

Effect of the type of motor interaction required by the game on emotional behaviour in Physical Education classes

Efecto del tipo de interacción motriz requerida por el juego sobre el comportamiento emocional en las clases de Educación Física

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Abstract

Physical Education is the area where the pupil develops their motor conduct by meeting four levels, which should be worked on the same way with the objective to obtain a pedagogical success within them. This pedagogical success will be acquired in the moment in which the motor, cognitive, social and affective levels are worked on in a complementary way. Emotions claim special importance in this area by the fast experience of them in any motor situation, especially in traditional sport game where anything changes any aspect of the internal logic, it can cause the experimentation of one type of emotion or another. The aim of this study was to analyze the emotional intensity of positive and negative emotions experienced by pupils of Primary Education in three different social motor games. Moreover, the emotional intensity was analysed in terms of each of the roles experienced in a socio-motor game. The study was made of 47 pupils of year three of Primary School in a school centre where they filled two instruments (GES-C and emotional experience in the roles) which reflected greater expressions of positive emotions against negative ones.

Key words: physical education, emotions, traditional sport game, internal logic, pedagogical success.

Resumen

La Educación Física es el área donde el alumno desarrolla su conducta motriz atendiendo a cuatro niveles que deben ser trabajados de la misma manera con el objetivo de obtener un éxito pedagógico en él. Ese éxito pedagógico será adquirido en el momento en el que el nivel motor, cognitivo, social y afectivo sean trabajados de forma complementaria. Las emociones cobran especial importancia en esta área por la rápida vivencia de las mismas en cualquier situación motriz, en especial en el juego deportivo tradicional donde al modificar cualquier aspecto de la lógica interna, puede provocar la experimentación de un tipo de emociones u otras. Por ello, el objetivo del estudio fue analizar la intensidad emocional de emociones positivas y negativas experimentada por alumnos de Educación Primaria en tres juegos sociomotores diferentes. Además, se analizó la intensidad emocional en función de cada uno de los roles experimentados dentro de un juego sociomotor. El estudio se realizó a 47 alumnos de 3º de Educación Primaria de un centro escolar donde rellenaron dos instrumentos (GES-C y experiencia emocional en los roles) que reflejaron una mayor expresión de emociones positivas frente a las negativas.

Palabras clave: educación física, emociones, juego deportivo tradicional, lógica interna, éxito pedagógico.



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Introduction

Emotions are implicitly present in the life of any human being. Any action, even the smallest, provokes the experience of different types of emotions, which must be managed in order to be able to coexist with them and learn to solve any problem effectively (Jaqueira et al., 2014). However, in one of the stages of human development (between six and twelve years of age), the experience of emotions is more accentuated (Founaud and González, 2020). At this stage, they begin to develop/mature their cognitive process, learning to make decisions regarding themselves and their peers, forging socio-affective relationships with other people in their immediate environment (Piaget and Inhelder, 2015). The problem lies in the fact that boys and girls are not usually able to identify and manage emotions without the knowledge, resources and skills necessary to effectively control and manage different types of emotions (Vergarai et al., 2021).

The aim of emotional education is to promote the development of emotional competences as an essential element of human development, with the aim of training them for life and with the aim of increasing personal and social well-being (Bisquerra, 2010). From the subject of Physical Education, teachers have a tool that allows them to create the desired context to work on this aspect. Traditional sports games favour the creation of the ideal context to achieve the affective development of students, enabling them to obtain strategies, resources and skills with which they can execute their motor behaviour as well as make decisions in other situations where they are able to experience, identify, manage and know how to coexist with any type of emotion (Lavega et al., 2011). Through a correct implementation of traditional sports games related to a base according to emotional education, students will start working on the effective management of positive and negative emotions (Lagardera & Lavega, 2011).

