

## Game on for gender equality: an evaluation of ultimate team in primary physical education

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### Abstract:

**Introduction:** The purpose of this study was to evaluate the impact of a pedagogical model that utilized the game of Ultimate Team to promote gender equality among primary school students. This study's goals aligned with the United Nations' Sustainable Development Goals (SDGs) 3, 4, 5, and 10, aiming to enhance the students' understanding of equality and the necessity of sustainable development. Previous research has indicated the presence of persistent gender stereotypes and sexist notions in education, thereby necessitating new methods of teaching to foster an environment of inclusivity and equality. **Methodology:** A quantitative, comparative study design was employed, with 50 primary school students comprising the study sample. The students were divided into an experimental group, which received the intervention, and a control group, which did not. The intervention was a didactic proposal based on the game of Ultimate Team, conducted over seven sessions. The evaluation tool was a self-developed questionnaire, which gauged students' attitudes and perceptions toward gender equality before and after the intervention. This questionnaire consisted of items that were directly related to gender stereotypes and equality. **Results:** The data analysis showed no significant changes in the overall egalitarian attitudes of students between the pre- and post-intervention stages. Both the experimental and control groups exhibited similar attitudes toward gender equality. However, there were some notable changes observed in certain items (2, 4, and 9). **Discussion:** Although the intervention did not significantly change the students' overall attitudes towards gender equality, the study yielded interesting insights. The intervention brought to the forefront some persistent stereotypes and sexist notions in the students' responses. Additionally, it was observed that the students struggled to connect their experiences in the game with the broader concept of gender equality. This observation could potentially be attributed to a variety of factors, such as maturity levels, socio-familial influences, or the short duration of the intervention. The need for a more extended and in-depth intervention is highlighted by these results. **Conclusion:** This study emphasizes the necessity of more extensive and interdisciplinary interventions to instill a deeper understanding of gender equality among students. It suggests that games like Ultimate Team could be leveraged as powerful tools to foster an egalitarian society, particularly within the context of Physical Education. Future research might consider these factors to ensure the efficacy of gender equality interventions. There is a need for longitudinal studies that can monitor the long-term effects of such interventions on students' attitudes and behaviors.

**Key words:** gender equality, physical education, primary education, Ultimate Team, pedagogical proposal

### Introduction

Firstly, it should be noted that a quasi-experimental study will be approached, based on the implementation of a didactic proposal. This proposal is named "Uniting forces in The Great Mission of the Ultimate Team" and it is designed and created for the 5th grade of Elementary Education. Therefore, it should be specified that for this study we must focus on delving into different aspects such as gender equality and cooperative sports. To work these two aspects through our didactic proposal, it will be carried out through the sport known as Ultimate Team or Ultimate Frisbee, as it is the ideal sport to work on these aspects, among others. Next, to carry out this study, it is crucial to develop the following theoretical framework, explaining the concepts of the research.

#### *Inclusion: General and Educational*

To tackle this research, it is necessary to discuss inclusion. This could be defined as the set of processes which are aimed at increasing the participation of students in the culture, curricula, and communities of schools (Booth and Ainscow, 2005). On one hand, Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (2006) ensures the right to education for people with disabilities through an inclusive education system at all levels, including pre-school, primary, secondary and higher education, vocational training and

