-making skills, problem solving and emotional empathy. Studying communities of players, it was concluded that they could favor different personal and societal facets, besides improving performances in some tasks (Darvasi, 2016; Juul, 2019; Levis, 1997, 2003, 2008; Muriel & Crawford, 2018). For example, "Papers Please" (Pope, 2013) or "This War of Mine" (11 Bit Studios, 2014) show cruelty in conflicts where characters overcome bloody situations in war and barbarism. The experience allows us to value peace as a non-gratuitous good that is a prerequisite to improve life.

Video game research has been oriented towards information transmission, team building, skill development, experimentation, simulation, health, resource management and, above all, entertainment (Esnaola Horacek & Levis, 2022; Gee, 2003; Griffiths, 2002; Kent, 2001; Khasawneh et al., 2024; Sajeev et al., 2021; Sierra-Daza, Martín-del-Pozo, & Fernández-Sánchez, 2023). According to Ortiz-Clavijo and Cardona-Valencia (2022), quality scientific production (Scopus) in the 2010-2020 window is concentrated in Spain, the Netherlands and the USA of North America, with few effective or applied proposals.

For Gonzalez Tardon (2010, 2014) and Pérez-Latorre (2012a, 2012b), the video game is a literacy medium against the digital divide. Several authors understand that video games develop skills related to the use of ICT and improve disciplinary learning (Language, Arts, Mathematics and Science) (Basak et al., 2008; García, 2009; Gee, 2003; Gogost, 2007; Squire, 2003, 2011). The report by Balanguer-Prestes (2009) points out that through the video game the player gains access to other people's experiences, which they internalize as their own. For example, in "The Legend of Zelda: Breath of the Wild" (Nintendo, 2017) or " Brother: A Tale of Two Sons" (505 Games, 2013) the player faces situations of survival, loss of loved ones, memories, amnesia, etc. to which they must respond.

The video game enhances the person's imagination, productivity and performance from its thematic breadth and narrative creation (Bediou et al., 2023; Green & Bavelier, 2015; Janrosl et al., 2023). Fiction allows one to be and not to be in a place, to be and not to be a character at the same time, in varied situations and with diverse masks (Blay, 2006), which can bring a certain self-knowledge, by evidencing who one essentially is not, as in everyday life. In "Every Day The Same Dream" (Pedercini, 2009) the player has to save a life to complete the video game, but not before realizing that we live with an identity conditioned by routine, money, consumerism and falsehood. There are video games that unite the game and the external reality. For example, in "Nintendo Labo" (Nintendo, 2018) the player plays with kits of cardboard, rubber bands and other previously prepared materials. Thus, the operation of the kits with which you can build a piano, a robot, a fishing rod or a car is understood, so that the player values their creations and has experiences outside the video game console. Some video games associate adverse effects, which can lead to suggestible users or with predisposition to break with reality, to an abusive and dependent use of the game, etc. (Bhatti et al., 2022; Mandryk & Birk, 2017), Sometimes, users have to be treated for pathological gambling (American Psychiatric Publishing, 2014) associated with poor health, including anxiety, consumption of harmful substances, antisocial behaviors or depressive disorders.

A video game linked to education is oriented to personal and social improvement by valuing vicarious learning. Respect, tolerance or help are elements that encourage a life that includes the presence and care of the other (Buber, 1947). Like chess, a video game can be a training for life and help to complete useful skills for social and self-development. Formal education responds to quality standards focused on competencies (Argudín, 2007; Fernández-Berrocal, Cabello, & Gutiérrez-Cobo, 2017; Vidal et al., 2016). However, human complexity and ecosystemic understanding question competency-based education (Guzmán Marín, 2017; Jarunjaruphat, Silpcharu, & Wattanakomol, 2023). It is not a question wither

of adding to competencies the integration of disciplinary knowledge or the values proper to modern democratic societies. The "radical and inclusive approach" to education (de la Herrán Gascón, 2014) includes "radical areas" (fundamental, needed, but not demanded and not standardized) that can broaden and enrich the understanding of education and curricula. They may be desirable or rejectable. They differ from disciplinary or transversal ones in that they are essential for education, not demanded, hardly attended by supranational educational bodies, educational systems or Pedagogy/Educational Sciences, universal, perennial, etc. Since a video game can be educational, the research investigates the possibility of assessing its educational potential. The aim of the study is to provide a tool capable of evaluating the educational potential of any video game and to classify it according to this criterion.