The didactic proposals must incorporate reflection and analysis of what happens and the creation of strategies to facilitate the transfer of knowledge from other situations, for this, the relationships of the structural elements of the internal logic can be modified, adapting them to the evolutionary process and needs of the students, obtaining pedagogical success (Parlebas, 2001). As a result of the above, the aim of the present study is to analyse the emotional intensity experienced by Primary School pupils in the socio-motor games of cooperation, opposition and cooperation-opposition in order to check whether or not the intensity of both types of emotions (positive and negative) varies when the type of game is varied.

Methods

Participants

Two 3rd grade Primary School classes took part, with a total of 47 participants, of which 24 are girls and 23 are boys. The participants are between eight and nine years

old. In relation to the socio-cultural level, both classes have a medium-high level, the pupils are very involved in the different sessions, show interest in all the activities and try to carry them out correctly. Regarding the socio-affective relationship between the students, they are able to work as a team, involving each other, helping each other and showing interest in all opinions without discriminating against anyone. The only negative aspect to highlight is the formation of teams on certain occasions, as it is quite difficult to separate them from their respective groups of friends, sometimes causing difficulties in decision-making and teamwork

Procedure

Three different games were played, very familiar to the pupils and with three very distinct roles, with the aim of analysing the actions, experiences and emotions experienced by the pupils. The games were played in order of tactical complexity, i.e. we started with a cooperative game with less decision-making, followed by an oppositional game and ending with a cooperative-oppositional game with roles in which the decision-making was more complex. Firstly, the Pass and Win game was selected because of the cooperation throughout the game to achieve the common goal, in this case passing the ball to all team members at least once before a team member touches the ball a second time. According to the prescriptive rules of the game, the students had to find a cooperative strategy. The aim of this game was to observe the emotions generated by the relationship between the team members during the course of the game as well as the emotions provoked by achieving the goal or not.

Secondly, the game The four corners is a game characterised by a motor relationship of opposition all against all that is maintained throughout the game, that is to say, this relationship of opposition all against all does not vary at any time, so the experience of emotions will not be influenced for this reason. For this reason, the aim was to observe whether they generate negative emotions depending on what has been executed as shown in various research studies or, on the contrary, whether they are capable of generating positive emotions. It should be noted that during the course of the game, it was emphasised that there were no teams in each corner in order to be able to observe the emotions generated in the opposing game with complete safety.

Finally, the game Bear, guardian and hunters was selected for two very important reasons: on the one hand, because it is a game of cooperation-opposition in which a great variety of emotions can be observed due to the different relationships, and on the other hand, because it has three well-differentiated roles with very different functions that cause continuous role changes. It is necessary to highlight that the internal logic of this type of games provokes the execution of a series of motor actions that lead to a change of role and relationship in some cases

(Etxebeste, 2012). For this reason, this game was chosen because, depending on the motor actions performed, there will be changes of role and, consequently, changes of relationship. As it has different functions, the pupils who assume the three roles will experience different emotions and intensity depending on the motor actions generated according to the prescriptive rules that delimit the internal logic of the game.

The proposed activities were carried out in two different sessions, which were structured in the same way, and preceded by a relaxation activity to homogenise the emotions prior to the session. In addition, a first session was held prior to the activities due to the importance of explaining as well as correctly analysing the different emotions that are going to be experienced throughout the activities, the instruments used to capture the emotions felt and their corresponding intensity. The three games were developed without the competition variable because the main objective of the study was to analyse the emotional experience of the students according to the type of socio-motor game. By introducing the competition variable, both the experience and the intensity of both types of emotions can vary considerably, causing the students to focus on this variable and not on the game itself, so that the emotions experienced could not be studied correctly due to the influence of competition.

Data collection instrument

The Games and Emotions Scale for Children (GES-C) instrument was used, which shows nine different emotions differentiated into two factors (positive and negative emotions) through various graphic representations with a scale of intensity for each of them (1: not at all, 2: a little, 3: somewhat, 4: a lot and 5: quite a lot). After completing each activity, the students coloured the graphic representation of each emotion according to the level of intensity experienced at that moment (quantitative data). After this, they had to circle the emotion experienced with the highest intensity and justify the reason for this choice (qualitative data). The GES-C was also administered to find out the emotional intensity of each of the three roles played in the game Bear, Guardian and Hunters.

