What is a Cultural Video Game? Study of Teachers' Perspectives on Cultural Video Games Through the CUDAEVC Questionnaire

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ABSTRACT

Aim. To analyse teachers' perceptions, practices, training needs and perceived barriers regarding the educational use of cultural video games, with the aim of contributing to the operational definition of this concept in educational contexts.

Methods. The CUDAEVC questionnaire was administered to 410 teachers across educational levels using non-probability convenience sampling. The ad hoc instrument, validated through expert judgement, addressed three dimensions: the relationship between video game use and cultural acquisition, the conceptualisation of "cultural video game", and training needs.

Results. Only 15% of teachers reported using video games regularly, although 88% perceived a strong link between their teaching practice and ICT. Based on participants'

responses, an operational definition of "cultural video game" is proposed, and key barriers are identified: lack of specific training, limited resources, and difficulty identifying suitable titles.

Conclusions. Despite their educational potential, cultural video games remain underused in classrooms and require stronger institutional support. The study acknowledges the limitations of its exploratory design and suggests avenues for future research.

Cognitive value. The study addresses an emerging area by examining teachers' perspectives and proposing an initial definition of "cultural video game" based on a large sample across educational levels. In doing so, it provides both a conceptual and empirical framework for understanding how teachers connect video games with culture and learning, while also identifying key constraints affecting their pedagogical use, particularly limited training, scarce resources, and difficulties in selecting appropriate titles.

Keywords: videogames, culture, learning, teachers, analysis

Introduction

The existence of extensive knowledge about the implications and possibilities of using video games in recreational-educational contexts is based both on the role they play in society today and on the fact that they have been the subject of public and academic debate for years (Kirchgessner & Ketelhut, 2012; Kowert & Quandt, 2016; Muriel & Crawford, 2018; Rubio, 2012). It is important to recognise that video games, as an audiovisual medium, have evolved in recent years in terms of their social relevance, moving away from their initial status as a form of entertainment to be considered a significant cultural phenomenon capable of influencing different contexts of human development such as culture and/or education (Esnaola, 2006; Gee, 2004; Guerra-Antequera and Revuelta-Domínguez, 2022; Mäyrä, 2008; Medá, 2018).

In this regard, Mihaly Csikszentmihalyi's (1975) theory of flow is particularly important, as it helps us understand how video games generate a state of deep immersion, intrinsic motivation and sustained concentration that promotes optimal learning environments if the level of challenge and skills required are balanced and the player's interest is maintained. Subsequent studies also highlight the positive implications of this integration for students and their perceptions of the improvement it brings to educational activities (Pereira et al., 2024; Telles et al., 2022; Xu, 2024).

Video games are widely recognised as a motivating and engaging learning tool for humans because they offer immediate feedback, personalised learning, and a wide variety of opportunities that can be linked to different cognitive levels of learning (Bodnar et al., 2016; Sanz-Ramos et al., 2024). In this regard, Bloom's revised taxonomy (Anderson & Krathwohl, 2001) provides a useful framework for analysing how video games can contribute to the development of skills ranging from memoris-

ing information to creating complex and original solutions. This taxonomy, widely used in education, allows learning objectives to be structured into six hierarchical levels – remembering, understanding, applying, analysing, evaluating, and creating – all of which can be activated through interactive and meaningful experiences within a playful-educational environment.

Culture is part of the constructs that make up video games. It is present in their intrinsic characteristics, spaces, and special communities that influence socialisation, worldview, and value orientations of individuals (Horban et al., 2020; Mäyrä, 2008; Muriel, 2021a). As a result, more and more people are constructing their personal identity based on the experiences and relationships they establish with this medium. This fact makes video games an object of study and necessary analysis that has proven relevant for academic research (Muriel, 2021b).

Noteworthy in this regard is research related to the use of video games whose main purpose is other than entertainment, known as serious games, which have proven to be powerful learning tools (Garneli et al., 2017; Lamb, 2024; Mortara et al., 2014; Wouters et al., 2013), but which cannot be understood without the conclusions and precepts on which they are based, the capacity of the medium, which is also reflected when analysing video games created with purely recreational intentions that have ended up becoming informal learning tools (Eck, 2006; Gros, 2007; Scolari & Contreras-Espinosa, 2019). There is specific research in almost all educational areas and fields that analyses everything from the positive implications for academic performance (Novak & Tassell, 2015; Tokac et al., 2019) to the development of specific areas of the educational curriculum (Granic et al., 2014; Tost & Boira, 2015), thus validating their use and consideration as first-rate educational tools.

In a broad context, the use of ICT, video games and other tools, together with the application of innovative technologies such as educational robotics, gamification and serious games for learning, is directly linked to improved academic results and student motivation (Prats & Ojando, 2015; Valverde-Berrocoso et al., 2022; Zambrano, 2025), although the choice of one or the other depends directly on self-perception and level of digital competence.

In fact, this evidence faces difficulties such as the implicit links to access to resources, mainly in the case of video games (Torrente et al., 2009; Zambrano, 2025), or the need for teacher training (Correa et al., 2016; Lorca et al., 2016), with previous studies highlighting the existence of certain specific skills required when introducing digital or analogue game-based learning into teaching practice (Nousiainen et al., 2018), and differences in the teaching role and methodology used that are inherent to this type of implementation in the classroom (Vincenti & Braman, 2011).

Given the need to continue investigating this relationship, it is necessary to define a research process that allows us to ascertain the opinions of teachers involved at all educational levels where the use of video games is considered a possible tool (Annetta, 2008; Martínez et al., 2022).

Purpose of Study: Research Questions and Objectives

- The overall objective of this research is to analyse teachers' perceptions, practices, training needs and perceived barriers regarding the educational use of cultural video games, using these contributions to delimit and operationally define the concept of "cultural video game" in educational contexts. To this end, the arguments put forward in the previously reviewed research are taken into consideration, specifically, this study seeks to: (1) identify how teachers conceptualise cultural video games; (2) analyse the perceived relationships between video games, learning and cultural acquisition; (3) examine how teachers interpret learning processes mediated by cultural video games; and (4) identify the tools, resources, training needs and barriers associated with their classroom integration. To structure the research process, the following questions are posed:
- To what extent do teachers perceive their teaching role to be linked to the use of ICT? What types of technologies or experiences do they use in their classrooms? How do teachers perceive the use of video games as a teaching tool? What is the professional and educational profile of teachers who use video games in the classroom?
- What relationship do teachers perceive between their teacher training and their use of video games in the classroom? How are they trained in this use?
- How long have they been using video games in their classes? What types of video games or titles do they use?
- What is a cultural video game? How do teachers understand the concept of cultural video games? What characteristics do they consider defining them? What elements of video games do teachers identify as transmitters of cultural content or values?
- What difficulties and needs do teachers identify in implementing video games with cultural content in the classroom? What resources and tools do they need to apply to their teaching practice?