2. Method
2.1. Approach
In order to respond to the objective, a study was designed with qualitative methodology (Bisquerra, 2016; McMillan & Schumacher, 2005; Ragin & Amoroso, 2018), of phenomenological cut (Creswell, 2014), specifically phenomenographic (Marton, 1986; Murillo, Hidalgo, & Martínez-Garrido, 2022, as it aimed to know various conceptions that people have of a phenomenon. It allows us to describe in detail what educators and video game experts think about the reasons for the educational value of the resource and, by extension, its negative effects.

2.2. Data collection Techniques
The technique for collecting information was the "focused interview" (Bisquerra, 2016) conducted with educators and experts in the video game industry. We wanted to know their assessment, as their experience and professionalism was estimated from different professional angles. This diversity provided value to what they understood that could make a video game educational or harmful for a user, especially if the user is a minor. The interviews were developed on two items: "What elements of a video game do you think can be educational?" and "What elements of a video game do you think can be harmful to a user or to their education, especially if they are a child or adolescent?"

2.3. Participants
The starting point was a broad conception of participants and members of the video game world, including parents, teachers and other professionals in the video game industry. The selection criteria applied to the participants responded to the criteria of Patton (2002) and Bisquerra (2016): accessibility and timeliness, sampling by logical criteria, snowball sampling, saturation and relevance. Profiles were sought through social networks and from contacts of people close to them, which allowed for a variety of professional fields and participants. Those who accepted received, within the normal process of research ethics, an information sheet and informed consent. Forty people were interviewed, 11 face-to-face and 29 online. All were experienced players between 12 and 30 years of age. Two groups were defined: 22 teachers and 20 video game industry professionals. Two participants, CEN1 and CN3, shared the dual status of teachers and directors of game centers and video game researchers. The selection criteria for teachers were: (1) minimum teaching experience of 4 years, and (2) familiarity with videogame-supported teaching. The selection criteria for video game professionals were: (1) specialized dedication (occupationally linked to video games) of 3 years or more, and (2) profiles directly related to video games or video game users. They were chosen because of the need for people with experience in the use of video games and in education, with the capacity to transmit knowledge to society. The interviewees are described in Table 1:

2.4. Development
In the interviews, the relevance of their participation, as "links" in the chain of the video game world, was appealed to. The objective was shared and the signed informed consent was verified. The research had a favorable report from the Ethics Committee of the coordinating university. The interviews were recorded for subsequent transcription and analysis. They lasted between 24 min and 1 h 16 min, with an average of 39 min. The Atlas Ti 9.1 program was used to organize and interpret the data. Forty

documents presenting the interviews were available. Two hermeneutic units and 15 codes, 11 deductive and 4 inductive, obtained through content analysis, were identified. Once the hermeneutic units were identified, codes were assigned to them interpretively, based on their underlying meaning. After coding the hermeneutic units, the coded segments were grouped into codes, representative of broader themes or concepts emerging from the segments. Through an iterative and reflective process, the data was revised and codes were adjusted as analytical and global understanding was consolidated. A total of 1082 segments were coded and grouped into 15 codes. The high number of segments was due to the high textual volume and to the fact that in the same quote the interviewee could allude to several contents at the same time. The codes and coded segments were subjected to revision, based on the interpretation of Braun and Clarke (2006) and Bisquerra (2016). Bisquerra's (2016) model was applied for data reduction and analysis. Table 2 presents the hermeneutic units, the codes, the number of coded segments, their percentage and the number of documents where they were coded. The deductive codes were 1 to 7, 10 and 13 to 15, and the inductive codes were 8, 9, 11 and 12:

