

Didactic experiences. Gamification intervention proposal in physical education based on the Harry Potter universe r. Vol. 8, n.º 1; p. 81-106, January 2022.

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Propuesta de intervención de gamificación en educación física basada en el universo de Harry Potter

Gamification intervention proposal in physical education based on the Harry Potter universe

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Resumen

En el presente trabajo se elabora y desarrolla una propuesta de innovación docente en el área de Educación Física para el primer curso de Educación Secundaria Obligatoria en la que se utilizó la metodología de gamificación para trabajar los deportes alternativos. La gamificación es una metodología que consigue aumentar uno de los aspectos más relevantes para el aprendizaje del alumnado, como es la motivación. A través de esta intervención se pretende, ofrecer un recurso educativo que ayude a mejorar la motivación e implicación del alumnado en las clases de Educación Física de acuerdo con los antecedentes de investigación existentes sobre la gamificación. En esta propuesta se trabajaron los deportes alternativos “Juego de Palas” y “Ultimabola” a través de una unidad didáctica gamificada basada en el universo de Harry Potter, con los objetivos de mejorar los elementos técnico-tácticos propios de estos deportes y mostrar habilidades y actitudes de respeto, trabajo en equipo y deportividad. La propuesta fue dividida metodológicamente en cuatro partes interconectadas que incluyen, a su vez, los instrumentos necesarios para evaluar al alumnado acerca de los contenidos trabajados, siendo estas partes el desempeño mágico individual, el desempeño mágico colectivo, la actitud mágica y el diario mágico. Los resultados indican que se produce buenos resultados de aprendizaje así como una gran implicación de los estudiantes tanto en los desempeños individuales como colectivos.

Palabras clave

Educación; juego; motivación; metodología innovadora; adolescentes; gamificación.

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Abstract

In the present article, a teaching innovation proposal in the area of Physical Education was elaborated and developed, in which the innovative methodology of gamification was used to work on alternative sports in the first year of secondary education. Gamification is a methodology that manages to improve one of the most important aspects for the students learning, such as motivation. Through this intervention it is intended to offer an educational resource that helps to improve the motivation and involvement of the students in Physical Education classes in accordance with the existing research background on gamification. In this proposal, the alternative sports "Juego de Palas" and "Ultimabola" were worked through a gamified didactic unit based on the Harry Potter universe, with the aim of improving the technical-tactical elements of these sports and showing skills and attitudes of respect, teamwork and sportsmanship. The proposal was methodologically divided into four interconnected parts that include, in turn, the necessary instruments to evaluate the students about the contents worked on, these parts being the individual magical performance, the collective magical performance, the magical attitude and the magical diary. The results indicate that good learning results were obtained as well as a great involvement of the students in both individual and collective performances.

Keywords

Education; game; motivation; innovative methodology; teenagers; gamification.

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Introduction

Today, our society is changing, our students are changing, but are the teaching models changing as well? Traditionally, schools have focused exclusively on the development of students' cognitive abilities, leaving aside aspects that are increasingly relevant in the classroom, such as emotional and affective intelligence (Soriano & Osorio, 2008). Given the current needs required by students, such as individualization, the work on affective, intellectual, motor, emotional qualities, etc., it is found that current education does not fully cover them, maintaining stagnation on an outdated model (Cañada, Morales, & Morón Monge, 2017).

On the other hand, there is a need to implement new methodologies. As Pérez, Rivera, and Trigueros (2019) point out, it is necessary to move away from conventional teaching strategies, where the focus of teaching is on the teacher and not on the students, and move towards other educational alternatives that seek to make students active, and that are opposed to traditional teaching styles (Navarro, Martínez, & Pérez, 2017).

One of these alternatives is gamification, a methodology that consists not only in the inclusion of games, but also in the use of some of their elements such as mechanics, aesthetics or strategies, to get participants involved, enhance learning and problem solving, and motivate action (Deterding, Khaled, Nacke, & Dixon, 2011; Kapp, 2012; Blázquez, 2019). In other words, gamification uses the elements of the game in areas other than the game itself, and with the intention of promoting greater learning.

Gamification can be applied in many areas, such as business and marketing; however, it is in education where there is a growing need for its use as a way to improve student motivation by offering them positive experiences that promote more meaningful learning and emotional development (Vázquez-Ramos, 2021). This improvement in student motivation is considered one of the most relevant psychological components to improve student learning and academic performance (Schulz, 2016).