Method

Both the epistemological positioning of the researchers and the choice of research method could be classified as a mixed approach (Bisquerra, 2014). A questionnaire was designed to serve as a semi-structured information gathering technique (Mínguez & Fuentes, 2004), including both closed and open questions to gain a deeper understanding of the opinions of teachers at different levels regarding the subject of study, video games and their educational and cultural perspective.

Questionnaires are perceived as one of the most widely used techniques for gathering information by novice researchers in the social sciences. However, this prevalence does not mean that their design, publication and analysis are simple; developing a questionnaire is a complex and systematic process (Rowley, 2014). For Andrés

Mínguez and María Fuentes (2004), questionnaires are the most direct social research technique, as they allow information of great statistical and analytical value to be obtained through a series of ordered and structured questions. When developing a questionnaire, it is necessary to: 1) determine the information we need, 2) decide on the type of questionnaire: telephone, online, face-to-face, 3) write the questions, 4) conduct a pilot test, and 5) restructure the questionnaire.

Questionnaire Development Process

This questionnaire was specifically designed and validated to address the study's questions and objectives, as existing instruments did not adequately cover them. Its construction follows a set of steps aimed at ensuring rigorous design and accurate measurement of attitudes, knowledge, and practices. According to Anthony R. Artino et al. (2014), the quality of the instrument is reinforced by: (1) a comprehensive review of the literature; (2) conducting interviews and/or focus groups or other information gathering techniques; (3) the joint synthesis of the evidence and information gathered; (4) the development of items based on this synthesis; (5) the validation of the structure through expert review and commentary; (6) the verification of the comprehensibility of the items; and (7) the conduct of a pilot test.

Considering the limitations of access to the sample, information was collected through online contact with participants.

Thus, it is important to note that the questionnaire was developed based on the results obtained from a review of the literature focused on the cultural impact of video games on society (Cerezo-Pizarro et al., 2023). This review concluded with a definition of the relationship between video games and culture, identifying the main cultural dimensions involved, video game genres, and strategies for introduction and social impact.

It should be noted that, although other studies have already investigated the use of video games in the classroom, their possibilities and implications (Eck, 2006; Gee, 2004; Squire, 2005; Von Gillern et al., 2022; Wastiau et al., 2009), this study seeks to approach this interrelationship of learning from a cultural perspective, analysing the opinions of teachers, which implies the need to create an ad hoc tool based on the specific requirements of this research, constructing its own items and dimensions.

The tool underwent an external inter-rater validation process to ensure quality (Dillon & Mulani, 1984; Ruiz, 2008), in which a total of (n=10) raters participated, a number that guarantees greater validity of the tool (Broomell et al., 2009). The judges were selected from among experts in educational technology who participate in and research the impact of technology on education both within and outside the national context. Their academic profiles are briefly described below (see Table 1 Annex A).

This group of experts evaluated the questionnaire using a validation tool created in Excel. The tool allowed each item to be assessed on a numerical scale of 1 to 5 points, and comments or suggestions for improvement to be added on aspects such as the clarity, relevance and importance of the tool, as well as the adequacy of each section of the questionnaire, allowing it to be reviewed and adapted before its final publication. A version of this tool is available at: https://osf.io/qavd7/files/g93ax.

To determine the reliability of the tool, the responses of the group of judges were subjected to several tests, obtaining Aiken's V coefficient for each item, making decisions based on a specific confidence interval (n.s.=0.5, Rodríguez criterion, 2015), which allowed for the exclusion of those items whose coefficient was less than V=.50. (Aiken's V) (Cicchetti's criterion, 1994).

Cronbach's alpha method indicated that the total alpha value was (.978), a high index indicating that the relationships between the different elements of the tool were very high (Peterson, 1994).

The sum of these tests made it possible not only to correctly draft and validate the items, but also to verify the representativeness of the construct presented in the results of this study.

Participants

A total of 410 teachers from all educational stages participated in the study. A non-probabilistic convenience sampling with selective criteria was used, as the questionnaire was distributed in a mixed format, both online and in person. This allowed it to be completed voluntarily by practising teachers from different geographical locations. The sample therefore does not involve prior selection or construct a defined sampling frame. Specifically, the sample consists of 298 women (72.68%); 100 men (24.63%); 5 non-binary gender individuals (1.22%) and 6 (1.46%) participants who chose not to answer this question.

Teaching experience was analysed according to six age groups, which can be seen in Table 3. Two groups stand out above all others: those with between 1 and 5 years' experience, 26.65% of the sample; and those with more than 20 years' experience, 20.54% (see Table 2 Annex A).

The most representative part of the sample, 37.32%, worked in primary education, while 25.61% worked in secondary education, 23.66% in early childhood education, and 18.54% in higher education. The participation of vocational training teachers was less representative, at 7.80%, as was that of other training bodies such as adult education and the Official Language School, at 9.27%. Two participants preferred not to answer, 0.49%. Finally, it is worth noting that 336 participants, 81.95%, worked in public schools; 45 in subsidised private schools, 10.98%; and 29 in private schools, 7.07% (see Table 3 Annex A).

Description of the Questionnaire

The attributes and variables included in a study depend largely on the research objectives set; in this sense, having clear research questions, objectives, and goals is crucial to the success of research (Doody & Bailey, 2016), as the study dimensions are based on these objectives to construct the research tools.

The CUDAEVC questionnaire is available in Appendix A, as well as at the OSF repository web address: https://osf.io/jm9th/files/bz8f7 and consists of six sections or areas of study. The questions are therefore categorised by section and question number. The coding for both the sections and the questions has been defined by the expression SXPX, where X represents the section number or the number of the question contained in the section. The meaning of the sections is explained below.

Personal details (S1): collects anonymised information from participants in order to define and compare the sample, taking into account variables such as age, teaching experience, gender, school ownership and the body to which they belong, as well as ICT experience and the type of technologies they introduce into their classrooms. This section contains 9 questions.

Previous training and its impact on teaching practice (S2): this section explores previous teacher training as a determining factor in whether or not video games are included in the classroom. To this end, it covers both whether or not teachers have received training and the origin of this training, as well as teachers' perceptions of the link between this training and the subsequent introduction of video games into the classroom. This section contains five questions.

Use of video games in the classroom (S3): refers to participants' use of video games in their teaching practice. It defines the time in years since first use, the type of video game or technology used, titles and form of introduction, distinguishing whether this was: complete, partial or of another nature. This section contains 6 questions.

Conceptualisation and use of video games as a cultural product (S4): explores the definition of video games as a cultural medium, investigating teachers' perceptions of the term, collecting definitions and specific titles that teachers associate with culture, and finally identifying the elements of video games that teachers highlight as key cultural transmitters. This section contains 5 questions.