Table 1: Interview Participants.					
Profession	Code Name	Age	Years Profession	Years of Teaching	Years Playing
Primary Education	PEP1	33		7	21
Primary Education	WBS2	27		5	15
Speech therapist	LOG1	28		4	23
Primary Education	PEP3	29		5	19
Primary Education	WBS4	30		6	21
Hearing and Speech	PAL1	34		8	22
Secondary Education	PES1	31		6	24
Primary Education	PEP5	29		5	16
Retired teacher	PEP6	68		40	28
Primary Education	PEP7	30		4	18
Primary Education	PEP8	31		5	24
Primary Education	PEP9	32		6	24
Primary Education	PEP10	33		9	22
Social Ed.	EDS1	38		15	29
Primary Education	PEP11	31		4	16
Primary Education	PEP12	30		5	21
Secondary Education	PES2	33		12	24
Primary Education	PEP13	37		13	25
Primary Education	PEP14	26		5	16
Primary Education	PEP15	27		4	14
Project manager	PM1	27	10		18
Software engineering	PR01	32	12		20
Clinical psychologist (addictions)	PSI1	29	5		21
Author of video game books	CRE1	29	8		18
Software engineering	PRO2	30	6		15
Content creator	CRE2	37	8		25
Commercial IT	MRK1	29	15		5
Public safety	SEG1	31	18		6
Teacher/Director of the recreation center and researcher	CEN1	38	19	15	18
Medical researcher	INV1	45	14		23
Professional leisure-tourism	MRK2	27	4		18
Primary Education	CEN2	24	5		16
Video game designer	CRE3	32	10		20
Content creator	CRE4	27	4		23
Content creator	CRE5	20	3		12
Physician and researcher	INV2	31	7		16
Software Engineer	PRO3	29	5		21
Teacher/Director of the recreation center and researcher	CN3	36	14	9	25
Project manager	MRK3	33	8		23
Content creator	CRE6	26	6		18

Table 2: Hermeneutic Units, Codes and Coded Segments.			
Hermeneutical Units	Codes	Coded Segments (%)	Documents
Elements of a video game that can be educational	1. Disciplinary knowledge	74 (6,83%)	19
	2. Key competencies	304 (28,09%)	42
	3. Instrumental competencies	319 (29,48%)	42
	4. Interpersonal skills	229 (21,16%)	40
	5. Systemic competencies	263 (24,30%)	42
	6. Cross-cutting areas	62 (5,73%)	8
	7. Desirable root areas	191 (17,65%)	35
	8. Education and diversity	551 (50,92%)	42
	9. Applied Consciousness	322 (29,75%)	37
	10. Trends	231 (21,34%)	32
	11. Induction	147 (13,58%)	32
	12. Education and video games	372 (34,37%)	42
Elements of a video game that can be harmful	13. Sensitive content	117 (10,81%)	12
	14. Undesirable radical areas	441 (29,66%)	42
	15. Excessive use	356 (32,9%)	40

3. Results

The results relate to two interdependent issues: the codes and indicators obtained and the CEV 5* tool. The objective of the first is to define the codes obtained in the interviews. The objective of the second is to validate the tool and make it ready for application.

3.1. The Codes

The codes with the highest saturation or number of segments were, in this order: "Radical undesirable domains", "Education and diversity", "Education and video games", "Excessive use", "Applied awareness" and "Instrumental competencies". The least saturated codes were: "Transversal domains" and "Disciplinary knowledge". The codes appearing in all the documents analyzed were: "Key competences", "Instrumental competences", "Systemic competences", "Education and diversity", "Education and video games" and "Radical undesirable domains", including "barbarism". Their importance for the participants can be deduced from this. The codes "Induction", "Education and video games" and "Excessive use" were not directly related to educational/perjurious elements of specific video games, but to the use or other issues related to the resource.

The codes are presented grouped in two hermeneutic units, corresponding to the open questions of the interviews: "Elements of a video game that can be educational" and "Elements of a video game that can be harmful". In each one, the codes are analyzed including, in each one, a clarification of their meaning, their indicators and illustrative testimonies. The meaning of each code was used as guiding information for the participants who validated the rubric:

a) Elements of a video game that can be educational:

- "Disciplinary knowledge": "Social Sciences are the closest to video games, due to their proximity to Art, Music, narratives or actions" (Cabañes & Rubio, 2011; Muriel & Crawford, 2018). Video games can include content from other disciplines. 19 interviewees and 74 segments (6.83%) referred to Humanities (Music, History, Philosophy, etc.), Arts (Drawing, Painting, Architecture, etc.), Social Sciences, Mathematics, Physical and Natural Sciences, etc.