lifelong learning, social and extracurricular activities, and this should be the case for all students. Similarly, Ferrant and Kolev (2016), through a study, affirm that due to the negative relationship between per capita income and gender discrimination in a country, the economic cost of discrimination increases at a high level. On the other hand, it is in 2016 when it is recognized that inclusion has a broader character, that is, it is not only based on people with Specific Needs for Educational Support (UN, 2016). Moreover, we find more problems related to globalized inclusion. In the labor issue, different problems can be found, and considering Arrow (1973), labor discrimination occurs when two workers with similar characteristics are treated differently based on personal characteristics such as gender, race, age, nationality, or sexual orientation. Regarding the school issue, different problems can also be found when it comes to inclusion, especially after a pandemic that has left severe incidents. Considering a Living Conditions Survey (ECV) in 2018 by the National Institute of Statistics, an annual decrease can be seen in homes suffering from a lack of materials that a family cannot afford to have at home, a clear example would be having a computer. In terms of educational inclusion, according to Echeita and Ainscow (2011), it seeks to achieve three different aspects such as the presence, participation, and achievement of all students. Without leaving education aside and continuing with Ainscow (2009), the capacity for educational inclusion lies in its understanding as an endless process of searching for the best way to respond to diversity. It is also important not to overlook the increase in sexist behaviors, especially when the state of alarm was declared. Likewise, it must be related to how inclusion will help achieve the Sustainable Development Goals (SDGs), which are a series of goals that want to be achieved within a 15-year period (UN, 2015). These goals are exactly 17 SDGs which have a total of 169 targets. According to Rieckmann et al. (2017), ESD is based on providing learners of all ages with the knowledge, skills, values, and power of action necessary to overcome the different challenges marked in the 2030 Agenda. Thanks to these objectives set in a time period, gender equality can be worked on both in classrooms and in everyday life. The SDGs that will be employed are the following: SDG number 4 (quality education), number 5 (gender equality) or number 10 (reduction of inequalities), are the main ones with which this research is carried out. Similarly, within these SDGs we find targets which can be related to coeducation.

Therefore, it is of vital importance to link coeducation, according to Heredero de Pedro (2013), it can be defined as the way of educating beyond the social imposition of gender, thus enhancing individual development. Likewise, taking into account the Organic Law for the Improvement of Educational Quality (LOMCE, 2013), it talks about preventing gender violence by promoting equality between men and women. Similarly, in this context, coeducation should be interpreted as an effort to eliminate inequalities and a process of incorporating knowledge, values, attitudes, and positive male and female abilities, equally, promoting the integral development of people regardless of the sex they belong to. Often, the term coeducation is confused with "mixed education", which is a formal organization that results from the coexistence of male and female students in the same educational center sharing the same curriculum. (García et al. 1997).

In the field of education, it is vital to be clear about how Education for Sustainable Development (ESD) can help us achieve the SDGs and thus contribute to coeducation. Therefore, ESDs can be defined as the process of human socialization focused on students, considered with equal rights and opportunities, which is based on the ideology of equality, to which are added freedom, difference, and solidarity (Baena and Ruiz, 2009). Therefore, ESDs are "Teacher training is fundamental in the commitment to quality education at all educational levels" (UNESCO 2015a, 2015b). Likewise, the school, in this sense, is defined as the space in which it must be discussed, adopted, and promoted new paradigms of human behavior in relation to the environment, as thanks to this, collective consciousness is formed, and where the principles related to social order, economics, and ecology in a given time and space are established. (Cantú-Martínez, 2014). Similarly, and taking into account Martín et al. (2017), the role that schools play today implies a process of socialization that through sport we can observe certain limitations regarding "traditional" stereotypes of femininity or masculinity, in the process of socialization we can see different contexts focused on promoting equality or discrimination for reasons of gender.

However, despite the development in recent decades of gender studies in Physical Education (PE), today there is still a strong concern about the gap between research discourses and educational practice in this field (Scraton, 2013). Along the same lines, the reality is that the change in PE taught in schools continues to observe that the gender order privileges hegemonic masculinity over other masculinities and the set of femininities (Larsson et al., 2009).

Continuing in this vein, the European Union and the United Nations have embarked on a new initiative aimed at eliminating all forms of violence against women and girls: the Spotlight Initiative. This initiative is a campaign created by the European Union and the United Nations to eliminate all forms of violence against women and girls. It is also an unprecedented initiative, with a global and multi-year character, which has had a large investment from the European Union.

Similarly, it is important to note that three dimensions can be observed in sustainability. Therefore, the social dimension will be addressed in a more pronounced way. Within the social dimension, it is essential to refer to the opposite side of physical activity, there is sedentary lifestyle, which according to Varo and Martínez (2007), sedentary lifestyle could be briefly defined as the absence of physical activity. Taking into account both authors and continuing in this line, Chaput et al. (2020) the WHO is concerned about the great physical inactivity

in most age groups and countries of the world, especially in young people. To address this situation and taking into account Fairclough et al. (2018) the school and, more specifically, the subject of PE plays a decisive role in promoting and increasing students' levels of physical activity (PA). Likewise, within the social dimension, there is also the issue of health, which is related to PA. Considering The Organic Law 8/2013 for the Improvement of Educational Quality (LOMCE) "considers PE as an essential tool to promote physical exercise among students, with the main objective of arousing interest in physical activity and a healthy lifestyle for adulthood". Continuing in this line, it is necessary to highlight coeducation, stating that coeducation must promote conditions so that the students themselves have real equality of opportunities (López, 2012). To achieve this and as mentioned by Valdivia et al., (2011) which state that to achieve coeducation, it is necessary to ensure respect and appreciation for the characteristics of both groups and each person in particular and that some of the aspects to be taken into account are affectivity, emotions and moral values.