Further studies, needs and prospects (S5): finally, the research seeks to meet the needs of teachers, identifying whether or not there are difficulties in identifying this type of game and the needs related to this problem. Possible lines of action are defined to meet these needs by asking about training needs and associated resources. This section contains 9 questions.

The questionnaire instructions include informed consent that follows the guidelines and recommendations for the Social Sciences area of the Bioethics Committee of the University of Extremadura.

Results

The results are presented below, organised into blocks or areas to facilitate their interpretation.

Previous Conceptions and Teacher Profile

When asked whether they considered their work to be directly related to ICT, 88.54% of participants (363 people) answered yes, while only 45 (10.98%) indicated that there was no such relationship. Two teachers (0.49%) did not answer. In terms of use, it is noteworthy that only 15.12% of participants said they regularly used video games in their classes; in contrast, more than half, 57.80%, said they gamified their classes and 34.63% worked with animated stories. To clarify the answers to this question, the following graph has been produced (see Figure 1 Annex A), in which it should be noted that more than one technology per participant is reflected, as teachers could mark several, with a total of 909 responses.

Those who chose the "other" option identified the use of tools such as internet browsers, social media, educational videos, interactive games, or content creation tools such as Canva, Genially, Google Classroom, and Exe.Learning.

To define the sample profile and their prior conceptions of video games, they were asked whether or not they considered themselves gamers, to which only 96 (23.66%) responded yes, compared to 313 (76.34%) who did not consider themselves gamers. When asked if they "used or had used video games in their teaching practice," 107 participants responded affirmatively, a slightly higher number than those who indicated that they used video games regularly in the first question about ICT. Thus, 26.01% of participants use or have used video games in their classroom, while only 15.12% do so regularly.

It is a very diverse group of teachers, most of whom work in public education, 91 (22.20%) participants, compared to 10 (2.44%) in private education and 6 (1.46%) in subsidised private education. Most of these 107 teachers, 26.10% of the total number of participants who use video games, belong to primary education, 47 (11.46%); compared to 29 (7.07%) university teachers; 23 (5.61%) early childhood education teachers and 16 (3.90%) secondary school teachers. The proportion of teachers from EOI (Official Language Schools), Vocational Training and other Higher Education Bodies is lower, with 1, 7 and 12 teachers, representing 0.24%, 1.71% and 2.93%, respectively.

It seems that women are more predisposed to this, with 69 of them (16.83%) stating that they use video games in their classes, compared to only 34 (8.29%) men, 3 (0.73%) non-binary people and 1 (0.24%) who preferred not to indicate their gender. Almost all of the teachers who said they used video games in their classes were in the 26 to 50 age range. In fact, the distribution of the population here was very homogeneous: 17 teach-

ers between the ages of 26 and 30; 18 between the ages of 31 and 35; 18 again between the ages of 36 and 40; and 15 in both the 41 to 50 and 51 to 55 age groups. In total, this grouped range accounted for 83 of the 107 teachers analysed in this section.

When asked how long they had been using them, it was found that they had generally been using them for only a few years. In fact, when grouping the information collected in Table 4, it can be seen that most participants, 58.88%, have only been using them for between 0 and 4 years, while 75.7% stated that they have been using them for no more than 6 years. This allows us to conclude that interest in video games has increased in recent times (see Table 4 Annex A),

To illustrate the relationship between the profile of participating teachers and their use of video games in their teaching experience, the following figure has been created (Figure 2 Annex A).

Training for Participating Teachers

When inquiring about teachers' prior training in the use of video games in the classroom, it was found that only 30 of the 410 participants reported having received any type of training. This data is very relevant, as it means that of the 107 teachers who introduced video games into the classroom, only 30 (28.04%) had received prior training.

As for the origin of training, shown in Figure 3, there is a diverse range of sources. Teachers were mainly trained through individual tutors and self-taught online training (11.21%), as well as through Teacher and Resource Centers dependent on their regional administrations (8.41%).

When asked if they considered this training to be decisive in the subsequent inclusion of video games in the classroom, half of those who had received training, 15 of the 30 teachers, said that it was decisive, while 11 did not consider it to be so and 4 did not know or did not answer.

Among the reasons for considering prior training to be decisive, teachers argued that it helped them to: understand the educational use of video games, gain confidence and learn guidelines for use, acquire tools for teaching implementation, learn about the effectiveness of video games as a medium, and connect with students through their interests, thereby increasing their motivation to learn.

Similarly, those who received training acknowledge that this enabled them to implement more efficient and effective changes, guiding methodological changes and activity planning based on the knowledge gained about the world of video games. They highlight the need to change aspects of the video game itself, selecting content and even spending time playing the games themselves beforehand, which they see as a drawback, while several teachers point out the potential risk of overusing video games, linking excessive use to a possible reduction in student motivation.

Introduction of Video Games in Classrooms

When analysing the different types of video games used by teachers in their classrooms, it should be clear that, for them, the term video game also includes other types of resources and activities. In this regard, they were asked to differentiate between them, finding that educational video games represent the most significant portion of this study for 84 participating teachers (20.49%), while gamified activities are used by 16.59% and platform templates that allow mini-games to be introduced, such as Genially or JClick, by 15.12% of the total. Few identify the use of less structured resources such as digital board games (9.02%), while self-created video games represent 6.59%, serious games 5.61% of the total, and commercial video games 5.37%. Simulators account for only 5.12%, augmented reality 4.63%, and game creators used by the students themselves 3.90%.

Upon careful analysis of the introduction of video games in the classroom, it was found that most of those who introduced them did so partially, that is, using only a section of the games, with 91 participants compared to only 16 who introduced a complete video game into their teaching.

The most common resources are commercial educational tools such as games included by book publishers, Genially, Quizizz, Educaplay, Canva, Kahoot, Wordwall, Jclick, and self-created mini-games. Very few acknowledge using commercial video games in the first instance, and some mention Minecraft Education, Scratch, or Code.org.

When asked about the reasons for using video games in their classes, teachers highlight the potential to improve student motivation, expand their knowledge, develop skills, assess and entertain. Teachers mention specific educational objectives: improving teacher training, learning to program, learning about mythology, acquiring and reviewing class content, and learning languages.

Video games are most frequently used by the whole group or class, with 96 responses, compared to only 16 occasions when they are used in reinforcement groups and 6 when only the teacher participates. When teachers were asked to describe how the working groups are organised, it was found, as shown in Table 5 (Annex A), that they are very diverse.

As for the location where the sessions were held, it was found that among those who decided to use video games in the classroom, the school environment was the most popular choice, with 80 instances, compared to 4 instances where it was held outside the school and 23 instances where teachers did so interchangeably.