Indicators: Art, Music, Literature (mythology, narrative, drama, etc.), Mathematics, Physics, Biology, Social Sciences, History, Prehistory, Paleontology, Anthropology, Philosophy.

Testimonials: PES2 says: "For my teenage audience, open-world games are the best. For kids, you can work on more basic things like orientation, counting, math, language.

- "Competencies. These are demonstrations of good performance in real contexts. In this field, the following subcodes are included: "Key competencies", "transversal competencies", "interpersonal competencies" and "systemic competencies", as they are considered complementary. Key competencies:

are defined as a combination of knowledge, skills and attitudes, where knowledge is composed of the facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject; skills are defined as the ability and capacity to carry out processes and use

the existing knowledge to achieve results; attitudes describe the disposition and mind-sets to act or react to ideas, persons or situations (European Commission, 2018).

Instrumental competencies serve as a means to an end. Interpersonal competencies aim at good social relations and interaction in groups, teams, for cooperation, etc. Systemic competencies refer to an application made from the understanding of a relative totality, system or whole. The majority of respondents and segments highlight the presence of competencies: 40 with 304 segments (28.09%) on key competencies; 40 with 319 segments (29.48%) on instrumental competencies; 40 with 229 segments (28.09%) on interpersonal competencies and 40 with 263 segments (24.30%) on systemic competencies.

Indicators of key competencies: linguistic communication competence (CCL), multilingual competence (CP), mathematics and science, technology and engineering (STEM), digital competence (CD), personal, social and learning to learn (CPSAA), citizenship (CC), entrepreneurship (CE), and cultural awareness and expression (CCEC).

Indicators of instrumental competencies: general culture, basic professional knowledge, oral-written communication in one's own/second language, ICT skills, analysis, synthesis, reflection, logic, analogy, criticism, creativity, complexity, organization, planning, information management, decision making, time management.

Indicators of interpersonal skills: respect (diversity), personal balance, listening, criticism, self-criticism and rectification, teamwork, collaborative, cooperative, trust in others, with experts, ethics (decency), healthy competition, adoption of examples, conflict resolution.

Indicators of systemic competencies: organization, relationship, research, adaptation, creativity, criticism, entrepreneurship, leadership, task delegation, self-motivation, autonomy, maturity, resilience, investment, project design and management, concern for quality.

Testimonials: the CEN2 teacher proposes a change in the educational model: "We must rethink the entire educational model towards more playful dynamics that, with resources such as video games, encourage critical thinking". The primary school educator PEP5 emphasizes: "Cooperative video games that are easy to apply in the classroom and that allow interaction from home. These tools are of great importance for students' learning". The INV2 doctor affirms that simulation video games: "They can serve as testbeds where there can make mistakes, which are teachings. They can serve as learning tools to reach the goal, which is the confrontation against oneself".

- "Transversal areas": They are developed from different areas of knowledge. They facilitate autonomy, socialization and dealing with others in professional, family or social contexts (Valle & Moya, 2020). It is the least cited code by only 8 interviewees and only in 62 segments (5.73%) they note its relevance. It is the least cited code, but not of less educational relevance.

Indicators: peace, health, consumption, equal opportunities, environment, sexual, non-sexist, multi/intercultural, moral-civic, road safety.

Testimonials: The director of a CEN1 recreational center values the resource that allows "Creating together and in peace video games with simple and free tools; encouraging multicultural coexistence and the analysis of the video games themselves, becoming creators and not just users". CRE5 emphasizes that: "In 'Call of Duty' many different cultures are taught".

- "Desirable radical areas": These are essential spaces for education, not in demand, universal, perennial, destined (de la Herrán Gascón & Herrero, 2022). Thirty-five participants responded with content assimilable to this code, with 191 segments (17.65%).

Indicators: consciousness, love, death-finitude, humanity, human evolution (inner), meditation, prenatal education, self-knowledge.