Data analysis

A descriptive statistical analysis was performed in which the Kolmogorov-Smirnov test was applied to check the normality of the data. Data had a non-homogeneity, therefore the non-parametric Mann-Whitney U test was applied. The significance level was set for all cases at $p \leq .05$. All analyses were performed with the Statistical Package for Social Sciences (SPSS) version 24.0 for Windows.

Results

Quantitative data analysis

First, significant differences were found between the two types of emotions ($p < .001$) without considering

any distinction between the three types of socio-motor games. Positive emotions obtained the values with the highest intensity ($M = 3.31$; $SD = .78$) compared to negative emotions whose results were considerably lower ($M = 1.46$; $SD = .45$).

Secondly, in relation to the emotional intensity of positive and negative emotions experienced by all students in each of the socio-motor games, it can be stated that significant differences ($p < .05$) were found between positive and negative emotions when comparing between game type. In the cooperation game Pass and win, positive emotions obtained a mean of 3.23 and a standard deviation of 1.18 while negative emotions obtained a mean of 1.48 and a standard deviation of .78, obtaining a lower intensity. In the opposition game The four corners, the positive emotions reached a mean of 2.93 and a standard deviation of 1.34 being of a higher intensity compared to the negative emotions that obtained a mean of 1.40 and a standard deviation of .72. In the cooperation-opposition game Bear, guardian and hunter, positive emotions were experienced with greater intensity, obtaining a mean of 3.77 and a standard deviation of .91 compared to negative emotions, which obtained a mean of 1.49 and a standard deviation of .42, significantly lower than those of positive emotions.

Finally, in relation to the emotional intensity of positive and negative emotions according to the role played in the cooperation-opposition game Bear, guardian and hunter, and taking into account the variables used to analyse the data, significant differences were obtained ($p < .05$) between the positive and negative emotions experienced when comparing the type of role played. In the role of bear, positive emotions obtained a mean of 1.31 and a standard deviation of .38 while negative emotions obtained a mean of 1.72 and a standard deviation of .76 and were therefore experienced with greater intensity. In the role of guardian, positive emotions reached a mean of 1.55 and a standard deviation of .37 while negative emotions obtained a mean of 1.43 and a standard deviation of .54, so they were experienced with a lower intensity. In the role of hunter, positive emotions were experienced with a higher intensity, with a mean of 1.71 and a standard deviation of .42, while negative emotions reached a mean of 1.23 and a standard deviation of .49.

Qualitative data analysis

In the cooperative game Pass and Win, the emotion experienced most intensely was the positive emotion of joy. Most of the pupils enjoyed playing the game because of the dynamics of the game, i.e. the motor actions performed in it, and because they were able to interact with their classmates to a large extent.

In the opposition game The four corners, the emotion experienced with the highest intensity was the positive emotion of joy, the same as in the cooperation game. In this case, the pupils experienced a higher intensity of positive emotions due to the organisation of the game. The action

of moving from one corner to another trying to be the first to arrive first was liked and enjoyed by the students.

Finally, in the cooperation-opposition game Bear, guardian and hunters, the emotion experienced with the highest intensity was, as in the previous games, the positive emotion of joy. The pupils experienced this emotion with greater intensity due to the dynamics of the game as well as the socio-affective relationships generated by the motor actions performed. However, the roles played within the game are an aspect to be highlighted to a large extent due to the formation of very different emotions by their very different motor actions. In spite of this, the pupils enjoyed the game, with special emphasis on the experience of joy during the roles of guardian and, above all, hunter, due to the motor actions implicit in them.

Discussion

Cooperative motor situations in a stable environment are those in which motor relations generate situations of help, respect, solidarity, etc., provoking the experience of positive emotions (Parlebas, 2001). Authors such as Alonso et al. (2013) show in their study that cooperative games are those in which positive emotions are more highly valued. The quantitative data of the present study show a greater intensity of positive emotions compared to negative emotions, which ratifies what has been obtained in other studies. Other studies such as the one carried out by Founaud and González-Audicana (2020) corroborate that positive emotions had their greatest expression in these games. However, in the present study, the most intense positive emotions were experienced in the cooperation-opposition game and not in the cooperation game, which may be due to multiple factors related to the internal logic of the games.