Finally, upon further examination of this introduction, it can be seen that the majority of teachers opted for guided exploration, with up to 78 of the participating teachers (19.02%) preferring it, compared to 11.95% who opted for directed teaching and 9.27% who encouraged free discovery among their students.

Conceptualisation of Video Games as a Cultural Medium: Determining Factors in The Process and Identified Resources

Teachers had to define their relationship with the term cultural video game, for which they were first asked if they were familiar with the term, a question to which only 20.98% of participants, 86 out of 410 people, answered affirmatively, while 65 of them, 15.86%, also stated that they could name at least one video game with marked cultural content. In this regard, it is important to consider not only the contribution of teachers as those who are familiar with the term or not, but also as experts when it comes to describing and categorising phenomena of an educational nature.

When they clarify what a cultural video game is, they do so qualitatively, so it is necessary to analyse the teachers' responses to question S4P2: What do you understand by cultural video games? In this regard, three terms are frequently used to answer the question: culture, learning, and entertainment. To analyse these interactions, the *Matplotlib library* is used to construct a Veen diagram, which clearly shows the intersections between the main themes (Chilakamarri et al., 1996), all of which are extracted from the terms and phrases used by teachers to define cultural video games (see Figure 4 (Annex A).

Thus, teachers define cultural video games as audiovisual and interactive products or media that use the gaming context to instill sociocultural values, promoting their dissemination and acquisition. This can be illustrated graphically by creating a word cloud with the terms most frequently used in their responses (see Figure 5, Annex A).

Meanwhile, the titles identified as cultural video games were mainly historical and narrative games such as Assassin's Creed (18)*, Blasphemous (4) or Zelda (2), strategy and resource management games with strong historical content are also widely recognised, such as Age of Empires (3), Imperium (2), Age of Mithology, Apotheon and Dawn of Man.

Followed by Microsoft Minecraft (3) and Microsoft Flight Simulator, widely recognised in other research on the educational world (Meier et al., 2016; Ponce & Alarcón, 2018), sharing space with resources such as the geography game Geoguessr; and other quiz games such as PlayStation's Buzz (2), Nintendo's Brain Training, as well as the classic Trivial Pursuit and its different versions (3), there is also room for simulators such as SimCity, The Sims and Innov8. On the other hand, some participants wanted to recognise the cultural value of classics from the world of video games such as Final Fantasy IX, Ratchet and Clank, Animal Crossing, Super Mario, Red Dead Redemption and the Call of Duty saga.

Noteworthy examples include the puzzle video game Enjaulados (2), the interactive experiences at the Prado Museum, and the graphic adventure inspired by the paintings at the Thyssen Museum, Nubla.

Teachers from numerous educational and social contexts describe games such as Codex el Peregrino, Argentina 8 Bits, El camino del Cid, Gauchos Inmortales, I need

to lay down, A space for the unbound, Ōkami, Alba: Una aventura de vida silvestre, Beyond Bluee, Never Alone, The Bridge, The Binding of Isaac or My memory of us.

Finally, although not specifically related to video games, teachers cannot help but suggest gamification and teaching interaction tools such as Kahoot (2), the classic games of Pasapalabra (2), Scrabble or Preguntados, which are listed alongside other educational resources related to serious games, such as Mundo Primaria and the Games about knowledge of the newspaper La Vanguardia. In addition to this, some teachers propose the use of virtual gymkhanas such as Adventure Lab or spaces for chatting and interacting such as Second Life, where they believe students are able to acquire and assimilate cultural content.

Another aspect of the research was the interrelationship between cultural transmission and the different elements that make up video games. It was found that teachers are very clear about the importance of narrative transmission (69.27%), as well as aesthetic elements such as image, art, colour (65.83%) and music (66.34%). They agree that dialogue and its approaches are important (55.37% of participants), while 51.71% consider that the representations of social rituals and customs within games are fundamental, 53.41% consider the use of language to be important, and 45.37% consider the specificity and historical accuracy of events to be important.

On the other hand, teachers find it difficult to see the importance of emotional management and its reinterpretation, which is built with video games as a determining factor (39.02%). Furthermore, they do not consider access to the resource to be a determining factor in cultural transmission. The aspects least recognised by teachers are the mechanics of game-player interaction and sound effects, such as rain, explosions and other elements that can evoke emotion and significance in game action. Figure 6 shows these data and assessments in a radial graph.

Integration Difficulties and Tools Requested by Teachers

When asked if they would have problems identifying and introducing cultural video games in the classroom, 53.41% of participants said they would, while 46.5% were sure they would not. This contrasts with the inconsistency found when defining a cultural video game, a term with which 79.02% admit to being unfamiliar, while 83.17% are not even able to identify a video game with marked cultural content. Similarly, it is important to take into account the actual implementation of video games in the classroom as reported by participants, bearing in mind that, although 219, or 53.41% of participants, claim to have no problem identifying cultural video games, only 62, or 15.15%, use video games in their classes.

Among the problems in identifying cultural video games, the main ones are a lack of knowledge about what a cultural video game is and the difficulty in identifying them. According to teachers, this is compounded by a lack of educational and training resources,

which is evident both when planning possible activities and when purchasing games or setting up an internet network that allows them to freely access resources created by third parties.

In total, 305 participants in this study considered it necessary to develop specific training in the use of video games in the classroom (74.35%), compared to only 41 participants who did not consider it necessary (10%) and 64 (15.61%) who preferred not to express an opinion or did not know whether it was necessary.

On the other hand, 71.46% of participants consider the need for a cultural video game analysis tool to be relevant, while only 8.29% do not see it as necessary and a notable 20.24% say they do not have the knowledge to answer.

The highest score was obtained by the guide for identifying cultural video games, with 330 out of 410 responses, representing 80.49% of participating teachers.

Also interesting are the contributions of those who chose to respond to the 'other' option, requesting resources adapted to specific stages such as early childhood education, the suitability of bringing together video games with educational implications on an educational website, the translation of resources and their prior testing, or the possibility of designing and producing their own games.

Discussion and Conclusions

The concept of cultural video games began to take shape a long time ago, as numerous studies began to highlight the potential and cultural implications of video games (Bontchev, 2015; Dovey & Kennedy, 2006; Mortara et al., 2014). Thus, from studies that analyse video games as cultural consumer artefacts (Fromme, 2003; Squire, 2002) to those that delve into the interrelationship between video games and learning (Green & Bavelier, 2012; Martínez et al., 2022), some approaches have been made which, however, have focused on specific aspects such as the possibilities for interaction between video games and different aspects of social and human culture, academic results, or the profiles of players and social communities involved (Borowiecki & Prieto-Rodríguez, 2015; Drummond & Sauer, 2014; Muriel, 2018; Shaw, 2010).

