

**ATTENTION TO DIVERSITY IN STUDENTS WITH SPINA BIFIDA IN THE AREA OF  
PHYSICAL EDUCATION: APPROXIMATION TO THE PROBLEM AND  
STRATEGIES TO DEVELOP IN THE REGULAR CLASSROOM.**

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**Abstract**

Students with a disability due to neural tube defect or spina bifida are often found in the ordinary classroom. The implications derived from its symptomology can produce a difficulty to achieve the objectives set by the teacher in the area of Physical Education. Taking into account the concept of disability advocated by the International Classification of Functioning, Disability and Health (CIF) and highlighting the difficulties encountered by teachers in their daily practice, the

present article proposes a series of strategies and guidelines that facilitate daily task to the Physical Education teacher.

**Keywords:** spina bifida, Physical Education, disability, healthy environment, inclusion, Special Educational Needs

## 1. INTRODUCTION

It is estimated that in Spain, every day 400.000 children are born with neural tube defects worldwide, according to the Spanish Collaborative Study of Congenital Malformations carried out in 2008 (EMECM, 2008). In Spain one in every 1.000 children born has a malformation of this type. Likewise, in Spain there were 19,272 people over the age of 6 with spina bifida, according to the data obtained from the Survey on disability, personal autonomy and dependency situations 2008 (EDAD 2008). Of these people with spina bifida, 7% were aged between 6 and 18 years (National Statistical Institute, INE 2008).

In the words of Pérez & Suárez (2004), spina bifida can be defined as “an alteration whose main characteristic is a variety of anomalies that appear in the vertebral arches. It is characterized by a failure of the spinal column formation, which is typically manifested by a lack of fusion of the posterior vertebral arches, with or without protrusion and dysplasia of the spinal cord and its covering... It is located along the entire vertebral column from the skull to the sacrococcygeal region, although it is principally produced at the lumbar and sacral regions of the spine.

There can be no doubt that special educational needs will arise in those children with spina bifida, precisely where these needs have to be effectively addressed within the Physical Education classroom. However, students with spina bifida often face barriers that hinder their participation in the area of education. Linking with that, Sanz, Reina & Mendoza (2001) already affirmed that teachers does not have enough qualification to support students with special educational needs. In turn, Calverol (2000) also pointed out some key factors such as: architectural barriers in schools, insufficient training of physical education teachers on this issue and lack of support. Ríos (2009) provides more information with regard to the aforesaid and highlights a range of barriers that limit the teaching activity aimed at students with disabilities, for instance, infrastructural and social conditions of students with SEN, being determining factors for teacher training, family and/or the attitude of the peer group.

As stated, inclusion in the area of Physical Education for students with disabilities, particularly students with spina bifida, is a constant challenge to adapt and reorient teaching activity. Nevertheless, Ríos suggests a number of strategies that help encourage the active participation of students with physical disabilities taking these strategies into consideration when establishing the programme content. (Ríos, 2005).

- Attitudes and values in education: being one of the driving forces for the internalization of diversity as something positive as well as enriching for society. Values are defined as “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially

preferable to an opposite or converse mode of conduct or end-state of existence". (Rocheach, 1973; Serrano 1984).

Values are organized around a belief system that determine both the way of doing and the way of being; moreover, these values are shown in the behaviour through a series of rules.

On the other hand, attitudes are "an organized grouping of convictions or beliefs which predispose the operational approach as positive or negative with regard to a social object (Rodríguez, 1989; Díaz, 2002).

- Cooperative learning: the abuse of competitive activities may be a cause of exclusion. cooperative learning is understood as an essential methodology within inclusive education.
- Adapting tasks: the physical education teacher must take into consideration the activity to be developed and must be able to adjust it to the characteristics of each individual. This process requires a deep and systematic analysis involving diverse factors such as: space, materials, degree of difficulty, the number of children in a group, the number of possible variants for that activity, students' Motor Engagement Time (MET), besides strengths and weaknesses of students with physical disabilities, among others.
- Sharing adapted sport for all students: Adapted sport or physical activity adapted to all movement are concepts understood as any physical activity or sport which highlight the interests and capacities of individuals with limiting conditions such as disabilities, health problems or elderly people (De Pauw y Doll Tepper, 1989).