Within PE, the role of teachers is vital in transmitting coeducational values, thus being able to negatively reinforce the biased and stereotyped vision already present in the students of the subject if they carry out sexist educational interventions in their classes (Granda et al., 2018). Therefore, following in this line and in agreement with the ideas of Estévez (2012), helping students to rationally and affectively overcome prejudices that prevent one and the other sex can live, work, and have fun together, is the main objective.

*Justification and description of the proposal.*

To justify this intervention, we will reference other studies that work with the SDGs, but in a different subject other than Physical Education. In this regard, Anastas and Zimmerman (2018) were considered through the area of chemistry, more specifically in the field of electrochemistry, where one can observe how solutions and alternatives are offered to be able to execute the SDGs. Similarly, regarding the plan of the proposed activities related to sustainability, which positively contributes to working with the SDGs and frames the practices by teachers in EDS. Examples of activities related to these can include responsible water use or climate change (Murga-Menoyo et al., 2018), thus bringing benefits. Through this research, and according to Marles et al. (2017), various attitudes and values of respect for the environment are proposed. Therefore, through the subject of Chemical Kinetics, both the development of competencies that contribute to favor sustainability and the active participation of the students are sought. Considering Rojano Ramos and Jiménez López (2017), "environmental education today wants to be based on action, on participation, on the intervention of citizens in decision-making about everything that can affect our environment" (p.67). Moreover, we will discuss Ultimate team, also known as Ultimate Frisbee. It can be defined as a team sport comprised of 7 players on each team, where a frisbee is played on a rectangular field. The goal is to score the most goals against the opposing team (World Flying Disc Federation, 2021). Through Ultimate team, the aim is to promote Education with a Gender Perspective, as pointed out by Murga-Menoyo (2018), it should be a commitment to equality between women and men and comprehensive education that goes beyond the acquisition of knowledge and contributes to the formation of a critical citizenship that knows how to provide possible responses to the demands of the 21st century. Moreover, and considering as Giaccardi et al. (2016) indicates "it is about visualizing gender inequalities and offering alternatives to combat them", such as this sport. To start discussing the research, it is vitally important to highlight that we live in a society where sexist behaviors and gender stereotypes among our youth still persist, and all this despite the awareness campaigns carried out in recent years in high schools and schools in favor of equality" (Muñoz Fernández, 2015, p. 30). For this reason, and considering his words, this research aims to observe how the students in the last cycle of primary school, specifically 5th-grade students, reflect on gender equality. As an instrument for the development of this research, questionnaires have been used. This questionnaire has been given in digital format for this course. It was conducted through multiple-choice questions, in which students had to choose one of the given answers, and others where a Likert scale was used, showing the level of agreement, little agreement, or disagreement in a series of statements regarding men and women. Furthermore, for the development of this research, a qualitative inductive method has been used. The number of students with whom this research has been conducted has been 50 students. Both groups were made up of 25 children. Group A was the control group, where the class was given in a masterly manner, while group B was the experimental group, in which gender equality was reinforced through the Ultimate team. Through this intervention based on working on sustainable development and gender equality through the Ultimate team, it is vital to address relevant and current topics, and it has been detected that through this intervention, the SDGs 3, 4, and 5 will also be worked on. What is sought through this is more inclusive and conscious education. In short, the aim is to promote more comprehensive and effective education. Therefore, in order to ensure that students understand and apply concepts of sustainability and gender equality in their sports practice, two secondary objectives have been proposed: to analyze the impact of the intervention on gender equality in students, compare students' perception and interest in relation to the physical education content worked on, and analyze and observe how primary students value the experience of working through a cooperative and mixed-character sport. Through these and due to the intervention focused on sustainable development, working on gender equality in physical education will have a positive effect on students' training, thus being conscious and committed to sustainability and gender equality (H1). Regarding the hypothesis proposed during this intervention, it is necessary to highlight other studies that corroborate it, such as the study carried out by Lorena Martínez Pérez

