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## Review

# EL PAPEL DE LA EDUCACIÓN FÍSICA EN LA DETECCIÓN DEL TALENTO EN EL DEPORTE: UNA PROPUESTA

## THE ROLE OF PHYSICAL EDUCATION ON SPORT TALENT DETECTION: A PROPOSAL

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**RESUMEN**

La detección del talento en el deporte se ha convertido en un tema de interés. Sin embargo, seleccionar y desarrollar atletas talentosos no es ni fácil, ni simple. Factores físicos, fisiológicos, psicológicos, cognitivos y sociológicos parecen estar interconectados. La cantidad de tiempo de práctica y las habilidades perceptivas y tácticas también influyen. El papel de la Educación Física en este proceso ha sido controvertido. Los países comunistas la han usado tradicionalmente como parte importante de su programa de talentos, pero no el resto de países. Aún así, ha comenzado un importante cambio en lugares como Gran Bretaña hacia un modelo del talento en el deporte basado en la Educación Física. El objetivo del presente artículo es desarrollar una propuesta sobre la detección y el desarrollo del talento en el deporte que tiene a la Educación Física como eje central.

**Palabras clave:** escuela, deporte, talentosos.

**ABSTRACT**

Sport talent detection has become an important issue. Nevertheless, selecting and nurturing talented athletes is neither easy, nor a single issue. Physical, physiological, psychological, cognitive, and sociological factors seem to be interconnected. The amount of practice and the perceptual and tactical skills and abilities are also important. The role of Physical Education in this process has been controversial. Communist countries have traditionally used it as an important part of their talent programs, but not the rest of the countries. Nevertheless, there has been a shift in countries such as UK towards a model for talent in sport based on physical education. The goal of the present article is to develop a proposal on talent detection and nurturing in sport that considers physical education a key element.

**Keywords:** school, sport, gifted.



## INTRODUCTION

The world of sport has become a high commercialized activity in which countries must invest large amounts of money to maintain or improve success. Unfortunately, for most people success in sport is just a matter of the number of medals won at international championships. Therefore, every country wants to possess athletes capable of performing at the highest level. Understanding the process of elite development is a key element in order to attain positive results in any sport arena. Although some politicians believe that the goal is to invest strategically in elite sport (De Bosscher et al., 2009), the solution seems not to be so simple. On the contrary, researchers agree that it relies on several factors of a complex structure that can contribute or inhibit elite development (Sotiriadou and Shilbury, 2009). Moreover, many believe that there is not a single type of factors leading to success, nor there is a model that could fit all countries or be applied to all sports (De Bosscher et al., 2006). The fact is that all countries seek talented individuals in order to develop elite athletes. Consequently, there is a permanent need to identify and nurture future elite performers to obtain results in high-level competitions.

However, there is still another major problem. What is really talent? How can it be spotted in an 8-year old child? Over the last couple of decades, there has been a shift from the unitary perspective to the multi-dimensional model of talent. The traditional view of talent has been linked to the idea of ability or intelligence as genetically inherited and measurable through specific tests (Eyre, 1997). This approach did not consider motor ability as one of its components. Therefore, it was difficult to apply to sport activities. Contemporary views of talent are domain-specific, so they introduce multiple areas of ability. Some of these perspectives include sport-related domains such as the Bodily-Kinesthetic Intelligence (Gardner, 1983), the Psycho-motor Skills (Perleth and Heller, 1994) or the Sensori-motor domain (Gagné, 2000). All of them can be applied to talent detection in sport. Unfortunately, talent identification in sports such as soccer has been traditionally focused on current performance of the subjects. Bailey and Morley consider that (2006): “it can be a poor indicator of ability, since it is mediated through a host of other influences, such as training, support, parental investment and societal values” (p. 213).

Furthermore, authors such as Helsen et al. (2000) believe that talent plays a limited role in the development of elite athletes. Accumulated practice (an average of 10 years and 10,000 hours of training), and associated factors such as coaches or facilities are necessary to become an expert in sport, and to be able to perform with success at a high level (Baker et al., 2003; Ericsson et al., 1993). To create a global picture of talent detection in sport, Williams and Reilly (2000) identified physical, physiological, psychological, and sociological factors as influential in sport performance of future elite athletes.