Reviewing the research background in which gamification interventions are carried out (Flores 2019; Dichev & Dicheva, 2017; Vila-Bruguera, 2019; Vázquez-Ramos, 2020), the bases of this methodology in the educational field are the use of an imaginary story as a common thread with the aim that students acquire the skills and achieve the proposed

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objectives, the inclusion of elements of games or video games such as challenges organized by systems of levels, missions and rewards in the form of points, badges, etc. and that the proposal contains fantasy elements to arouse the curiosity of the students.

This methodology works on the emotional and motivational aspects of students, turning the teaching-learning process into a more fun and novel process. In relation to the Physical Education class, according to Arufe (2019), the main objective of this methodology is to improve the motivation of students towards the subject and towards the contents taught in it. The student can perceive the content he or she is learning from a different perspective, allowing him or her to better acquire certain knowledge or improve some specific skills (Prieto, 2020).

An aspect closely related to gamification, and from which it is born, is the game. The game is a distinctive feature of the human being (Huizinga, 1984), it has a playful component that allows enjoyment, at the same time that serves as a means of learning for people throughout all their life stages. Moreover, play has a series of specific characteristics that differentiate it from other human activities, such as being a free, regulated activity, with spatio-temporal limits, which absorbs the player, has no material interest and originates associations among the participants. At the same time, the game in physical education allows the development of different aspects related to motor skills, the development of cognition, and socialization (Martínez, 1998). In this line, besides developing the aforementioned abilities in the individual, the game is fun and a challenge for the individual, therefore it is a pleasurable activity that produces a psychological and physiological response, among other aspects, by the production of dopamine; this aspect causes greater perseverance when it comes to achieving a goal. According to Navarro et al. (2017), this hormone is generated when we achieve a goal after taking a risk, as occurs in game situations; therefore, its didactic use can increase motivation, attention, and learning in students.

Gamification in the classroom, as it has been previously exposed, proposes a playful way of working the contents and competences of the different subjects, using game elements, but being faithful to the formal aspects of the teaching-learning process. It is based on the planning of the activities, trying to link them in a complete way with the competences and

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contents previously established at a legislative level and at a centre level, in the didactic programmes of the teacher.

Different studies have analyzed the influence that gamification has on student learning and motivation (Monguillot et al., 2015; Apostol, Zaharescu, & Alexe, 2013; Navarro et al., 2017). The results show the potential that this methodology has as a learning strategy in which motivation is increased and therefore the participation of adolescents with the practice of physical activity in Physical Education classes, in addition to obtaining other benefits such as those exposed by Martínez, Rodríguez, Ochomogo, and Miguelena (2019): promoting cooperation, favoring the retention of learning, and even producing behavioral changes in students.

Based on the above, the main objective of this work was to develop and apply an intervention in the area of physical education based on gamification for the work of alternative sports in the first year of secondary education. To get students involved in the teaching-learning process during the development of the gamified didactic unit taking as a starting point the structure and functioning of the "Harry Potter" universe, inspired by the books and films created by the writer J. K. Rowling.

Materials and Methods

Non-experimental, descriptive, and longitudinal design.

Participants

The participants were 111 students from four units of the first year of compulsory secondary education (ESO), from a secondary school in the city of Seville (Andalusia). Age of the students $M=12.61 (\pm 0.64)$. The 54.95% were girls. Distribution in each unit: 27 students in group A, 27 in group B, 30 in group C, and 27 in group D. Inclusion criteria: do not have any type of pathology that prevents the practice of physical-sports activities developed during physical education classes.

Instruments:

To assess learning outcomes related to the practical part of the didactic unit, different assessment instruments were used:

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Class notebook: At the end of the didactic unit, the students had to present a class notebook in which they had to collect an entry for each day, recording the date and adding a title, and describe an activity of the session, as well as adding a personal reflection.

Rubric: During the didactic unit, a series of challenges were carried out, each of which had a specific rubric with which the performance of each student was measured.

Teacher's notebook: within this instrument a checklist was used to record a series of aspects related to social attitudes of respect, teamwork, and sportsmanship of the students. The teacher recorded in each session if any student did not comply with any aspect of the checklist.