and Paz Peña García with their study “Gender Equity in the Classroom. Do We Educate for It?”. In this study, different objectives can be observed such as; establishing the possible relationship between gender inequality and the social context in which students live, identifying and characterizing the presence of gender stereotypes in children, or identifying the conception of boys and girls regarding gender roles. Following the same line, other studies can be observed which share the main theme “gender equality”. Considering Abellán with his study “Attitudes towards gender equality in a sample of students from Murcia”, it can be observed how through this study he aims to achieve different objectives such as the following: assessing whether there are significant differences in the statistics, taking into account the variable functions of sex and stage or knowing the majority profile that governs the attitude of the students themselves.

### Material & methods

As an introduction, it should be noted that this study is entitled "Sport, Gender, and Sustainability: A Perfect Combination for Education through a Quasi-Experimental Study," which is intended for students in the third cycle. Likewise, it should be stressed that for this study the sampling was made for convenience, not randomly, which is a factor to consider when collecting data. Also, this intervention was approved by the ethics committee of the University of Alicante with the code UA-2022-03-17.

#### Participants

The educational intervention was carried out in the 5th grade of the Santa Faz School, located in San Vicente del Raspeig. This school has two classes of 25 students each. Therefore, regarding the sample, the first group (control group) consisted of 13 boys and 12 girls, while the second group (experimental group) was made up of 14 girls and 11 boys. Furthermore, the average age observed in both groups was 10 years.

#### Procedure

This quasi-experimental study was implemented through a didactic intervention which consisted of promoting gender equality among primary school students through the Ultimate team. This study was carried out during the Practicum III period at the school. An assessment was made before (pre-test) and after (post-test) the intervention. This evaluation was carried out using a questionnaire previously validated by the research conducted by Lorena Martínez Pérez and Paz Peña García (Annex 1), and this research is titled "Gender Equity in the Classroom. Are we educating for it?" To carry out the proposal, 7 sessions per group were used, two sessions per week, each session lasting 45 minutes. To verify the effectiveness of the intervention, the sample was divided into two groups, one experimental, which worked with the didactic proposal based on gender equality, while the other group, the control group, continued with the routine of their PE classes, which at that time coincided with Handball lessons. The division of groups was not done randomly, but the group with which I had previously worked was chosen. Regarding the gender of the subjects, it can be observed that there is a slight superiority on the part of the female students, being a total of 26 female students, compared to 24 male students (see figure 1).

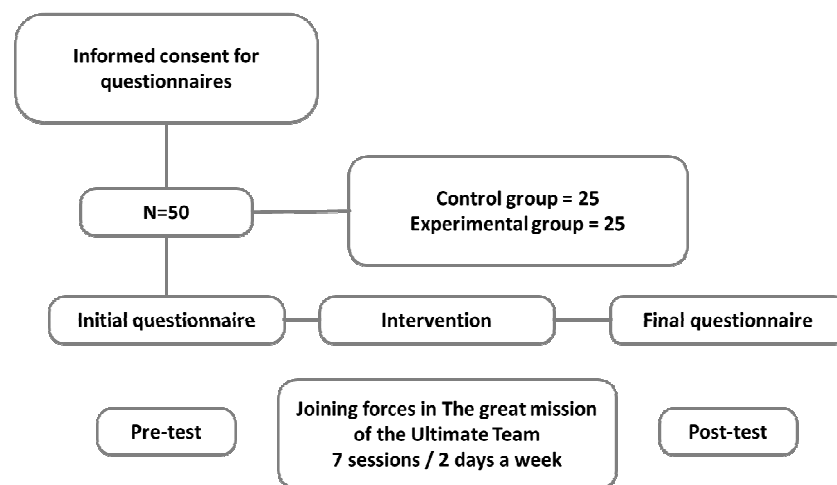


Figure 1. Infographic of the research.