This study incorporates teachers' perspectives to contribute to a clearer conceptual framing of cultural video games and to examine how teachers relate them to learning. It aims to propose a working definition and to describe perceived conditions, opportunities, and constraints that may inform future research and educational decision-making, without implying that their classroom integration is required.

While video games have been studied as a cultural medium, the literature cited does not converge on a single explicit definition of "cultural video games". Building on prior work (Muriel & Crawford, 2018; Shaw, 2010) and teachers' perceptions, this study proposes a working definition: cultural video games are interactive media products used in recreational and/or educational contexts that may combine entertainment with opportunities for cultural learning, potentially supporting engagement with socio-cultural values and meanings

Having addressed one of the main aims of the study, namely the operational definition of "cultural video game", the remaining findings allow us to discuss teachers' perceived needs, barriers and conditions for classroom integration. It is also relevant to consider the relationship between video games and cultural learning. In this regard, previous studies on teaching practices mediated by video games (Gros, 2008; Meier et al., 2016; Sadera et al., 2014) have explored the connections between video games and learning. Therefore, the conclusions reached in this study partially build on those presented in previous research, while adding the cultural dimension of video games as a relevant aspect when considering them as learning tools. The key findings derived from this analysis are presented below. Analysis of the data collected reveals a direct relationship between ICT and teachers' teaching practices; in fact, 88.54% of participants stated this to be the case. However, the specific incorporation of video games into their teaching practices is still limited, as only 26.01% use them and barely 15.12% do so regularly in their classes.

In this regard, teachers prefer gamification tools over other implementation strategies, with the use of video games as a learning tool still being relatively limited, whether they are educational, commercial or self-created.

The profile of teachers who use video games is predominantly female, according to the results obtained, an idea that stands out, as it is part of the collective imagination that video games are associated with masculinity (Paaßen et al., 2017; Terlecki et al., 2011). These teachers are young, specifically between the ages of 26 and 50, and most of them work in public schools, specifically in primary education. This makes it possible to identify this stage or level of education as the place where the greatest number of video game implementations take place, coinciding with the studies carried out by Tuula Nousiainen et al (2018), in which up to 75% of participants worked at this stage. Thus, it is possible to draw conclusions about the suitability of the stage when implementing game-based learning and developing future intervention proposals or research.

When they do use them, they prefer educational offerings identified as such, such as games from publishers or widely recognised offerings from large companies such as Assassin's Creed Discovery Tour or Minecraft Education. This implementation is usually partial, as they select specific aspects of the video game for their classes and introduce them into activities carried out through guided discovery within the school environment.

It is important to note that this study identifies the main sources of cultural transmission within video games, based on research by authors such as Karen Collins (2013), who defines the role of sound and environmental aspects, dialogue and other elements in creating meaning, and also recognising the role of representations or rituals and the symbolism included in them (Hofstede, 1994), as well as their social and cultural impact (Muriel & Crawford, 2023) and the way in which this medium has become a new tool for literacy (Gee, 2004). All the research is based on a review of the litera-

ture carried out in 2023, which sets out the main intersections between video games and culture, the dimensions of cultural approximation and other factors (Cerezo-Pizarro et al., 2023), in order to present participants with a list of elements, all of which are proven cultural transmitters belonging to the world of video games.

Thus, it can be said that teachers have fully assimilated the cultural importance of elements such as narrative and aesthetics in video games, but do not perceive as clearly other interactions such as those involving emotional management and the reinterpretation of content that takes place while playing a video game, game mechanics and other elements such as sound effects. Undoubtedly, the most striking thing is that teachers do not consider access to the resource as a conditioning factor of cultural video games, which contrasts with studies such as those by Juho Hamari (2017) that identified, among other factors, economic and social reasons as one of the main reasons for buying or not buying a video game, which, based on this research, can be extended to the production-extension of the ideas contained in this medium.

The study reports the titles that teachers identify as cultural video games, which may be useful as a descriptive reference for subsequent research and practice, within the limits of the present sample and context.

Finally, teachers identify the main barriers as a lack of knowledge about the educational use of video games, a lack of resources, and a lack of training in this area. In this regard, this study highlights the need to (1) develop specific training courses on the educational application of video games, (2) create a tool for analysing cultural video games, and (3) develop a guide or validated list of video games with cultural content.

In this way, it is possible to recognise the cultural and educational value of video games, which are considered by teachers to be valuable educational tools that influence motivation, develop specific skills and broaden knowledge. This view contrasts with an implementation that tends to be partial and limited, reflecting the need to provide them with the tools outlined in the results of this study: specific training, analysis tools, and guides or lists of cultural video games.

Limitations and Prospects

This research, despite having some limitations, offers valuable opportunities. Although the sample is considered large, it cannot be considered representative of a specific population due to the non-random and open nature of the sampling used. Convenience sampling limits the generalisability of the conclusions, as non-random participation may introduce self-selection bias. Therefore, the results should be interpreted as exploratory trends within the participating group, rather than as representative estimates of the wider teaching population. However, the results obtained are extremely useful for generating new hypotheses and perspectives for further work, as the participants in this study are teachers, which allows preliminary trends to be detected. The findings can be considered

exploratory and descriptive, as they provide a solid basis for future research and allow for the identification of areas of interest that can be investigated further.

Consequently, future research will allow for a deeper understanding of the results, as well as the needs identified by teachers, providing them with the resources or tools identified in the study to increase and improve the number of teachers who use cultural video games in their classrooms.

To this end, it will be necessary to expand this study, exploring the relationship between the use of cultural video games and students' academic performance in areas closely linked to culture and learning, such as history and historical-cultural learning, an area in which work has already been done, such as that of the Knowledge Transfer Group History and Video Games (n.d.) and the research by Miguel Fernández-Cárcar et al. (2021) and Fernández-Cárcar (2022) on geography, literature (Mielgo et al., 2022), citizenship education (Bers, 2010) and other related subjects that help position video games as educational elements of interest, making it necessary to delve deeper into the processes of implementation, use and development of methodologies and content that work from a symbiotic perspective. Similarly, it is worth investigating how cultural video games can influence student motivation or the development of specific skills, such as critical thinking, social awareness, problem solving and intercultural understanding. It is also important for academic research to begin to involve video game design experts and other professionals in the sector in order to create video games that are adapted to the educational needs of teachers. Thus, asking teachers what kind of video games they would like to have to introduce into their teaching practice is both a possible line of research and a limitation of this study, which failed to recognise this nuance in its design.

It is possible to consider that, by establishing for the first time a definition of the concept of cultural video games and defining the educational interrelationships with them, this research is contributing to the construction of a line of study that will lay the foundations for new research and/or experiences.