Testimonials: Professor PEP9 highlights humanity as content: "In 'Final Fantasy VII' the protagonist tries to save humanity from the plundering of the planet's resources and vital energy by a terrorist organization and helps the planet's population to start their journey".

- "Education and diversity": Refers to educational attention to all students/users. It is the most present and cited code. It is mentioned by 40 respondents, with 551 segments (50.92%).

Indicators: accessibility, adaptation, methodological variety, mixed game-reality exercises.

Testimonials: Interviewees prioritize educational attention to diversity. Hearing and Language teacher PAL1 emphasizes that: "Games similar to 'Sims', but more simplified, are useful with students with ASD, who

need examples of interaction and social skills". ED1 explains that his team uses the video game to generate a relaxed atmosphere, in difficult contexts, so that: "the guards are lowered, the defenses are lowered. He thinks that these children come from environments where there may be violence or situations that they cannot talk about, because 'we don't talk about things at home'". PEP12 has a collection of video games as a resource for teaching older children in primary school: "We use the game 'letter by letter', 'Timeline', which is about science curiosities, 'Dixit' as an emotional game, the medieval game 'Carcassonne', 'Rubric', to improve mathematics and mental arithmetic".

- "Applied awareness": Applied to the video game, to its support, to its use, to oneself, to others, to the effects of the video game, to life in evolution, etc. For Griffiths (2002) and Balanguer-Prestes (2009) it can favor mood, enhance effort and involvement in complicated tasks. 37 respondents and 322 segments (29.75%) justify the relevance of this code.

Indicators: video game approval; basic processes of applied consciousness (concentration, effort, ethics (decency), creativity, cooperation, criticism (complaint, criticism, self-criticism, rectification, alternatives), feedback, emotional control, cognitive skills, physical, characters, immersion, fun, motivation, errors, resilience, teaching; reverse technology, complex narrative, video game as art, as complex resource, supra-disciplinary; open-mindedness, awareness of life and evolution.

Testimonials: Teacher PEP15 evoked his son: "My son learned to sit still for more than 10 minutes with video games. He then transferred the achievement to schoolwork." Other testimonies include the creation of content by the player, the complex narrative, the consideration of the video game as a complex and supradisciplinary resource, as art, etc. PEP4 states that: "There are video games that are art."

- "Trends": for including technology (Barko & Sadler, 2013; Gramigna & González-Faraco, 2009), applying to life (Ala-Luopa & Suominen, 2012; Gogost, 2007; Griffiths, 2002) or other reasons. From 32 participants and 231 segments (21.34%), it is valued to take advantage of the latest trends, mainly, but not only technological.

Testimonials: CRE5 values video games that apply awareness to cognitive change in everyday actions: "Thanks to video games and immersion in other lives (of the characters), they can change their thoughts and realize that the world is big, diverse, with many vital perspectives".

Indicators: streaming, artificial intelligence (AI), new forms of gaming, virtual reality, augmented reality (AR), creation of video games, e.g., based on Unity, RPG Maker or Unreal Engine 4, etc.; applied to everyday actions (failures, losses, routines, etc.).

- "Induction": Includes the educational action of the family or the teacher, playing with the family, interest in new games, the teacher as a guide, gamification (didactics), the video game as a way of working (work), etc. An extraordinary valuation of the induction moment is shared, especially if it is carried out by parents or solvent teachers. 32 participants and 147 segments (13.58%) cited the first approach to a video game.

Testimonials: PEP 9 and PEP 2 express that the induction be performed by parents or teachers, if they have training on the resource. Another kind of induction refers to the change of type of video games to other specific ones. MRK2 says that they should be chosen by teachers, "because they are hard to find and they are not so marketed. But they will teach them things they don't normally know about video games and they might find alternatives to traditional video games, such as 'Fornite,' 'Call of Duty' or Nintendo games."

- "Education and video games": Includes content assimilable to the "video games-education" binomial not included in the previous codes. It is one of the codes mentioned by the 40 respondents, with 372 segments (34.37%).