The variables analyzed were: final grades, as a function of number of challenges, students' attitude, work done in class journals.

Procedure:

This proposal was put into practice during the months of April and May, coinciding with the beginning of the third quarter of the academic year. The didactic unit consisted of eleven sessions, including a presentation session, five sessions dedicated to the paddle game, and five sessions dedicated to the alternative sport ultimabola. During the first session, the didactic unit was presented through the use of a fictitious letter written by the headmaster of the magical school of Hogwarts, and it was explained to the students each of the parts of the proposal and the way in which the unit was going to be evaluated. Also, the presentation session of the unit was used to carry out a pretest with the online administration of the motivation questionnaire. Participation in the data collection process was voluntary and anonymous, respecting the ethical standards established in the Declaration of Helsinki.

During the rest of the sessions, the contents foreseen for the didactic unit dedicated to alternative sports were developed and information about the students' progress was collected by means of different challenges and competitions. These challenges and competitions were used as evaluation instruments for the didactic unit as shown in the present work. In addition, the students were also offered the necessary feedback so that they could see their progress in

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the unit as it progressed. Finally, at the beginning of the last session of the unit, a post-intervention motivation questionnaire was carried out.

As mentioned above, the gamified proposal is based on the "Harry Potter" books. For this, a previous research about this magical world was carried out by reading the books written by J.K. Rowling and watching the films directed by Chris Columbus, Alfonso Cuarón, Mike Newell and David Yates.

Data analysis

Descriptive analysis of the final grades obtained by the students during the practice of the didactic unit, expressed by means of means, frequencies, and percentages. Similarly, a comparison of means was made according to the sex and group variables, using, according to the normality results obtained, the parametric Student's t-test, considering as significant the differences obtained with a level of significance $p < 0.05$. The Chi-square test was also used for the bivariate analysis between the aforementioned variables of sex or age and the nominal variable grade (outstanding, notable, pass and fail).

Contextualization of the intervention proposal:

The framework created in the didactic unit is complex, so the following is a description of those elements that are most relevant for the development of the proposal, starting with a contextualization of the same.

Harry Potter is a teenager born with the gift of magic. Like him, there are many other people who can do magic; however, this magical world is secret and cannot be revealed to non-magical people, also known as "Muggles". Magical people, when they are young, enter a special school for wizards and witches, which is located in a secret place somewhere in the geography of the United Kingdom. This school has the name of "Hogwarts School of Witchcraft and Wizardry", and in it are given different subjects to those of a conventional school, such as: enchantment, herbology, potions, history of magic, or defense against the dark arts.

New students, upon arrival at the school, are selected by a magical hat for one of the school's four houses: Gryffindor, Ravenclaw, Hufflepuff, and Slytherin. Each house is named

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after one of the school's founders, and students are selected for the houses based on the magical qualities they possess. When a student is selected for a house, he or she will belong to that house for all the years he or she studies at the school.

In addition, within the school itself, there is an annual competition between the four houses that make up the school. This competition is called the "*House Cup*". The system of this competition consists of students belonging to each house having to get as many points as possible for their house. In this way, the house that has accumulated the most points at the end of the school year will be the winner of the cup, and a banquet will be held in their honour. There is also a historical locker where you can see the number of trophies won by each house over the more than 1000 years of Hogwarts school history.

On the other hand, within the magical world there are different magical ranks depending on the level of magic a person possesses, being these:

- Muggle
- Squib
- Magician or Mage
- Auror or Aurora
- A sorcerer or sorceress of the Order of Merlin.

Results

Firstly, we will proceed to expose the results that refer to the elaboration and implementation of the didactic proposal developed in the educational centre by the teacher. Then, the specific materials, evaluation system, and finally, the results obtained by the students during the development of the unit will be shown.

Elaboration and development of the didactic unit

The proposal was developed based on two area objectives established by Instruction 9/2020, of June 15, which is the legislative document at the Andalusian level that collects the objectives and curricular content in ESO. These two objectives are:

- Objective 7: To know and successfully apply the main technical-tactical fundamentals and/or specific motor skills of physical-sports activities.

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- Goal 11: Demonstrate social skills and attitudes of respect, teamwork, and sportsmanship in participation in physical activities. (p.174)

From these two area objectives established in the curriculum, the following didactic objectives were established, as shown in Table 1.