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Annex A. Tables and figures

Table 1

Judges or Validating Agents

Subject	Gender	Academic level	Area of expertise	Univesity/Country
1	Woman	Assistant professor	AI	Universidad Tres de Febrero/ Argentina
2	Woman	Full Professor	DSO	Universidad de Oviedo/ España
3	Man	Associate Professor	THE	Universitat de Valencia/ España
4	Woman	Associate Professor	TIAE	Universidad Tecnológica Nacional/Argentina
5	Man	Associate Professor	MH	Universidad de Navarra/ España
6	Man	Full Professor	DSO	Universidad de Santiago de Compostela/España
7	Woman	Associate Professor	DSO	Universidad de Oviedo/ España
8	Man	Associate Professor	EC	Universidad Católica de la Santísima Concepción/ Chile
9	Woman	Permanent lecturer	DSO	Universidad de Santiago de Compostela/España
10	Woman	Associate professor	DEED	Universidade Aberta Lisboa

Note. AI: Applied Informatics; DOE: Didactics and School Organisation; THE: Theory and History of Education; TIAE: Technology and Informatics Applied to Education; CE: Educational Curriculum; HM: Medieval History; DEED: Education and Distance Education.
Source. Own research.

Table 2

Teaching Experience of the Sample Expressed in Ranges of Years

Variable	Teaching experiences	Frequency	Percentages
Age	Less than 1 year	27	6.59%
	1 to 5 years	109	26.59 %
	6 to 10 years	86	20.98 %
	11 to 15 years	57	13.90 %
	16 to 20 years	46	11.22 %
	More than 20 years	84	20.73 %

Source. Own research.

Table 3

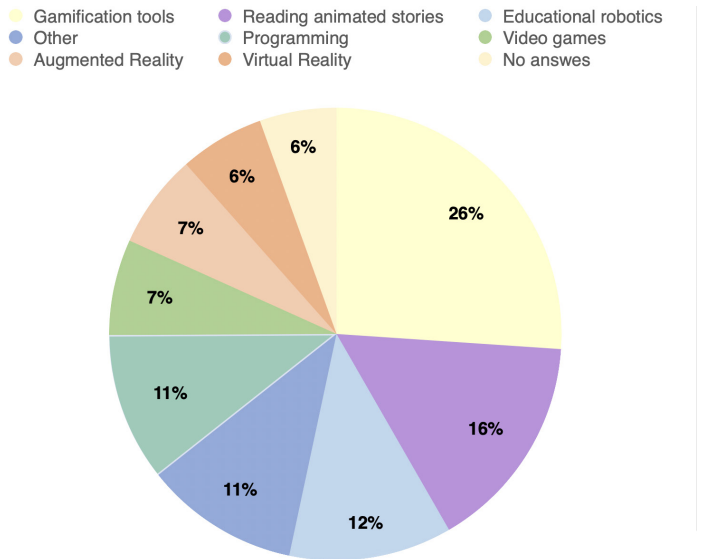
Training Stage in Which Participating Teachers Teach

Variable	Teaching experience	Frequency	Percentages
Stage	Early Childhood Education	97	23.66 %
	Primary Education	153	37.32%
	Secondary Education	105	25.61 %
	University Education	76	18.54 %
	Vocational Training	32	7.80%
	Other educational institutions (language schools, adult education centres, etc.)	38	9.27%

Source. Own research.

Figure 1

Pie Chart Showingt The Most Widely Used Technologies in Terms of Number of Responses/Participants



Source. Own research.

Table 4

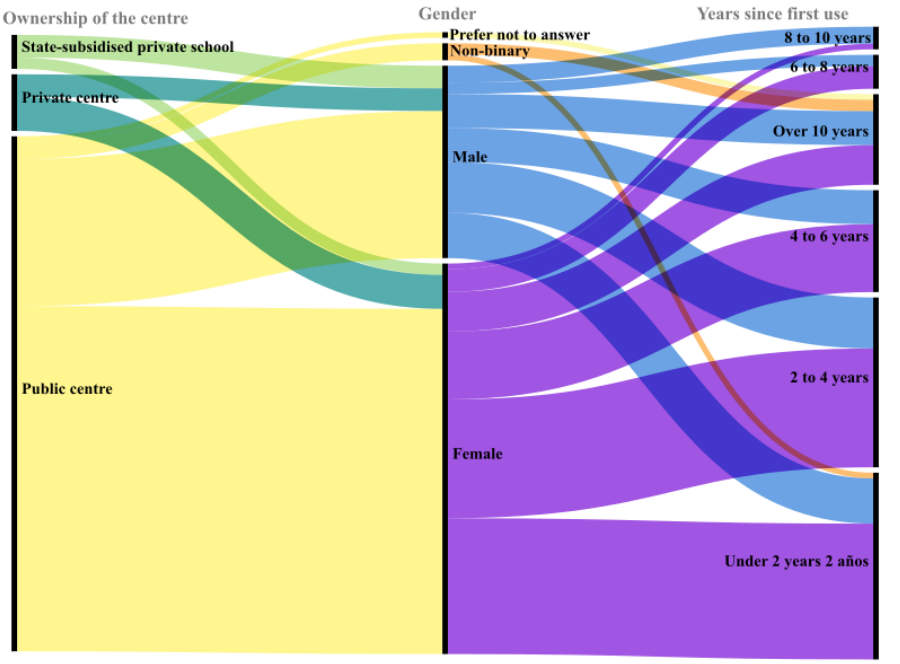
Time since first use of the video game in the classroom, in years

Time of use	Frequency	Percentages of total users
Less than 2 years	33	30.84%
2 to 4 years	30	28.04%
4 to 6 years	18	16.82%
6 to 8 years	6	5.61%
8 to 10 years	4	3.74%
More than 10 years	16	14.95%

Source. Own research.

Figure 2

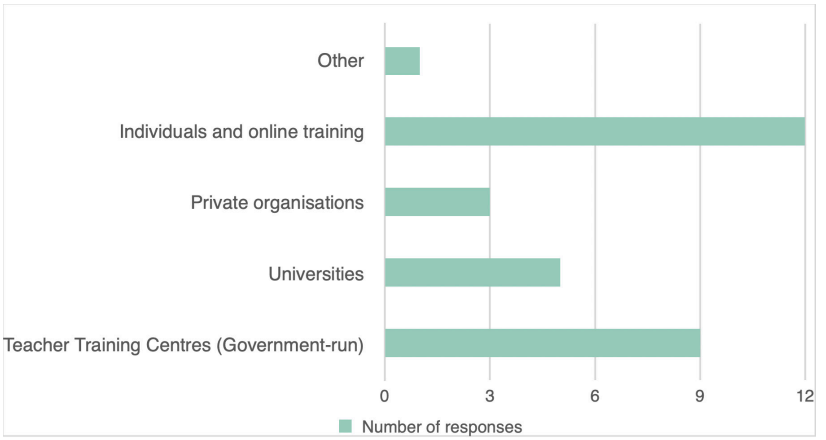
Relationship Between Teacher Profile andtThe Use Of Video Games in The Classroom



Source. Own research.