Due to this wide pleiad of factors that influence the development of elite sport athletes, there has been some attempts at creating a framework for analyzing all issues that can lead to success in this specific field. De Bosscher et al. (2006) designed a global model that classified all possible factors into three levels: Macro-level (i.e. population, political system, gross national product...), Meso-level (i.e. sport policies, strategies, investment decisions...) and Micro-level (i.e. the individual athletes and their close environment). Within this framework, all these levels interact, and no factor can be fully understood isolated from the others. In order to gain a better understanding of all sports policy factors that might influence sport success, De Bosscher et al. (2006) designed the Sports Policy Leading to International Sporting Success (SPLISS) model. It includes nine pillars: from financial and human resources to provision and development of coaches.

Undoubtedly, some of these factors cannot be controlled externally (i.e. an individual's genetics or the population of a country), while others can be manipulated to improve the final results (i.e. sport policies or coaching expertise). One of these last factors is the education system. Heinila (1982) includes education as one of the resources most commonly used in the leading sporting countries to achieve success in elite sport. Unfortunately, the impact of the education system of a country on the detection of talented sports people is, many times, undermined. Moreover, countries rely more on sport policies than education policies to spot, select and nurture talent in sport. They disregard the enormous potential of the education system: it has the opportunity to reach every child in a country. Historically, common characteristics of elite sport systems within communist countries included (De Bosscher et al., 2006): “early talent spotting through



schools, and high training frequency embedded in the school system” (p. 194). Countries such as the Soviet Union, Cuba or China used (some still do) the Physical Education (PE) curriculum to foster their sport talent detection program. Moreover, among the critical factors considered to measure the success of a country in elite sport De Bosscher et al. (2009) included: “children get opportunities to participate in sport at school, during Physical Education or extracurricular” (p. 119). This is not surprising, since PE is the area of the school curriculum most directly related to sport.

Initially, the present article examines the programs that are being conducted in the UK for talent detection in sport through PE. Finally, we present a proposal for talent detection and development in sport through PE based on the one introduced by De Bosscher et al. (2009).

#### **THE UNITED KINGDOM’S (UK) EXPERIENCE: CONNECTING CURRICULAR PE AND TALENT**

In the last decade, there have been two important initiatives in the UK to foster the development of talented pupils through PE: the Physical Education, School Sport and Club Links (PESSCL), and the Physical Education and Sport Strategy for Young People (PESSYP).

The PESSCL was launched in 2003, primarily delivered through the network of Sports Colleges and School Sport Partnerships (DfES, 2003). This strategy is a joint project between the Department for Education and Skills and the Department of Culture Media and Sport (DCMS). The overall aim of the PESSCL is to increase the percentage of 5 to 16 year old school children who spend a minimum of two hours each week on high quality PE and School Sport within and beyond the curriculum to 75% by 2006 and to 85% by 2008. So far, it has had some success, since the 2006 milestone has been beaten by 5 percentage points. In light of this achievement, the goal now is for each child to have access to five hours a week by 2012. This should be made up of two hours of PE, and three hours of physical activity offered on school sites or in the community. The strategy has invested over £1.5 billion, and it incorporates eight strands: Specialist Sports Colleges, School Sport Partnerships, Professional Development, Step into Sport, School/Club links, Gifted and Talented, Swimming, and PE and Sport

investigation. The Gifted and Talented strand tries to identify, provide for and support talented pupils, elite disability sport, and multi-skill camps. From this perspective, PE can be seen as a bridge between the domains of education and sport (Kirk and Gorely 2000). Recently, Bailey et al. (2009) have presented the results of a national survey on policy and practices in England. The more relevant findings were:

- A whole school policy is needed to develop an effective departmental strategy.
- Most departments were identifying pupils according to current performance and not potential achievement.
- The most commonly used criteria for identifying talented pupils were performance in school and club sport. The least used criteria were non-physical abilities. In contrast, Bailey and Morley (2006) suggest that the identification of talent in PE should also include cognitive, personal, interpersonal and creative aspects of the individual.
- The specific use of extra-curricular activities was the most common strategy for successful talent development.
- Many teachers reported a shortage in confidence and competence for identifying and providing for talented pupils.
- 3 ways to improve talent development would be to ensure that funding is channeled directly to the schools’ PE department, to identify pupils at an earlier stage, and to increase the numbers of pupils selected to justify coaching sessions.