During the first session of the didactic sequence, the initial evaluation was carried out (pre-test on gender equality) and the students of the experimental group were informed about what we were going to do and how it was going to be carried out. After carrying out the pre-test, the intervention began by showing a series of images of sports, first individual sports, then team sports, and finally mixed sports. With these images, the aim is for them to understand that mixed team sports also exist, beyond the typical sports that everyone knows. Finally, all the aspects that emerged during the debate were related and it was explained what would be done in the first session; familiarize oneself with the Ultimate team. The familiarization with the debate tried to observe those

points that the boys and girls in the class do not fully understand, such as, for example, why one could not walk when holding the frisbee, why one could not take the frisbee out of the hands, or how to hold the frisbee properly, among other issues.

In the following sessions and after the first session, the didactic sequence was implemented using the Ultimate team. During these sessions, apart from learning to play a new sport, the most important thing and what was asked is that the students always be in mixed groups, so that they would realize that everyone can play collaboratively, and what better way than through a new sport for them which they found very fun. The goal of all these sessions was for them to learn to play as a team (always mixed) and to develop throwing and receiving skills on the part of the students. Also, during these sessions, where they were taught everything related to the technique, rules, and how to play, they were asked to look for information about teams from Spain to observe how this sport really is. In the last session, a match was played to finish the sequence, but as in all the sessions, one had to warm up first to activate the body (Annex 2). After carrying out this match, they proceeded to take the post-test (same as the pre-test), seeking to find out whether the students had achieved the objective or not.

#### *Instrument*

As an assessment instrument and to observe if the intervention has caused any change in the students' awareness of gender equality, a validated questionnaire carried out by Lorena Martínez Pérez and Paz Peña García (Annex 1) has been used. The questionnaire in question was transmitted in digital format and through the Google Form platform. It was carried out through multiple-choice questions where the students had to choose one of the given answers, other questions through the 1-3 Likert scale. This scale is a rating used to question students about the level of agreement or disagreement with a series of statements about men and women. The students had to read the statements presented to them and mark with a cross one of the 3 options they observed. On the one hand, from item 1 to 10, the answers were man, woman, both. On the other hand, from item 11 to 20, the answers were agree, somewhat agree, disagree. Therefore, this series of statements was shown in relation to a series of descriptions that they had to relate to the profile of a boy or a girl and in a series of more elaborate questions. Also, this questionnaire has been carried out by both groups (Control and Experimental), both before (pre-test) and after (post-test) carrying out the didactic proposal.

#### **Results**

Regarding the results of this research, different data obtained have been observed. To analyze these results, 3 tables have been carried out with different results and different objectives, but always collecting the score of the control and experimental group. Table 1 presents the data from the descriptive analysis that has been carried out through this questionnaire. In this table, different data can be observed. On the one hand, we have the items, both the pre-test and the post-test of the control group and the experimental group. In addition, the mean, median, and deviation are also observed. Broadly speaking, no significant results are found except for items 18, 19, and 20 of the experimental group where the mean is below 1, whereas, in the other items, it is between 1.5 and 3.

Table 1. Items

ITEMS	Control		Experimental	
	Pre	Post	Pre	Post
Item 1. Code obeys.	2,68 (0,55)	2,76 (0,43)	2,72 (0,45)	2,76 (0,43)
Item 2. Code sporty.	2,28 (0,98)	2,6 (0,81)	2,44 (0,91)	2,08 (0,99)
Item 3. Code caring.	2,6 (0,5)	2,64 (0,49)	2,44 (0,50)	2,52 (0,51)
Item 4. Code nice things.	2,6 (0,55)	2,6 (0,57)	2,72	2,36 (0,49)
Item 5. Code genius.	2,36(0,86)	2,28 (0,98)	2,44(0,87)	2,4 (0,86)
Item 6. Code directing.	2,28 (0,73)	2,28 (0,73)	2,16(0,94)	2,28 (0,89)
Item 7. Code courageous.	2,64(0,75)	2,76 (0,63)	2,28(0,98)	2,2 (1)
Item 8. Code understanding.	2,48(0,65)	2,36 (0,95)	2,48(0,58)	2, 28 (0,98)
Item 9. Code tender.	2,36(0,56)	2,84 (0,37)	2,44(0,50)	2,52 (0,51)
Item 10. Code aggressive.	1,8 (0,96)	1,76 (0,97)	1,64(0,95)	1,76 (0,92)
Item 11. Code decision maker.	2,24(0,87)	1,76 (0,97)	2,24(0,77)	2,24 (0,77)
Item 12. Code intelligence.	2,88 (0,32)	2,28 (0,89)	2,64 (0,56)	2, 64 (0,63)
Item 13. Code home.	2,52(0,71)	2,88 (0,329)	2,4 (0,86)	2,36 (0,81)
Item 14. Code beauty.	2,52(0,65)	2,72 (0,64)	2,28(0,73)	2,4 (0,5)
Item 15. Code ability.	2,64(0,75)	2,6 (0,81)	2,28(0,84)	2,32 (0,85)
Item 16. Code outside the home.	2,2 (0,81)	2,28 (0,93)	2,4 (0,81)	2,56 (0,58)
Item 17. Code driving.	2,6 (0,64)	2,76 (0,66)	2,36(0,90)	2,32 (0,9)
Item 18. Organisation code.	2,04(0,84)	1,96 (1,02)	1,84(0,85)	0,978 (2)
Item 19. Code ability.	2,32(0,80)	2,24 (0,87)	2,16 (0,8)	0,781 (2)
Item 20. Code crying	2,8 (0,57)	2,92 (0,4)	2,8 (0,57)	0,663 (3)