Testimonials: All the interviewees admit the compatibility between video games and education, the time control, the temporary limitation or the use of the video game as a reward. For CRE5: "The video game can help the student to have fun, without stopping learning. The video game can be an important or complementary part of classroom learning". Some, like PEP14, feel a special responsibility: "Because my students spend most of their leisure time playing video games, it is my duty to be trained in this area and use elements that may interest them, such as images of characters they like, audios, dances or actions". PRO3 proposes: "a subject on video games" for students. INV1 points out the need for training: "Educational institutions should be trained or given tools, since video games are the main source of entertainment for children". Therefore, he proposes: "A joint work with the school where schools understand video games and teach video game education, where children are aware of their place and their perspective position as players" (INV1).

b) Elements of a video game that may be harmful:

- "Sensitive content": either because it is universally objectionable or degrading, or because it is inappropriate for specific users due to age, suggestibility, circumstance, other reasons. They may include bad examples (Al Salih & Al Doghan, 2023; Mandryk & Birk, 2017). Only 12 respondents referred to this code, with 117 segments (10.81%). However, it is an omnipresent content in the experts' answers, either by action or omission.

Indicators: bloody images or stories, disturbing, unfair or classist humor (racist, sexist, xenophobic, nationalist, anti-religious, etc.), laughing at people for physical, psychological or social reasons; inappropriate language (rude, disrespectful, etc.), inappropriate sexuality (violent, pornographic, obscene, etc.), segregation (rejection, segregation, racial, sexual, political, religious, class, social), fear (disturbing, terrifying), historical lies, social, gambling, strategies for dependency/ludopathy.

Testimonials: PEP13 states that: "Some video games have the stigma of cruelty".

- "Undesirable radical areas": They are rooted in the human ego and translate into biased knowledge. They condition the development of consciousness and inner evolution. Among them, barbarism stands out, applicable to living beings and human beings. Barbarism lies in exacerbated, insensitive, fanaticized egocentrism (Herrán, 2016). For Greitemeyer (2018), if a video game generates violence, it is because a social factor intensifies it. 40 interviewees and 441 segments referred to negative radical domains. Among them, "barbarism" is cited by 40 interviewees, with 306 segments (17.19%). Undesirable radical domains minus "barbarism" are cited by 17, with 135 coded segments (10.81%).

Indicators: egocentrism, selfishness, generalized immaturity, ignorance, unconsciousness, partial reason (superficiality, frivolity, simplification, myopia, bias, duality, etc.); biased knowledge (prejudices, predispositions, unfounded beliefs, false generalizations, etc.); hatred, fanaticism, sectarianism, indoctrination, greed, arrogance, foolishness, stupidity, hypocrisy; barbarism (war, genocide, abuse, violence, cruelty, savagery, torture, brutality, nefarious exemplarity).

Testimonials: The author of CRE1 texts highlights the "prejudice": "The approach I give to the video game is from the most absolute respect. I try to get people who read my works to move away from prejudice and face the consequences of their actions in the video game." The CRE2 content creator refers to "fanaticism": "Fanaticism is a product of education and the individual's access to information. It occurs within the video game and outside of it." And he adds the risk of losing the notion of reality: "Sometimes the pastime or hobby is confused with the identity of the player himself, generating debates and clashes between different types of players, believing to be that 'product' and not a person who plays to be this 'product'". Referring to the barbarity of a particular game, the teacher PEP11 says: "In the narrative of the game GTAV, hitting, killing, sleeping with prostitutes, cheating on your partner, shooting in the back, hunting animals and other regrettable actions are not reproduced in reality, because the players know they are in another dimension". Therefore, he understands that: "Save for exceptional cases, due to socialization problems or psychopathologies of the player, video games do not make a person become violent, fanatical or commit despicable acts. These contents could even be educational".

- "Excessive use": includes excessive, dependent use, without self-control or external control that can harm the person. However, it is a significant factor associated with gaming. An exposure combined with poor family management and a lack of knowledge of video gaming can harm the user's health (visual, general physical, social, mental, etc.) and the integrity of the person (Darvasi, 2016; Radetich & Jakubowicz, 2015; Tovar Cuevas et al., 2022; Van Rooij et al., 2011). It is another code addressed by almost all interviewees (40, with 356 segments, 32.9%).