Table 1. *Didactic objectives of the gamified didactic unit. Own elaboration*

Objective no.	Didactic objectives of the gamified proposal
1	To introduce students to alternative sports.
2	Learn the basic rules of the paddle game and Ultimabola.
3	Work on the basic technical-tactical elements for both sports.
4	To promote fair play and non-discrimination in sport.
5	To teach students to play as a team and to cooperate.

These were put in relation with the area objectives presented in Instruction 9/2020 of 15 June and with the stage objectives established by the current legislation at state level in Royal Decree 1105/2014, of 26 December. In the same way, these didactic objectives were also related to the key competencies for compulsory secondary education proposed by Order ECD/65/2015, of 21 January, and are set out in the following section. Table 2 shows this relationship:

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Table 2. Relation of the didactic objectives selected for the didactic unit with the area objectives, the stage objectives, and the key competences. elaboration of our own.

Didactic objectives	Area Objectives	Stage Objectives	Key Competencies
1) Introduce students to alternative sports.	4, 11	a, k	CSC
2) Learn the basic rules of the paddle game and Ultimabola.	11, 12	e, i	CD, CAA, CSC,
3) Work on the basic technical-tactical elements for both sports.	4, 7	g, k	CMCT, CSC,
4) To promote fair play and nondiscrimination in sport.	10, 11	a, c, k	CSC
5) To teach students to play as a team and to cooperate.	10, 11	a, d, k	CCL, CSC,

Note: In this table, the numbering of the area objectives and stage objectives refers to the terminology established by Instruction 9/2020 of 15 June and by Royal Decree 1105/2014, respectively. CCL (Competence in linguistic communication), CMCT (Mathematical competence and basic competences in science and technology), CD (Digital competence), CAA (Learning-to-learn competence), and CSC (Social and civic competence).

The content worked in this didactic unit was the alternative sports, belonging to Block 3 of the content for this course in the current legislation of the autonomous community of Andalusia (Instruction 9/2020, June 15), specifically the game of paddles and Ultimabola.

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Table 3. Contents established by Instruction 9/2020 that are worked on in the didactic unit and specific contents of the didactic proposal. elaboration of our own.

Games and Sports. for the 1st ESO (Instruction 9/2020)	Specific contents of the didactic unit
Technical fundamentals and specific motor skills of individual and group physical-sports activities.	Knowledge of alternative sports: paddle game and Ultimabola.
Common tactical principles of the physical-sport activities of collaboration and opposition collaboration. Objectives of the attack and defense game.	Work on the basic technical-tactical elements in these alternative sports.
Passing line, creation and occupation of space, etc.	Knowledge of the materials and basic rules of these alternative sports.
Alternative games such as school hockey, ultimate, school rugby, etc. Cooperative Games	Experimentation of different ways to play these alternative sports.
Promotion of tolerance and sportsmanship attitudes as participants in physical and sporting activities.	Active participation in the game, showing teamwork and respect for rules and teammates.
Acceptance of one's own level of performance and willingness to improve. Development of teamwork skills and cooperation with respect to the individual level.	Use of alternative sports as a means of encouraging mixed teams and co-educational work.

Methodologically, the gamification proposal was structured into four interconnected parts. Likewise, the class group was randomly divided into four teams corresponding to the four "Hogwarts school houses".

- a) Individual Magic Performance
- b) Collective magical performance
- c) Magic Attitude
- d) Magic Diary

a) Individual Magical Performance: In this gamification, students acted as aspiring wizards at Hogwarts School of Witchcraft and Wizardry. Their goal was to become wizards and wizards with the highest possible abilities. To become great wizards, the Hogwarts students had to learn as many magic spells as possible.

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To learn and acquire these magic spells, the students had to complete a total of five challenges. The challenges were weekly and performed at the end of the sessions, on either of the two scheduled class days per week. In each of them, students could obtain up to a maximum of three spell cards according to their performance in the challenge. At the end of each week, the teacher counted the cards obtained by each of the students and communicated the results of the count and, therefore, their individual performance in the challenge by email.

b) Collective Magical Performance: Remembering what has been mentioned above, the students were randomly divided into four teams, each team corresponding to one of the four houses at Hogwarts School. Each team corresponded to one of the four houses of Hogwarts School. During the unit, the four houses competed against each other in the so-called *House Cup*.