Figure 3

Source Of Video Game Training Received By Participating Teachers



Source. Own research.

Table 5

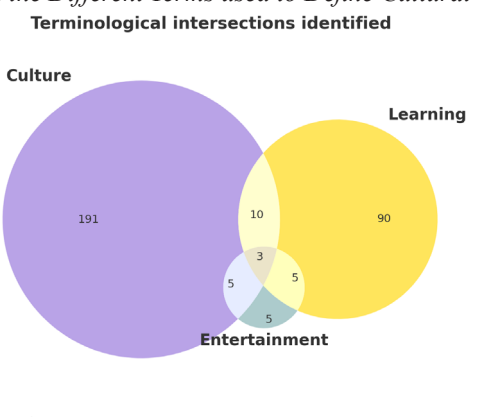
Styles of Grouping in the Use of Video Games in the Classroom

	Frequency	Percentage
Large group	34	8.29%
Small groups	58	14.15%
In pairs	40	9.76%
Individually	48	11.71%
Indistinctly	22	5.37%
Did not use video games in class	303	73.90%

Source. Own research.

Figure 4

Intersections Between the Different Terms used to Define Cultural Video Games



Source. Own research.

Figure 5

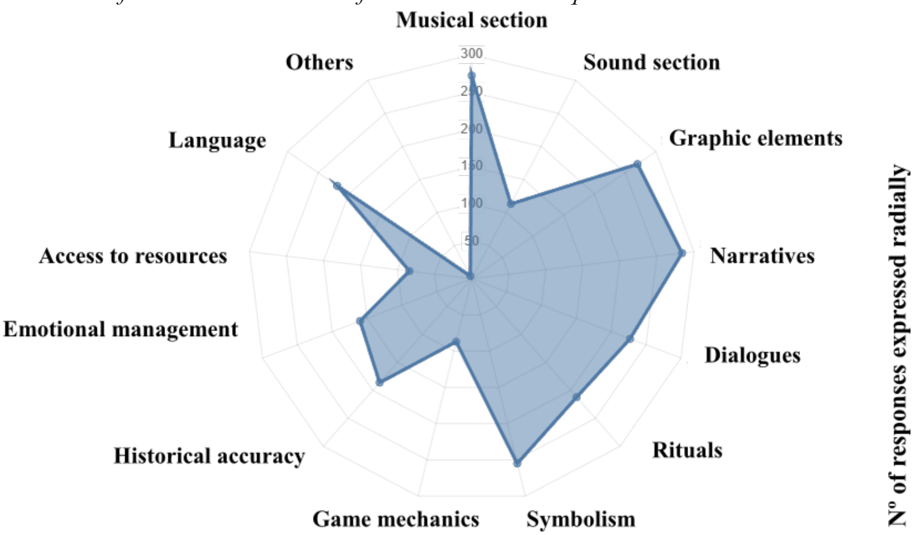
Word Cloud Related to the Term Cultural Video Game

Note. Created using Wordart, thanks to a terminological analysis carried out with data analysis tools/software.

Source. Own research.

Figure 6

Elements of Video Games That Influence Cultural Acquisition



Source. Own research.

Annex B. Questionnaire

Analysis of the incidence of use and impact of video games in the classroom. A study with a cultural perspective.

Fields marked with * are mandatory.

Introduction and description of the survey

The following questionnaire belongs to a Doctoral Thesis study developed at the University of Extremadura (Spain). Specifically, the research design has been carried out by Mario Cerezo Pizarro. Substitute Professor in the Department of Educational Sciences at the University of Extremadura, who is carrying out the Doctoral Programme in Innovation in Teacher Training. Assessment Analysis of Educational Practice and ICT in Education (R010). The Doctoral Thesis is supervised by Francisco Ignacio Revuelta Domínguez and Jorge Guerra Antequera, both professors and researchers at the University of Extremadura.

Informed consent

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I agree that I have read and understood the informed consent below.

The informed consent follows the guidelines or recommendations for the area of Social Sciences of the Bioethics Committee of the University of Extremadura (Spain).

Informed_Consent_Model.pdf

Information on participants (Section 1 of 5)

* 1 Age (Numerical range, both values inclusive)
  - Less than 18 years
  - Between 18 and 25 years old

- ○ etween 26 and 30 years old
- ○ Between 31 and 35 years old
- ○ Between 36 and 40 years old
- ○ Between 41 and 45 years old
- ○ Between 46 and 50 years old
- ○ Between 51 and 55 years old
- ○ Between 56 and 60 years old
- ○ Between 61 and 65 years old
- ○ Over 65 years old

* 2 Gender
  - ○ Female
  - ○ Male
  - ○ Non-binary
  - ○ Prefer not to answer
  - ○ Other

* 3 If you selected the option Other, please indicate in this space. We understand that binary categorisation is not sufficient, and the field of research is still adapting. Your response will serve to improve future research.

* 4 Teaching experience
  - ○ Less than 1 year
  - ○ 1 to 5 years
  - ○ 6 to 10 years
  - ○ 11 to 15 years
  - ○ 16 to 20 years
  - ○ More than 20 years

5 Faculty (If you work in more than one, please indicate by ticking two boxes)
- ☐ Early Childhood Education
- ☐ Primary Education
- ☐ Secondary Education
- ☐ Vocational Education
- ☐ EOI teaching staff
- ☐ University Education
- ☐ Other Higher Education, Adult Education, Non-regulated Education, etc. (Please specify)

* 6 If you select the option other bodies, specify your working area

* 7 Ownership of the centre
  - ○ Public

- Private
- Subsidised

* 8 ICT experience: Do you consider that your work is directly linked to/needs Information and Communication Technologies (ICT)?
  - Yes
  - No
  - Don't know / Don't answer

* 9 Do you use them or include them in your classes?
  - Yes
  - No
  - Don't know / Don't answer

* 10 What type of ICT technologies or tools do you introduce in your classroom? (Select as many options as technologies you introduce in your usual practice).
  - [ ] Video games
  - [ ] Gamification tools
  - [ ] Animated stories
  - [ ] Virtual Reality
  - [ ] Augmented Reality
  - [ ] Educational robotics
  - [ ] Programming
  - [ ] Other

* 11 If you selected the other option, please specify which one:

Previous teacher training and impact on their teaching practices (Section 2 of 5)

* 1 Have you received previous training on the use of video games in the classroom?
  - Yes
  - No

* 2 What agency or entity provided this training?
  - Teachers and Resources Centers (resource and training centers dependent on the autonomous administrations)
  - Universities
  - Private entities
  - Individuals (Online training and other self-taught alternatives)
  - Other

* 3 If you selected other, specify which one

* 4 Was the fact of receiving this training a determining factor in the subsequent inclusion of the video game in your classroom?
  - Yes
  - No
  - Don't know / Don't answer

* 5 Why was it? Describe your answer.