It is interesting that students would know adapted sport and also consider it as a possibility across the entire spectrum of sporting provision. Considering spina bifida, there is a wide variety of sports. Thus, the Spanish Sports Federation for Persons with Physical Disabilities (FEDDF) includes some examples of adapted sports, for instance badminton, hockey or volleyball as alternatives to the traditional ones, which are already included within the contents of the Physical Education area in grades 4-6 in primary school.

All this and as indicated by Pérez, López and Iglesias, it is especially important to maintain programmes with similar contents, adapting the activities that develop those contents (Pérez, López & Iglesias, 2004).

In order to maintain these programmes and encourage students with spina bifida not only to participate in equal conditions but also benefit from the teaching-learning process. A series of strategies and guidelines aimed at structuring the classroom, materials and the teaching methodology are describe below.

## **2. Guidelines for the attention of students with spina bifida in the area of Physical Education**

Firstly, it is essential that the place on which will be developed the physical education sessions is predictable, that is, all elements should be always arranged in the same way and available on the same site. This favours orientation and the risk of injury from falls and stumbles is reduced.

Secondly, it is necessary to have materials which can be easily used by all students. And, in this case, they have to be easy to grasp and lightweight. In the case of playing games, whose materials are not immobile in the space, as for instance ball games, it remains essential to add an aural component to the object (for example, a rattle). This is going to promote both the

recognition of one's own position and following the path of the ball by students with spina bifida with any functional limitation of the limbs, visual organ and/or limitation of mental functions.

It is important to create highly structured and predictable environments not only on a physical level, but also on the social and temporal level in such a way that routines are created and anticipation is favoured.

Once it has been set up an environment that promotes interaction and participation of all students, it should be established a set of guidelines that allow students with spina bifida to understand and successfully complete each of the proposed activities for a session.

The first contact the student has with the activity is through the teacher's explanation, that is, how they should perform and develop it. If students understand and internalize the dynamics of the activity, in other words "what to do", it will be much easier for them to develop the activity satisfactorily. Therefore, teachers must provide different means to explain the activity. Not all students receive and interpret the information in the same way. Thus, some students with spina bifida may have difficulty in accessing part or all the meaning of the message. In light of this, and to allow the explanation to arrive and be interpreted by all students equally, instructions should be given clearly and concisely, using direct style besides avoiding the use of imprecise or vague expressions such as "here" or "there" when referring to places and "this" or "that" when referring to things. On the contrary, both the referred object and place have to be specified. Additionally, using pictograms or videos to accompany the explanation can be very useful as well as the use of examples. It is advisable for the teacher to develop the activity himself, and once the explanation has been completed, in order to assimilate the technique and the rules in an appropriate way, students could be allowed to practice it a couple of times.

Similarly, activities must be explained following these guidelines and allowing students to express themselves in the same way and through the same methods, not only useful as a guide for students with spina bifida, but also for those students with linguistic and cultural diversity.

Once the teacher has ensured that all students have understood the activity to be carried out, the next step is its performance.

At this point, orders and/or instructions must be considered, since most activities when playing games require verbal commands by the teacher or students to complete the activity, that is why visual stimulus should be accompanied and included encouraging students to follow the development of the game.

The second point is the inverse to the previous one, that is, each time the teacher or students has to give an order through a visual channel, it must be accompanied by auditory stimulus that allows the visually impaired student to follow the development of the game.

Finally, it is fundamental that the teacher remember the guidelines during the activity to guide students and reinforce or eliminate behaviours that directly affect the performance of the activity. This feedback will also help students to maintain their attention and concentration on the task.

### 3. CONCLUSIONS

Too often, teachers have to face many barriers with regard to implementing the lesson planning carefully designed for those students with Special Educational Needs. This is particularly evidenced when students with physical disability attend their physical education class, and even though, when there is such a varied symptomatology, as in the case of spina bifida, in which different problems can occur depending on the type and the level of injury. In the motor domain, the most frequent difficulties vary from walking autonomously without the need of assistive technologies, to the use of wheelchair or crutches. Concerning the cognitive domain, it will depend on the presence or absence of hydrocephalus.

Taking into account the inclusiveness in which 21<sup>st</sup> century education is framed, priority should be given to the adjustment of the teaching action to each and every one of the students regardless of the educational needs they may have, throughout the entire cycle of education or at a certain time. For this reason, it is important to create healthy educational environments that promote active participation and equal opportunities for all students, by structuring the space, creating accessible materials for all and fostering a teaching methodology that encourages positive attitudes, moreover, the inclusion of all students, especially those with spina bifida.

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