In this competition, the students in the class had to score as many points as possible for their house in order to identify, at the end of the lesson, the house that won the cup. In this way, during the P.E. lessons, the pupils not only had the possibility to get magic spells to increase their magic rank, but also strived to score points for their houses.

Ways to earn points for team members:

1. Through the weekly challenges: In them, the students could also get points for home, which were accumulated until the end of the didactic unit.
2. Through direct confrontations with other houses: In the last session dedicated to each sport, competition activities were carried out between the different teams. In these activities, the houses competed against each other to get points through direct duels. The scoring system was different according to the type of sport practiced, as shown in Tables 4 and 5.

Table 4. *Information on the achievement of points during challenges. elaboration of our own.*

Type of sport	Game mode	Points earned
Ultimabola	Matches are held between the houses 1 vs 1, the winners play against each other, as well as the losers. At the end, a tally is made of the matches won by each house, and a ranking is created based on the win-loss balance.	1º) + 25
		2º) + 18
		3º) + 15
		4º) + 12
Set of shovels	In those sports that are individual, matches are arranged between wizards (pupils) on courts that are adjacent to each other. The winners go up one court, and the losers go down one court. In addition, we divide the courts into four sections. At the end of the session, students will score points for home	1º) + 4
		2º) + 3
		3º) + 2
		4º) + 1

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based on which section they are in.

Table 5. *Information on the scoring of points during clashes between houses. elaboration of our own.*

Attempt no.	Points for the house
1	+ 3
2	+ 1
Challenge not achieved	+ 0

Just as points could be gained, in the *House Cup* participants could lose points belonging to their house as a result of their actions. The penalty for loss of points was in the hands of the teacher, who could subtract points from the house depending on the existence of inappropriate behavior by the participants. Likewise, the teacher collected the points acquired by each house, updating and informing the students of the classification within the *House Cup*, as a form of feedback and to maintain motivation.

c) *Magical attitude*: in this teaching approach, the aspiring magician could not acquire his or her skill if he or she did not have a good attitude towards magic. Therefore, it was necessary to have good behaviour in the magic classes to reach the maximum potential and, in this way, to reach a higher magical rank.

d) *Magical journaling*: just as aspiring wizards and wizards had to have good magical performance to achieve high magical rank, these aspirants also had to have good magical writing skills. This magical writing was done through the keeping of a personal magical journal. In this journal, the student body had to write an autobiography about the "magic classes" that were taking place.

Didactic material

In this proposal, different didactic resources, both material and digital, were used to improve the experience and learning of the students.

- **Letter of Introduction**: In this first session, the teacher read aloud to the student body a letter written by the headmaster of Hogwarts School of Witchcraft and Wizardry, the wizard Albus Dumbledore. The content of this letter can be seen in Figure 1. The aim of

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this letter was to attract the students' attention and to arouse their curiosity about what the teacher had to say, i.e., to use it as an introduction.



Estimados alumnos y alumnas del Instituto IES Ciudad Jardín,
mi nombre es Albus Percival Wulfric Brian Dumbledore y soy el
director de la Escuela Hogwarts de Magia y Hechicería.

Este año habéis sido seleccionados por el comité de magos de
nuestro centro para convertirlos en estudiantes de magia y, por tanto, en
aspirantes a magos y magas.

Con esta intención, os hemos enviado a uno de los mejores
profesores de nuestra escuela, el mago Ricardo Ortega Jiménez. Él os
enseñará y guiará durante esta aventura mágica. Espero que disfrutéis de
vuestras clases y que os convirtáis en grandes magos y magas.

Firmado: Albus Dumbledore

Figure 1. Presentation letter of the gamified didactic unit for students. elaboration of our own.

- Magic spell cards: these cards could be obtained by students in weekly challenges. In addition, two different types were created, basic spells and special spells. Special spells had a hidden ability that could be used by their holders, as shown in Figures 2 and 3.

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Figure 2. Example of a basic magic spell card. elaboration of our own.



Figure 3. Example of a special magic spell card. elaboration of our own.