The PESSYP was launched in 2008 to improve the quantity and quality of PE and sport undertaken by youngsters aged 5-19. It was built on the success of the preceding PESSCL, and it includes an investment of £755 million over a three-year period. This strategy is a joint venture of the Department for Children, Schools and Families and the DCMS, working with the Department for Universities, Innovation and Skills (in relation to 16-19 year olds), and with strong links to the Department of Health. The overall aim is to ensure that all 5-16 years old have access to two hours of PE and three hours of physical activity beyond the curriculum, while 16-19 year olds have three hours of sport outside school. The PESSYP has ten work strands: Club Links, Coaching, Competition, Continuing Professional



Development, Disability, Extending Activities, Gifted and Talented, Infrastructure, Leadership and Volunteering, and Swimming. The aim of the Gifted and Talented strand is to improve the identification, the support and the provision for gifted and talented pupils in PE and Sport. According to the Junior Athlete Education (JAE) framework (Youth Sport Trust, 2009): "Schools and teachers play an instrumental role in recognizing, guiding, supporting and inspiring the talented pupils along this pathway, whatever the destination." (p. 1).

Considering the PE teachers' lack of competence for identifying and providing for talented pupils, the Junior Athlete Education (JAE) Framework, coordinated by the Youth Sport Trust at Loughborough University, was designed to help schools provide a comprehensive range of support materials and processes for talented young sports people. It supports the holistic talent development of these students by focusing on 5 abilities over time: physical, cognitive, personal, social, and creative. When talented pupils are younger (Key Stages 1 and 2), they sample many different skills and sports. All 5 abilities are developed through PE and school sport. As they get older (Key Stage 3), they start to specialise in a chosen sport, and they receive special coaching outside of school. The physical and thinking abilities are developed primarily by their club coach. However, at Key Stages 4 and 5 the role of the school is still important in developing the social, personal and creative abilities of talented performers. The most important idea behind this framework is that PE and school sport function as one in the identification and nurturing of talented sport individuals. For the first time, there is a real coordination between education and sport policies.

#### **A PROPOSAL FOR TALENT DETECTION AND DEVELOPMENT IN SPORT THROUGH PE**

In the introduction section, the SPLISS model (De Bosscher et al., 2006) was presented as a tool to analyze all factors that influence international sport success. From our point of view, this model provides a useful framework to develop an approach for talent detection and nurturing in the world of sport. Despite the enormous amount of youngsters that are enrolled in physical activity classes from an early age, many talented athletes are being ignored due to a deficient

structure for talent identification (i.e. insufficient facilities, lack of financial support, poor coaching...). As seen earlier in the article, the PESSCL strategy includes PE as a relevant part of the talent detection and development program. Bearing this idea in mind, a rethinking of the nine pillars of the SPLISS model has been done in order to create a proposal that uses this school subject as a key element in the overall process.