Testimonials: PEP3 warns of the risk of excessive use: "Video games can lead to social isolation and addiction, preventing socialization with other children their age, because they prefer to play virtually at home instead of interacting physically". CEN1 denounces that: "There are more and more strategies for players to spend more time playing video games. They are little different from those used in gambling and may encourage pathological gambling". The social educator EDS1 looks into social causes: "Parents leave their children with video game consoles because they have to work long hours to pay excessive rents. There are families that are strangled". And he adds: "It is said that few children are born, that we need more children for the country to have a future. But nothing is done. To educate a child you need the whole tribe, analyze the needs of the child and support the families."

3.2. The CEV 5* tool ("Video Game Educational Rating 5*")

Based on the information from the previous point and in accordance with the objective of the research, the evaluation criteria were defined according to the relevance in the educational use of the video game. Performance levels for each criterion were specified and scores were assigned to each performance level, in the form of a number of stars, to facilitate the visualization of the educational potential of each video game to a broad, non-specialized audience. Detailed descriptions of each performance level were outlined to inform the characteristics required to achieve each level.

Once the first version of the rubric was created, it was submitted for validation and feedback was obtained from a group of 6 experts whose required profile was to have experience in educational research, evaluation and ICT. After this validation, it was modified and a second version of the rubric was generated. Subsequently, the instrument was subjected to a pilot test.

For its implementation, 7 other volunteers who had already been interviewed were called: 5 teachers and 2 technicians from the video game industry, who were asked to participate as "expert-evaluators" of the educational tool that, from the interviews, they had helped to create. The selection criteria were to know and have played the video games "Bully" and "Pokémon Sword". Two heterogeneous teams of 3 and 4 people were formed at random. Each team was asked to evaluate the educational potential of the two video games, independently and without communicating, using the rubric (first version) and the guiding informative support in section 3.1, finally rating them from 0 to 5 stars. The teams took between 45 min and 1 h 12 min to reach an agreement. The stars awarded by both teams agreed on the two video games. Afterwards, they were asked to make an evaluation of the pilot experience. The comments referred to two contents: the evaluation tool and suggestions for its application. From the comments on the rubric, the final version of the tool was created (Table 3).

Table 3: "Rubric for the Evaluation of the Educational Potential of A Video Game".		
Valuation	Elements and Indicators that can Educate	Elements and Indicators that can be Detrimental
Very good*****	It favors relevant learning of 3 or more disciplines, competencies, transversal and radical areas, or 1 of each class in depth. It is accessible. Promotes awareness and open-mindedness. Includes the latest trends.	There are no harmful elements.
Good****	It favors superficial learning of 2/3 disciplines, competences, transversal and radical areas, or 1 in depth. Accessible.	There are no harmful elements.
Acceptable***	It favors superficial learning of 1 discipline, competency, transversal and radical area. Not very accessible.	There are no harmful elements.
Regular**	It favors superficial learning of 1 discipline, competency, transversal or radical area. Not inclusive.	Includes sensitive content. It superficially addresses some radical negative or undesirable area.
Bad*	There are no beneficial elements.	It is recreated in 1/2 sensitive contents and negative radical areas.
Very bad 0	There are no beneficial elements.	It revels in more sensitive content. It calls for barbarism, promotes negative radicals.

Regarding suggestions for the application of the tool, there was consensus on 8 topics:

- -Evaluation class (agents): The ideal was a co-evaluation by a team of 3-4 evaluators among whom there had to be educators with pedagogical training.
- -There was consensus that the examiners should have played the video game sufficiently to be evaluated; they should have no interests, prejudices or conditioning towards the game in question, and they should have sufficient pedagogical training to interpret the codes/subcodes and indicators.
- -Need for guidance information: It is not possible to apply the "Rubric" without understanding the guidance for participants, included in section 3.1.
- -Evaluation process: The evaluation process went through 5 observable moments. The last one was considered "necessary": (1) Constitution of the team, mutual knowledge and adaptation, initial co-evaluation to share meanings and criteria. (2) Observation, examination and individual evaluation. (3) Procedural and final co-evaluation. (4) Final and summative co-evaluation and qualification of the video game. (5) Report.