* 6 How did this subsequent implementation change from what you were doing previously?

Use of Video Games in the Classroom (Section 3 of 5)

The use of video games in the classroom is understood to mean not only the use of commercial video games and/or their elements or narratives. But the so-called educational video games (included within editorial proposals, serious video games, mobile video games and any other type of game or associated playful-digital element).

* 1 Do you consider yourself a player?
  - Yes
  - No

* 2 What genre and video game titles do you usually play?

* 3 Do you use or have you used video games in your teaching practice?
  - Yes
  - No

* 4 How long have you been using video games in the classroom?
  - Less than 2 years old
  - From 2 to 4 years old
  - From 4 to 6 years old
  - 6 to 8 years old
  - 8 to 10 years old
  - More than 10 years old

* 5 If you answered yes to the previous question, you consider this to be (More than one possible choice):

- [ ] Commercial video games
- [ ] Educational video games
- [ ] Serious games
- [ ] Simulator
- [ ] Digital board games
- [ ] Immersive experiences (Augmented Reality)
- [ ] Own video game (Teacher creation)
- [ ] Video game creator (Used by students)
- [ ] Gamified activities
- [ ] Templates from platforms such as Genially or JClick

* 6 And more specifically use (Write the title or titles of the video games):

* 7 What template and gamification platforms or tools do you use?

* 8 What for (didactic objective, content, justification, etc.)?

* 9 How did you introduce or implement video games in your classroom?

- ( ) Complete video games
- ( ) Video game sections (Partial use)
- ( ) Other

* 10 If you selected other, specify which one

* 11 Regarding your use of video games in the classroom I would say that it is intended for (It is possible to select more than one option):

- [ ] Improve motivation
- [ ] Expand knowledge (Source of information)
- [ ] Training (Develop practical skills)
- [ ] Evaluation processes
- [ ] Entertainment

* 12 Regarding the number of students participating (More than one possible choice):

- [ ] The whole class
- [ ] A specific group (booster groups)
- [ ] Teacher only

- [ ] Small groups
- [ ] Pairs
- [ ] Individual
- [ ] Indistinctly

The use or play sessions are conducted:

- ( ) Mainly in the school environment
- ( ) Mostly outside the school (homework, homework, parallel practices, play sessions at home, etc.).
- ( ) Indistinctly, both inside and outside the school and school hours.

Finally, regarding the introduction of the video game and the interaction you and your students enga through video games, I would say it is (Multiple Choice):

- [ ] Guided teaching
- [ ] Guided exploration
- [ ] Free discovery

onceptualization and use of video games as a cultural product (Sectio f 5)

Are you familiar with the term cultural video games?

- ( ) Yes
- ( ) No

What do you understand by cultural video games?

Could you name any video game with a strong cultural content?

- ( ) Yes
- ( ) No

If yes, please indicate the full title if known:

What elements of video games do you identify as cultural transmitters? (More than one possible ans oice)

- [ ] Musical section (Melody, soundtrack, ambient music)

- [ ] Rituals (Rites and social customs)
- [ ] Symbology (Representation of ideas, concepts, concepts, emotions, etc.). Understood by different cultures and societies)
- [ ] Mechanics (Game-player interaction)
- [ ] Fidelity and historical concreteness of the facts.
- [ ] Emotional management (Construction, identity, resignification, being aware of the emotions involved, emotional capacity)
- [ ] Access to the resource (Availability)
- [ ] Language
- [ ] Other

* 6 If you indicated the other option, please specify below

Post and prospective study (Section 5 of 5)

This research is part of a broader process. It includes the response to teachers' demands and research, as well as the possibility of providing teachers with specific resources for the use of video games in the classroom.

* 1 Do you have problems identifying and introducing cultural video games in the classroom?
- ( ) Yes
- ( ) No

* 2 Which ones?

3 Do you consider that specific training in the use of video games in the classroom is necessary?
- ( ) Yes
- ( ) No
- ( ) Don't know / Don't answer

* 4 Do you consider it necessary to develop and disseminate a tool for the analysis of cultural video games?
- ( ) Yes
- ( ) No
- ( ) Don't know / Don't answer

* 5 Do you consider it necessary to draw up a guide for the identification of cultural video games?
- ( ) Yes
- ( ) No
- ( ) Don't know / Don't answer

* 6 Which of the following do you consider to be of interest to you? (Select as many options as you find interesting)

- [ ] Specific training on video games in the classroom
- [ ] List of cultural resources or video games
- [ ] Pilot experience of introducing video games in the classroom (Supported by the University)
- [ ] Other

* 7 If you indicated that you are interested in another aspect, please specify which one:

* 8 In which province is your workplace located? (Including Autonomous Cities)

- ( ) Álava
- ( ) Albacete
- ( ) Alicante
- ( ) Almería
- ( ) Asturias
- ( ) Ávila
- ( ) Badajoz
- ( ) Barcelona
- ( ) Burgos
- ( ) Cáceres
- ( ) Cádiz
- ( ) Cantabria
- ( ) Castellón
- ( ) Ciudad Autónoma de Ceuta
- ( ) Ciudad Autónoma de Melilla
- ( ) Ciudad Real
- ( ) Córdoba
- ( ) Cuenca
- ( ) Girona
- ( ) Granada
- ( ) Guadalajara
- ( ) Guipúzcoa
- ( ) Huelva
- ( ) Huesca
- ( ) Islas Baleares
- ( ) Jaén
- ( ) A Coruña
- ( ) La Rioja
- ( ) Las Palmas
- ( ) León
- ( ) Lleida
- ( ) Lugo
- ( ) Madrid
- ( ) Málaga
- ( ) Murcia
- ( ) Navarra
- ( ) Ourense

- Palencia
- Pontevedra
- Salamanca
- Santa Cruz de Tenerife
- Segovia
- Sevilla
- Soria
- Tarragona
- Teruel
- Toledo
- Valencia
- Valladolid
- Vizcaya
- Zamora
- Zaragoza
- Fuera de España

* 9 If you selected the option outside Spain. Define the location and country below.

* 10 If you have chosen to be interested in one of the above aspects, please provide a contact method or email address so that we can contact you in the future.

11 Other contact email

Acknowledgement

Thank you very much for participating in this research! Your collaboration is fundamental and we are very grateful for the time you have dedicated to us. Sincerely Mario Cerezo Pizarro, Francisco Ignacio Revuelta Domínguez and Jorge Guerra Antequera.