#### **Pillar 1. Financial and human resources**

In addition to the different financial support programmes highlighted by De Bosscher et al. (2006): overall sport, elite athletes..., a specific financial support programme for gifted and talented in sport through PE needs to be included. As explained earlier, both the PESSCL and the PESSYP strategies in Great Britain incorporate big budgets. Certainly, it is necessary to have enough financial support to be able to develop successfully all facets of any proposal (facilities, supplies, personnel...). This includes having the adequate human resources in and out of the education system (i.e. PE teachers as well as coaches, coordinators, tutors...). They are the key elements in any structure, since they are going to carry out the plan. However, having the means may enhance the chances of success, but it certainly does not guarantee it. In order to control the overall process, proper assessment also needs to be carried out on a regular basis. Furthermore, all elements involved in the program must be evaluated. Children, coaches, administrators, coordinators, tutors, parents.... anybody involved in the project should be able to raise their voice and share their views. Their insights are very valuable, and they must be considered. In order to have an effective assessment program, enough funds are required, too. Nevertheless, the real issue is how to raise money in difficult times. Currently, Sport Federations from different countries receive large amounts of money from their national lottery, but only limited amounts are directed towards talent detection and development. If we want to develop sport talent programs through PE, part of the money collected through these lotteries should be used to help them. The improvements in facilities, resources and personnel could benefit many young athletes, as well as all students in the national education system. On the other hand, funds for sport development usually come from governments, but they could also come



from private enterprises interested in youth sport. Moreover, these private companies' investments could be beneficial for them through a specific program of tax reductions that could attract more companies to invest in sport.

### **Pillar 2. Integrated approach to policy development**

Sport policies and education policies are usually not coordinated. Consequently, their efficiency is hampered, and the expected outputs are difficult to achieve. Furthermore, many times education and sport policies can draw opposite results. The latest National Laws of Education have reduced the number of PE hours in primary and secondary school in many countries. While sport policies try to foster physical activity and sport to reduce child obesity, education policies reduce the possibilities of the only academic subject that could have an impact on that goal. Therefore, a national agreement on education and sport policies is needed. We strongly believe that any talent development program carried out through PE must be based on the idea of a quality education program for all students. As described by Bailey and Morley (2006), the main goal of this type of projects should be meeting all students' educational needs. If we want to improve the quality of our sport system, we must improve the quality of its base: PE. Our proposal includes two basic ideas:

- Connecting efforts: education policies and sport-related policies must be coordinated to obtain better results. Therefore, sport and education should be integrated in the same ministry to be able to enact laws that would promote physical activity in and out of the school system. PE is the base of sport, since all students learn the basic skills through it. Consequently, the actions of both should be interconnected to obtain bigger outcomes.
- Integrating sport programs: coordination among schools, universities, clubs, as well as local and national educational and sportive structures must be improved. Primary and secondary schools, vocational studies in Physical and Sport Activity, Faculties of Sport, sport clubs and associations must be linked to improve the quality of our talent detection and development sport programs. They all seek the same basic goal: develop healthy and

active people through physical activity. For that reason, it is important to sum up efforts.

### **Pillar 3. Foundation and participation**

Both stages are key elements in the pathway to excellence. Wolstencroft (2002) defines foundation as: "the development of basic movement skills and co-ordination skills promoted principally through early play experiences and PE" (p. 78), and participation as: "sport pursued in a recreational fashion as much for fun, enjoyment, social and health benefits as for interest in specific sports". According to De Bosscher et al. (2009) most top-level athletes have originated from "sport for all" programs. Therefore, if we create a broad base of sport practitioners, it may provide more talented young athletes to the different disciplines, thus increasing the chances of success in competition in the long run. Therefore, the implementation of effective talent development programmes in schools needs to be built on a foundation of quality general PE. Similarly, Borms (1994) highlighted PE as one of the key elements of a successful sport system in a country. Nowadays, many children' sport participation is reduced to the PE class. Only those enrolled in clubs practice sport besides school. Therefore, a simple way of increasing youngsters' sport participation would be to increase the number of weekly hours of PE. Nevertheless and despite the obesity epidemic, governments all over the world are decreasing those figures. Fortunately, there has been a growing call for an increase in the number of PE hours in all education levels to increase children's physical activity levels. Furthermore, if schools establish a well-based extracurricular sports program, the number of hours that our children would spend practicing sport will increase considerably. Schools are close to children's home, while clubs facilities are usually far. So, children will have access to sport more easily through the school's extracurricular activities. Definitely, if we want to make a definite impact on talent detection and development, as well as overall sport participation, PE and school sport must be closely linked. Teachers and coaches need to work in cooperation.