- Google Classroom platform: through this platform, it was possible to send the students the magic spell cards on a weekly basis and according to their performance in the challenges. Each student had a Google account authorized by the school with which he or she could access the platform and thus receive the magic spell letters.
- Website: To provide adequate feedback to students about the *Copa de las Casas*, a website was created where the ranking could be checked at any time. This page was updated by the teacher on a weekly basis. The website was customized with images, fonts, badges, etc. related to the Harry Potter universe and Hogwarts School (Figure 4).

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Figure 4. Display of the web page created to provide feedback to students about the classification of the Copa de las Casas. elaboration of our own.

Evaluation

During the proposal, each of the elements of the proposal, magic diary, individual magic performance, magic attitude, and collective magic performance, had a weight within the evaluation of the students as described below:

- a) Magic diary: the aspiring magician individually had to be able to write adequately and reflect on the "magic lessons" taught at the school. For this purpose, the class diary was used as an evaluation tool. At the end of the didactic unit, they had to hand in all the entries made to the teacher through the Google Classroom platform. This element accounted for 30% of the final grade for the unit.
- b) Individual magical performance: valued the participation and achievements of the students during the practices of the subject of physical education. It was evaluated according to the magic rank achieved and the challenges completed. The students had to accumulate the cards of magic spells obtained in the weekly challenges. At the end of the didactic unit, depending on the number of spells "learned" (i.e. accumulated), the students reached a certain magic rank. Table 6 shows the magic ranks established and the number of spells needed to reach them. This performance accounted for 40% of the final grade.

Table 6. Relationship between the magic ranks, the number of spells, and the final score. elaboration of our own.

Magic Ranks	No. of Spells	Corresponding Qualification
Muggle	0 - 5	0 - 4

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Squib	6 - 7	5 - 6
Magician	8 - 11	7 - 8
Auror	12 - 13	9
Sorcerer of the Order of Merlin	14 - 15	10

In addition, each range of magic that was obtained at the end of the didactic unit would have a numerical qualification, and that meant the final qualification of the students corresponding to the practical part of the evaluation.

- c) **Magical attitude:** It was necessary to have good behaviour in the magic lessons to reach the maximum magical potential. For this aspect, the teacher used the teacher's notebook, where a checklist is included to evaluate the magical attitude. This element represented 30% of the final grade.
- d) **Collective magical performance:** This part of the gamification does not have a specific evaluation, but it serves as a means to obtain a better magical attitude and to increase the motivation of the class group. It is one of the elements of the gamification dynamics that allows us to develop the proposal.

The results are shown in a concrete way, from an example of individual development obtained by a student during the whole didactic unit, as can be seen in Table 7. First of all, this student completed the five proposed challenges on the first attempt and thus obtained 15 points for the house he belonged to. Furthermore, in these individual performance-based challenges, he achieved 12 magic spells, making him an Auror, which translated into a score of 8.5 in this part of the assessment. Likewise, his behaviour was good, so he achieved the highest mark in the magical attitude section. His magical journal had all the necessary requirements in its submission, but the personal reflection section was not quite good, so this student got a grade of 9 in this section. The final grade for this student, based on all the different evaluation criteria established for the didactic unit, was 9.1.

In addition to these scores, he added the points obtained through direct confrontations against other rival teams, with a total of 3 points for his house playing paddles and a total of 25 points playing ultimabola, allowing him to be part of the winning team of the *House Cup* in his class, as can be seen in Figure 5.

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Table 7. Summary of the work developed by a student in the didactic unit of a student. elaboration of our own.

Challenges - overcome	Spells achieved	Magic Range	House	Points earned for your home	Final Rating
5	12	Auror	Slytherin	43	9.1

Figure 5 shows how the *House Cup* competition ended in the class to which this student belonged. The use of the website by the student allowed him to know at all times how his team was doing in the tournament classification, thus achieving greater involvement on his part.



Figure 5. Final result of the Copa de las casas competition for one of the groups of the 1st ESO. elaboration of our own.

The results obtained from the qualification of the practical part corresponding to the performance in the didactic unit showed high marks in the four groups of the first ESO, M = 8.35 (SD= 1.45).

The differences between the groups were significant $p < 0.01$, with lower scores in group C (Table 8).

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Table 8. Differences between groups of the final average grade corresponding to the practice of the gamification-based didactic unit.