- -Interpretation of the data: The greater relevance of the harmful elements over the educational ones ("poison effect") was highlighted.
- Problems in the evaluation process: The difficulty of discriminating between intra- and inter-items is mentioned. It is deduced that the apparent problem is a characteristic of the tool, which contributes to dialogue and consensus.
- -Evaluation products: The evaluation ends with three products: report, number of stars and a justification report, signed by the members of each evaluation team, which is understood to be "required".
- -Final evaluation of the tool: The CEV 5* is said to be: "positive", "useful", "changes the way we look at video games" and "should be open to future revisions".
- Following the evaluation experiences with the expert teams, it was concluded that each video game should be evaluated by a minimum of two competent teams. Regardless of the coincidence in the evaluation trend, in order to reach an opinion, in case of discrepancy, the evaluation of a third team of experts or a re-evaluation of the two teams gathered in the same training event could be used.

4. Discussion and Conclusions

Four decades ago, UNESCO (1980) pointed out that technological development should be based on scientific and social awareness. Subsequently, the Delors Report (1996) warned that imagination should take precedence over socio-educational change associated with technological development: "The human imagination, precisely to create this society, must anticipate technological progress, if we are to avoid aggravating unemployment and social exclusion or inequalities in development" (p. 20). The development of the video game seems to be peculiar in that it is a technology for the imagination. In fact, it propitiates entertainment and evasion of reality from the imaginative immersion in the game (Gonzalez Tardon, 2010, 2014; Karadağ et al., 2024p Núñez-Barriopedro, Sanz-Gómez, & Ravina-Ripoll, 2020). It is clear that cinema, literature, music or plastic art have an "educational" value by the mere fact of being cultural products. The intention of this study has revolved around a rubric from which to assess the educational potential of any video game, from its analysis. In good logic, digital educational games (Baigi et al., 2022) would be those valued with more stars, and those associated with undesirable uses, exclusion, violence or barbarism (Mandryk & Birk, 2017) would obtain lower ratings with fewer or no stars.

Its usage time has been related to school performance (Gómez-Gonzalvo, Devís-Devís, & Molina-Alventosa, 2020). It can be a useful resource for life, due to its attractiveness, applicability to day-to-day tasks, learning and problem solving (Green & Bavelier, 2015; Williams, 2017). Moreover, its educational value is increased if the family participates in its induction and management (Squire, 2003, 2011). However, we agree on the need to know a video game, in all its facets, in order to mold it to its target audience, objectives, etc. (Gramigna & González-Faraco, 2009; Hongmei & Jingwei, 2022; Szita & Lörincz, 2006). Although some video games such as "Minecraft" (Mojang, 2016; Nebel, Schneider, & Rey, 2016) or "Nintendo Labo" (Nintendo, 2018) stand out for their educational value, all of them can be assessed with this criterion. One way to do this is to look into the inner workings of each video game and consider its educational facet in the foreground.

The motivations of the research were threefold: to advance in overcoming the duality "video game-education"; to contribute to social improvement from education through the definition of a valid, simple and applicable tool to any video game, and the concern to educate students and children with entertaining and educational resources. The CEV 5* tool provides applied educational criteria and contributes to a better pedagogical understanding of video games. The contributions of the research are twofold: a pedagogical analysis to the evaluation of video games, and a practical tool whose function is to provide guidance on the educational value of any video game, not only educational ones (Baigi et al., 2022). The CEV 5* tool is an original contribution and can be beneficial in the field of educommunication. Some advantages of the rubric are: applicability to any video game; robust validity, as it is supported by a broad base of educators and experts in the field, and for its potential usefulness if applied with the indicated recommendations; easy and intuitive interpretation of a video game's educational value, comparable to the hotel rating system, for its convenience and security, and potential for instrumental research and transfer (game, design, production, purchase and sale, gift, selection, teaching, institutional, administrative policies, etc.), social, school, family, for the video game industry, as well as for other comparable complex resources, such as cinema, theater, literature, etc. To

summarize, we conclude that the educational usefulness of any video game will depend on its appropriateness and use, but also on its educational potential, which can be evaluated and shared with society, for example, with the educational system, the companies involved, parents, teachers and the users themselves.

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