#### **Pillar 4. Talent identification and development system**

As described earlier in this article, talent detection in sport is not easy, but researchers agree that it should not be based on just physical characteristics and maturation. Certainly, Williams and Reilly (2000) highlighted the importance of perceptual and tactical skills (“reading the game”) on talent identification in team sports. Precisely, Oslin et al. (1998) developed their Game Performance Assessment Instrument (GPAI) to evaluate game performance. The GPAI was linked to their Tactical Game Model so that teachers could connect what was being taught and learned to the assessment of their students. The benefits of using the GPAI to assess performance are: it can be adapted to various sports and game activities, and it has the ability to measure on-the-ball and off-the-ball skills in offense and defence (Mitchell et al., 2006). Using assessment tools like this one, PE teachers will be able to spot talent in youngsters much easier than anybody else, since they spend some time with all the students. Furthermore, coaches could use the individualized information obtained by teachers to work on specific skills. In addition, PE teachers have the possibility to obtain information and work on all the abilities that Bailey y Morley (2006) considered that can be developed in PE: physical, social, personal, cognitive, and creative. These abilities are more difficult to observe in sport contexts, but they are very beneficial for the development of young players. Therefore, PE teachers and coaches could use similar instruments to assess the students/players’ competence in modified games, and join forces for all the children’s benefits.

According to Kirk (2005): “young people in the 8-14 age range should learn to play through modified games rather than the more traditional approach of learning skills prior to playing the game” (p. 249). Indeed, small-sided games (games played with less number of players in smaller field dimensions) have been shown as useful tools to develop physical fitness and technique in young players (Athanasios and Eleftherios, 2009). Several studies have reported that with less number of players and smaller field dimensions more dribbles, ball contacts, short passes, goal scores and tackles are performed during a game by all players (Athanasios and Eleftherios, 2009; Capranica et al., 2001). Therefore, small-sided games

like the ones that can be seen in PE classes could be used for talent identification and development in youth team sport programs.

On the other hand, as Abbott y Collins (2004) have emphasized: “the motivation to commit to high training loads over an extended period is a crucial determining factor in acquiring and maintaining expertise” (p. 399). While performance itself can be a false indicator of potential, the child’s own interests appear to be an excellent indicator of adult attainment (Abbott y Collins, 2004). Cecchini, et al. (2003) confirmed the existence of a factor called “motivational intensity” which measures the degree of young athletes’ sport motivation. Players who were highly motivated were more interested in sports, spent more hours per week training, worked harder in every session, had higher perceived competence, believed in their personal improvement, anticipated that they will practice longer, and had a higher degree of satisfaction. From our point of view, assessing individual motivational intensity, and designing an appropriate motivational climate in PE and sport (Morgan and Carpenter, 2002) may help the process of identification and development of talent in young players.

#### **Pillar 5. Athletic and post-career support**

As described by Pintor et al. (2004), integrating programs of talent development in primary and secondary education allows athletes to combine school and training demands within their regular schedule, making the overall workload easier for them. Furthermore, it will connect players with vocational and higher education studies related to physical activity and sport, showing them a possible profession. On the other hand, when a sport career is over or close to finish, there is always uncertainty among athletes. They have done a single activity for so many years that, many times, they do not know what to do with their lives. Nevertheless, these athletes’ experience is so large, that they could be excellent tutors for beginners in schools and/or sport clubs. At the same time, they could also act as role models for these children who are initiating their sport career. Children would benefit from the advice of these experienced athletes, while these could “fill their time” with a rewarding activity, that could also represent money for them, or a way of living.