Regarding opposition games, studies such as that of Founaud and González-Audicana (2020) show that negative emotions reach their highest intensity in these games. However, in the present study it can be observed that negative emotions have a much lower intensity than positive emotions, which have been elevated. This corroborates what Alonso et al. (2013) mentioned in their study, which shows that oppositional games are capable of generating a large number of positive emotions in students if an effective internal logic adapted to the needs and evolutionary development of the students is planned. Furthermore, the study shows that negative emotions have obtained their lowest degree of expression in these games.

In relation to cooperation-opposition games, Parlebas (2001) states that these are situations in which two types of relationships are generated: cooperation and opposition, and therefore there will be a greater number of emotions generated. In addition, authors such as Filella et al. (2017) show in their study a greater experience of positive emotions as in the rest of the games. The present study ratifies this assertion since, in addition to having obtained a

greater intensity of positive emotions, it is the game where these reach their greatest expression. With regard to the different roles present in the game, Etxebeeste (2012) shows in her study how the internal logic of these motor situations leads to the execution of a series of motor actions that result in a change of role and their respective relationships. The qualitative results reflect how, depending on the role played, the relationships and emotions experienced vary according to the motor actions established by the prescriptive rules for each of them (Pic et al., 2020).

Conclusions

The present study showed that all of the activities presented obtained a higher intensity of positive emotions compared to negative emotions, even during the opposition game, which was characterised by the experience of a greater number of negative emotions. However, positive emotions reached their highest level of expression in the cooperation-opposition game due to the presence of different roles with very different motor actions. In relation to the emotional intensity experienced in the roles, it can be observed that in those roles in which there is cooperation despite a certain rivalry due to different motor objectives (bear and guardian), this cooperative motor relationship produces a greater intensity of positive emotions, although in the role of the bear the negative emotions had their highest degree of expression. Positive emotions are more intense in the role of the hunter than in the other roles, since the motor action of touching the bear produces the enjoyment of the pupils as well as the motivation to avoid the guardian.

Educational implications

The area of Physical Education in Primary Education favours the development of the motor, cognitive, social and affective components of pupils. To do so, the teacher must be able to relate the elements associated with the internal logic of the situations presented in order to adapt and benefit the pupils according to their needs and specific evolutionary process, thus facilitating the achievement of the proposed motor objective. The role of the teacher is key in the planning, implementation and subsequent reflection of motor situations. They must know their students, observe those aspects that need to be reviewed, those that need to be reinforced, evaluate whether the four levels are developing optimally, and from there, be able to plan a game in which the motor objective is adapted to them. The game is a tool available to teachers for the development of pupils' affectivity, since depending on the emotions felt and their subsequent management, they will develop certain skills or others. The results of this study show that it is not only cooperative games that arouse more positive emotions than negative ones, but that they can be all of them. This allows us to reflect in order to be able to observe that it is not only a type of traditional sports game that can help teachers to ach pupils both types of emotions,

but that depending on the group and the adapted internal logic, pupils can learn different strategies to be able to know, identify, manage and work on emotions. For this reason, more should be done at this level to help pupils learn to manage emotions in an effective way, making it possible to improve their ability to adapt to unfamiliar situations, to relationships with classmates and to other situations outside the school. Finally, it is concluded that a key aspect when providing training on emotions is to be found in the planning of internal logic. When any motor situation is proposed, it is necessary to adapt the motor objective as well as the relationships of the structural elements (players, space, time and material) to the needs, preferences and evolutionary process of the people who are going to execute it, in this case the pupils. This is the first step to achieve a correct development of the game and the pedagogical success of the pupils. If we are able to do this, the pupils will be involved in the game to a great extent, generating a great amount of emotions.

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