1ST ESO	Group A	Group B	Group C	Group D
8.41 (± 1.45)	9.27 (± 0.81)	8.33 (± 1.30)	7.61 (± 1.62)	8.53 (± 1.43)

In terms of sex, although, as previously mentioned, the grades were high, when analysing the distribution of A's and B's, the boys obtained higher percentages of A's than the girls (70% and 26.2% respectively).

Table 9. Differences by sex in practice ratings.

Alphanumeric rating		Women	Men	Total	<i>p</i>
Outstanding (> 9)	n	16	35	51	0.001
	%	26.2%	70%	45.9%	
Notable (between 7 < 9)	n	34	13	47	
	%	55.7%	26%	42.3%	
Approved (between 5 < 7)	n	11	1	12	
	%	18%	2%	10.8%	
Suspensions (< 5)	n	0	1	1	
	%	0%	2%	0.9%	
Total	n	61	50	111	
	%	100%	100%	100%	

Also, the participation was very high, as shown by the magical rank achieved by the students. 88.1% managed to pass between 8 and 15 spells, reaching the levels of "Wizard", "Auror", or "Sorcerer". Significant differences are observed in group C, where 33.3% remained at lower levels (higher percentages in the Muggle and Squib ranks) as they did not pass at least 8 spells.

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Table 10. Differences by groups in the percentage of students who have reached each of the magic ranks.

Groups	Muggle	Squib	Magician	Aurora	Sorcerer	Total
A			7.4%	33.3%	59.3%	100%
B		7.4%	22.2%	37%	33.4%	100%
C	13.3%	20%	60%	6.7%	0%	100%
D		3.8%	27%	23.1%	46.1%	100%
Total	4%	8.1%	30%	24.5%	33.6%	100%

Discussion

Despite not having found any experience in which the theme of Harry Potter is used to create a gamified didactic unit in the subject of Physical Education for ESO students, it has been found that gamification is a very recent methodology that is becoming increasingly relevant.

According to the review of research on gamification, according to Escarvajal and Martín-Acosta (2019), the first studies on gamification in physical education appear in 2015, where we can find the highest number of publications (33.3%). In 2016, the percentage is lower, dropping to 9.5%. However, in 2017 and 2018 the number of publications increased again, with a percentage of 28.6% for both years.

Similarly, in relation to the educational stage on which these studies were focused, it can be observed that proposals focused on ESO (52.2%) predominate, followed by proposals for the university stage (26.1%) and with a lower incidence for Baccalaureate (13%) and Primary (8.7%) (Escarvajal and Martín-Acosta, 2019). This fact implies that gamified didactic proposals are quite present in the educational stage in which this proposal is developed.

Along the same lines, the review by León-Díaz (2019) confirms that studies on gamification in physical education in Spain are quite recent; and therefore in the process of development.

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The practical intervention designed and implemented showed good results, as reflected in the grades of most students, which is a consequence of adequate participation in the activities and challenges posed during the practical sessions, individually, as well as good commitment to the assigned group, as shown by the effort of students to get points for their "houses"; this could be related to an improvement in motivation with this type of teaching methodology, so in future work we will estimate the effect of this methodology on this type of factor to verify this hypothesis, in line with the results obtained by other studies (Monguillot et al. 2015; Apostol, Zaharescu, & Alexe, 2013; Prieto, 2020) in which gamification as a learning strategy increased motivation in adolescents thanks to the use of elements typical of this methodology such as badges, points, rankings or trophies.

It would also be essential to analyse the impact of this methodology on other variables such as interest in Physical Education class and other subjects, and learning outcomes. As shown in the study by Navarro et al. (2017), the use of this methodology led to improvements in student motivation for the subject of Physical Education, but also for physical activity in general, greater interest in attending classes, an improvement in behaviour (decreasing conflicts during the period studied) and, as a consequence, an improvement in coexistence at the school.

As has been observed from the elaboration and implementation of this proposal, gamification is a methodological alternative that increases the participation of students and allows working in an effective way on motor and socio-affective aspects in the Physical Education class.

Conclusions

This study presents a gamification-based intervention that can serve as a basis for its use by physical education teachers. The use of this methodology based on the use of the "Harry Potter" universe as the main theme and the use of an appropriate and attractive design of the unit managed to improve the involvement of students, as well as good learning outcomes.

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