### **Pillar 6. Training facilities**

Sport clubs' training facilities are usually far from the athletes' homes. Most teams have moved away from the inner city to the suburbs where the ground is cheaper. This move has made young athletes waste enormous amounts of time everyday just to get to practice. On the contrary, schools are right in the children's doorstep (especially primary schools), so many children just walk everyday to class. If they had their sport programs in the school's facilities, they, and their families, will be able to save a lot of time on a daily basis. Research has showed that many children drop out from sport activities just because no one can take them to practice, and they are too young to go by themselves (Kay, 2000). On the other hand, except for the best teams in the country, most clubs' sporting facilities are poorly equipped and outdated. Similarly, most school's sport facilities are also small, obsolete, and poorly equipped. While clubs are private enterprises, most schools are part of the national public education system. Therefore, if we want PE to be able to help in the detection and development of talented students, it must have adequate facilities and equipment. These could be used during the school's regular schedule (for PE or recess), but also for after-school activities. If we want to create strong extra-curricular sport programs linked to talent detection and development, schools must have the required means. Therefore, not only the in-school activities, but the out-school sport programs would benefit from this investment. Moreover, agreements between education organizations and sports institutions (public and private) could also be signed to facilitate the use of the existing training fields and facilities by young athletes and/or teams.

### **Pillar 7. Provision and development of coaches**

Coaches achieve success or failure depending on the results of the athletes that they prepare. That is why they put so much pressure on them. The problem is that their failure means children dropping out of sport. PE teachers also have a big role to play in their students attitudes toward sport. Many teachers use outdated pedagogies when teaching sport. They tend to concentrate on technical skills, which are boring, rather than tactical skills, which allow the student to practice the sport in and out of the classroom.

Besides, at the primary level, instruction should be multi-oriented, not focused on one sport. As Kirk (2005) have stated: "young people's improvement as players or performers requires them to have as many opportunities as possible to participate in their chosen sport or sports in ways that are authentic and interesting" (p. 249). He believes that the quality of coaches and teachers are key factors in the success of any program oriented to improve physical activity or sport participation. Therefore, it is desirable to have a sufficient number of qualified trainers to support talent school programs. Well paid coaches that feel that their work is valued no matter if they win or lose. For coaches and teachers to work in harmony, it is also very important to have an extra-curricular physical activity coordinator. He/she will be able to establish connections between what is being done in the classroom and in the extracurricular sport program. This way, synergies will help both contexts fully develop each student's capabilities.

### **Pillar 8. National and international competition structures**

Our proposal is mainly focused on students at the primary level. Therefore, national and international competitions are way beyond its scope. On the contrary, we agree with authors such as Côté and Hay (2002) who believe that early experiences of children in organized sport should be based on playing rather than training. This idea indicates that young players should be gradually introduced to competition. Moreover, coaches and organizers should be very careful with the characteristics of the competition that the young players are going to face. The type of competitive experience that young athletes are exposed to should not lead any child to drop out of sport. Therefore, the level of stress that competition produces on a child should be addressed and adjusted to fit every child's needs.

### **Pillar 9. Scientific research and sports medicine support**

In order to assess the validity of any proposal, scientific research needs to be conducted on a regular basis. Only through the eyes of the scientists, the real positive and negative aspects of a plan can be detected. Therefore, a systematic assessment plan must be developed to improve the overall process. It



is also very important to create a network of scientific research that includes inner elements of the talent program (teachers, coaches, and coordinators), as well as outer elements (universities and research centres). On the other hand, sports medicine units can play an important role in preventing health-related problems in young athletes. Sport medicine doctors are specialists, and they will be able to deal with sport related problems better than regular doctors. All children involved in physical activity should go through regular screening in these units to prevent any injuries or discover any weaknesses that must be carefully considered before practicing any sport (i.e. heart, blood pressure) or to improve their performance.

### CONCLUSION

As described in the introduction section, talent detection and development in sport is a multi-faceted issue. Physical, physiological, psychological, cognitive, sociological, perceptual, technical and tactical elements have been identified as influential on talent programs. The amount of practice and the context where the teaching/coaching-learning process takes place are also very important. PE and extracurricular school sport, integrated, have an enormous potential for talent detection and nurturing in sport, since they are capable of developing all the above-mentioned elements. PE reaches every single child, but it needs extra time to obtain results. Extracurricular sport can give PE those additional hours that are absolutely necessary to accomplish significant outcomes. Both of them just need an extra help through adequate funding, and proper education and sport policies to be able to achieve new heights in sport talent detection and nurturing.

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