Table 2 shows a comparative analysis between the control group and the experimental group. Like the previous table, this one shows the pre-test and post-test items, in addition to the asymptotic significance (two-sided) and the Z. In reference to the results obtained, significant results with a value less than 0.05 can be observed. In item

2 and item 4 of the experimental group, we find two values below this amount; the first is 0.034 and the second is 0.007. Something that does stand out is the result obtained in item 9 of the control group, where the result is 0.003 which was not expected, as this result is obtained in the control group and not in the experimental group as expected.

Table 2. Comparative analysis between control and experimental group

Grupo	Control				Experimental			
	Pre	Post	Z	Sig. Asint.	Pre	Post	Z	Sig. Asint.
Item 1 post –	2,68	2,76	-8,2	0,41	2,72	2,76	-,45	0,65
Item 1 pre	(0,557)	(0,436)			(0,458)	(0,436)		
Item 2 post –	2,28	2,6	-2,00	0,05	2,44	2,08	-2,12	0,03
Item 2 pre	(0,98)	(0,816)			(0,917)	(0,997)		
Item 3 post –	2,6	2,64	-1,00	0,32	2,44	2,52	-,81	0,41
Item 3 pre	(0,5)	(0,49)			(0,507)	(0,51)		
Item 4 post –	2,6	2,6	<=0,01	1,00	2,16	2,36	-2,71	0,007
Item 4 pre	(2,77)	(0,577)			(0,943)	(0,49)		
Item 5 post –	2,36	2,28	-,70	0,48	2,44	2,4	-,26d	0,79
Item 5 pre	(0,86)	(0,98)			(0,87)	(0,866)		
Item 6 post –	2,28	2,28	<=0,01	1,00	2,16	2,28	-1,09	0,27
Item 6 pre	(0,737)	(0,737)			(0,943)	(0,866)		
Item 7 post –	2,64	2,76	-1,34	0,18	2,28	2,2	-,57	0,56
Item 7 pre	(0,757)	(0,663)			(0,98)	(1)		
Item 8 post –	2,48	2,36	-,663	0,50	2,48	2,52	-1,29	0,19
Item 8 pre	(0,653)	(0,952)			(0,586)	(0,51)		
Item 9 post –	2,36	2,84	-3,00	<b>0,003</b>	2,44	2,52	-,82	0,41
Item 9 pre	(0,659)	(0,374)			(0,507)	(0,51)		
Item 10 post –	1,8	1,76	-,32	0,74	1,64	1,76	-,96	0,33
Item 10 pre	(0,957)	(0,97)			(0,952)	(0,926)		
Item 11 post –	2,24	2,28	-,064	0,94	2,24	2,24	<=0,01	1
Item 11 pre	(0,879)	(0,891)			(0,507)	(0,779)		
Item 12 post –	2,88	2,88	<=0,01	1,00	2,64	2,64	<=0,01	1
Item 12 pre	(0,322)	(0,322)			(0,569)	(0,638)		
Item 13 post –	2,52	2,72	-1,89	0,05	2,4	2,36	-,37	0,70
Item 13 pre	(0,714)	(0,614)			(0,886)	(0,81)		
Item 14 post –	2,52	2,6	-,70	0,78	2,28	2,4	-,67	0,49
Item 14 pre	(0,653)	(0,5)			(0,843)	(0,5)		
Item 15 post –	2,64	2,6	-,27	0,78	2,28	2,32	-,23	0,81
Item 15 pre	(0,757)	(0,816)			(0,843)	(0,852)		
Item 16 post –	2,2	2,28	-,24	0,81	2,4	2,56	-,78	0,43
Item 16 pre	(0,816)	(0,936)			(0,816)	(0,583)		
Item 17 post –	2,6	2,76	-1,26	0,20	2,36	2,32	-,47	0,65
Item 17 pre	(0,645)	(0,663)			(0,907)	(0,9)		
Item 18 post –	2,04	1,96	-,57	0,56	1,84	0,978	-,75	0,44
Item 18 pre	(0,841)	(1,02)			(0,85)	(2)		
Item 19 post –	2,32	2,24	-,37	0,71	2,16	0,781	-,33	0,74
Item 19 pre	(0,802)	(0,879)			(0,8)	(2)		
Item 20 post –	2,8	2,92	-,75	0,45	2,8	0,663	-,47	0,65
Item 20 pre	(0,557)	(0,4)			(0,577)	(3)		

Table 3 shows the results of the comparative by sexes, and like in the previous two tables, the items are observed, the asymptotic significance (two-sided), the Z and both sexes. The results obtained in this table are within the margin that was expected, however, like in the previous ones, two items can be observed, 8 and 9, in the female group, where the results are 0.005 and 0.035, being below 0.05, which makes them significant results. Now, we also find a significant datum in

Table 3. Comparative by sexes

	Control				Experimental			
	Pre	Post	Z	Sig.	Pre	Post	Z	Sig.
Item 1-post – Item 1-pre	2,68	2,76	-1,13	0,25	2,72	2,76	,25	1
Item 2-post – Item 2- pre	2,28	2,6	-,81	0,41	2,44	2,08	-1,08	0,27
Item 3-post – Item 3- pre	2,6	2,64	1,34	0,18	2,44	2,52	<=0,01	1
Item 4-post – Item 4- pre	2,6	2,6	-,55	0,57	2,72	2,36	-2,33	0,02
Item 5-post – Item 5- pre	2,36	2,28	-,54	0,58	2,44	2,4	-,33	0,73
Item 6-post – Item 6- pre	2,28	2,28	-,44	0,65	2,16	2,28	-1,00	0,31
Item 7-post – Item 7- pre	2,64	2,76	-,14	0,88	2,28	2,2	<=0,01	1

Ítem 8-post – Ítem 8- pre	2,48	2,36	-,75	0,44	2,48	2,28	-2,84	<b>0,005</b>
Ítem 9-post – Ítem 9- pre	2,36	2,84	-2,11	<b>0,035</b>	2,44	2,52	-2,11	<b>0,035</b>
Ítem 10-post – Ítem 10- pre	1,8	1,76	-,27	0,78	1,64	1,76	-,75	0,45
Ítem 11-post – Ítem 11- pre	2,24	2,28	-,70	0,48	2,24	2,24	-1,12	0,26
Ítem 12-post – Ítem 12- pre	2,88	2,88	-,44	0,65	2,64	2,64	1,00	0,31
Ítem 13-post – Ítem 13- pre	2,52	2,72	-1,19	0,23	2,4	2,36	<=0,01	1
Ítem 14-post – Ítem 14- pre	2,52	2,6	-,53	0,59	2,28	2,4	-,77	0,43
Ítem 15-post – Ítem 15- pre	2,64	2,6	-,49	0,62	2,28	2,32	-,70	0,48
Ítem 16-post – Ítem 16- pre	2,2	2,28	-1,58	0,11	2,4	2,56	-,48	0,62
Ítem 17-post – Ítem 17- pre	2,6	2,76	-,33	0,73	2,36	2,32	-1,63	0,10
Ítem 18-post – Ítem 18- pre	2,04	1,96	-,25	0,79	1,84	0,978	-,58	0,55
Ítem 19-post – Ítem 19- pre	2,32	2,24	<=0,01	1	2,16	0,781	-,67	0,49
Ítem 20-post – Ítem 20- pre	2,8	2,92	-,14	0,88	2,8	0,663	-1,00	0,31

## Discussion

The main objective of this research was to evaluate the effect of a didactic proposal based on promoting gender equality through the Ultimate team among primary school students in the area of PE. The data which has been obtained during the investigation, in a general sense, have not indicated significant changes between the egalitarian attitude of the students before and after the intervention. Significant changes can be observed in a series of items such as item 2, 4, and 9. Likewise, significant differences have not been shown between the attitude of the control group and the experimental group. This could be affected by different reasons, such as the students not being able to understand and relate what has been done through the proposal and why it has been carried out. Another reason could be the short time that has been invested in carrying out this intervention, since it has been 7 sessions and perhaps more sessions are needed for an intervention like this. Future studies could consider implementing interdisciplinary proposals and with a longer duration to thus seek to contribute and promote gender equality among students. Also, the moment of carrying out the questionnaires performed should be considered, whether it was during outdoor recess or at different times than the PE sessions, thus avoiding the possibility that the subjects' mood may vary.

The second objective of the study was to analyze how primary school students value the experience with the pedagogical model of gender equality through the Ultimate team. Previous studies have shown how third-cycle primary school students understand and know that both boys and girls can be, for example, a person who obeys, who can both play sports, a person who likes to be told nice things. But, on the other hand, during this study, it was also concluded that some of the issues presented can be observed stereotypes and macho conceptions. As an example, during this study it is considered, that men are more aggressive by nature and that the ideal place for women is the home or that for a woman to succeed she needs to have a beauty that draws attention. However, looking at the study that has been carried out for the 5th grade of Santa Faz school, different results can be observed. Broadly speaking, in the descriptive analysis between the two groups (Control and Experimental) no large differences are observed, all results are between 1.5 and 3 on average, except for items 18, 19 and 20, which the average is below 1. However, looking at the comparative analysis between the control and experimental group, some items stand out. Item two and item 4 of the experimental group have a value of 0.034 being below 0.05, which was expected. On the other hand, in item 9 of the control group, there is also a value of 0.003 which is strange since results of this type are not expected in the control group. On the other hand, in table 3, which is a comparison by sexes, significant data continues to be seen. In item 9 from the male side, it has a value of 0.035. Regarding the data from women, we find item 8 and 9 with significant data, one of 0.005 and another of 0.035. Thanks to this study and these data, it can be said that the other items do not stand out at first sight.

After the study, it can be pointed out that fifth-grade primary students are not entirely clear about what these sessions have served for, as they are not able to relate the importance of gender equality in everyday life with the work that has been done during this investigation. This may be due to different reasons; the first is that students do not yet have enough mental maturity to understand that all people are equal and everyone should have the same conditions and opportunities. The second reason is that students act based on what they observe at home and according to the education they have received and will receive throughout their lives. For future research, different factors should be taken into account, such as the number of sessions or familiarization with this topic. Likewise, it would also be useful to dedicate or promote this topic in other areas unrelated to PE, in order to be able to work and understand the importance of this.

## Conclusion

In recent years, the integration of Education for Sustainable Development has become increasingly important in various educational areas, including Physical Education (PE). According to some studies, PE can be a useful tool to work on aspects related to sustainability, including the social dimension. A didactic proposal based on the pedagogical model of gender equality within the area of PE in primary school can contribute to the progress of students in the Sustainable Development Goals (SDGs) 3, 4, 5, and 10, specifically in targets 4.1,

4.5, 4.7, 5.1, 5.2, 5.5, 5.A, 10.2, and 10.3. Although the implementation of the proposal has not provided conclusive results on significant changes in the egalitarian attitude between genders of the subjects, the information obtained can be useful to develop other educational interventions and transform certain aspects. On the other hand, it has been observed that working on gender equality through cooperative games like the Ultimate team can be fun and attractive for students. In addition, it is important to bear in mind that changing attitudes and awareness in boys and girls requires time and consistency, and it may be necessary to carry out more extensive and coordinated educational proposals that cover different areas within the educational process. In this sense, PE teachers have a valuable tool to contribute to the construction of a more equal and fair society.

**Conflicts of interest** - If the authors have any conflicts of interest to declare.

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