

Improvement of the coordination skills in disabled athletes Special Olympics

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Abstract

The study of the improvement of eye-hand coordination skills and eye-foot for young disabled athletes Special Olympics, was carried out on a sample of 24 athletes (16-18 years), including 12 young people with intellectual disabilities supported by a group of able-bodied partners. The work was developed by the Course of Sport and Disability, Department of Exercise Science and Wellness, University of Naples Parthenope in collaboration with the College of St. Catherine of Siena, in Salerno, in the second phase of the project unique school and peer Special Olympics unified Italian football.

Method

Athletes who took part in the first phase of the study for the verification of conditional capacity, had performed the following tests at coordination skills: the launch of the soccer ball with both hands, passing the ball with your dominant foot, shot on goal. The data collection was carried out over a period of five months with initial, intermediate and final projection into indoor stadium with a ball number 4. The purpose of this study was to investigate the relative performance of the eye-hand motor coordination and eye-foot noting the percentage of error in shooting and passing by conducting tests in an indoor soccer field to five for athletes and partners divided into group A and group B.

Result and Conclusion

The final data, recorded at the end of the second phase of the project, have shown positive results particularly for athletes of group B who participated in 10 meetings over the extra two hours of physical education during school hours. The intermediate survey of group B showed an increase in percentage quantifiable around about 6,5% while the end result showed an overall improvement rate of almost 8%.

Keywords: **disability, football, coordinative skills, passes, shots.**

Introduction

Special Olympics section of IPC-International Paralympic Committee, offers millions of young people and adults with disabilities the opportunity (Baratella, Littamè, 2009), to play sports and relies on the support of family members, who are directly involved, and volunteers that, every year, help to organize thousands of events around the world. This international organization has set targets, through sport, to facilitate the social integration of people with intellectual disabilities and helping them, to improve their mental health (Pfanner, Marcheschi 2005). The physical abilities of athletes, divided into conditional and coordinative abilities, are always evaluated according to their performances and the success both an individual and as a team (Weineck, 2009). The purpose of this study was to investigate the relative performance of the hand-eye coordination and eye-foot coordination to (Barnes, Marsden 2002), noting the percentage of error in the passing and shooting tests.

The football team is one of the sports in which the right balance between the characteristics of individual athletes and one of the objectives of the sport is highlighted by the effectiveness of the pass, the shot, the assist, in a competitive context of high variability in which the player must master as quickly and accurately as possible their skills, especially those that are open, the open skill. The football match between athletes with disabilities is based on their relational and collaborative skills, as well as technical. Special Olympics promote wellness physical, mental, social and spiritual of the disabled and able-bodied athletes, without distinction of age, race, nations, religion (D'Intino, Ortonzo, Di Marco, 2005).

Methods

Addressee and Objectives

The objectives research of this second phase were to assess the improvement of coordination skills to ensure the educational value of sport in order to help promote the social inclusion of people with disabilities. The study, carried out by a method of observation and manual survey, was carried out by tests (Marella, Risaliti, 2007) on a

total sample of 24 subjects, 15 males and 9 females, including 12 disabled athletes, 9 males and 3 females and 12 partners, 6 males and 6 females. Athletes and partners, aged between 16 and 18 years, have passed the examination of sports medicine for agonistic sports.

The experiment was carried out over a five-month period by dividing the participants in the same groups A and B set up to ascertain the conditional capacities. In the first period, lasting 15 days, we proceeded with the preparation of the coordination tests. In the second, lasting about 100 days, all athletes have attended two hours of physical education during the school day and the only group B has participated in 10 sessions of exercise in the afternoon. In the third period, lasting a month, final measurements were made. The exercises have been proposed alternating the global and analytical method.

The additional training session was divided in the following way (50 minutes) which a ball for each athlete: 10'(of) general activation with slow running and ball games; 5'(of) stretching; 5'(of) 8 lineout with varying distances (Fig. 1): 15 meter lineout 1-2, 10 meter lineout 1-3, 10 meter lineout 1-4, 15 meter lineout 1-5

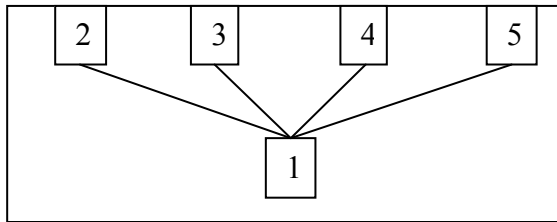


Figure 1

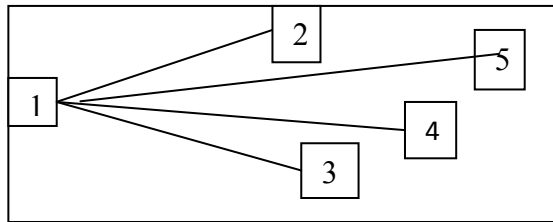


Figure 2

2'(of) stretching; 10'(of) 8 exercises passage with the dominant foot to a companion stop at variable distances (Fig. 2): 8 meter distance between athlete 1-2, 10 meter distance between athlete 1-3, 15 meter distance between athlete 1-4, 20 meter distance between athlete 1-5; 4'(of) stretching; 10'(of) 8 exercises of shots on goal with the dominant foot to a companion stop at variable distances (Fig. 3): 10 meter distance between location A and football goal, 15 meter distance between location B and football goal, 20 meter distance between location C and football goal, 18 meter distance between location D and football goal; 4'(of) slow speed and stretching.

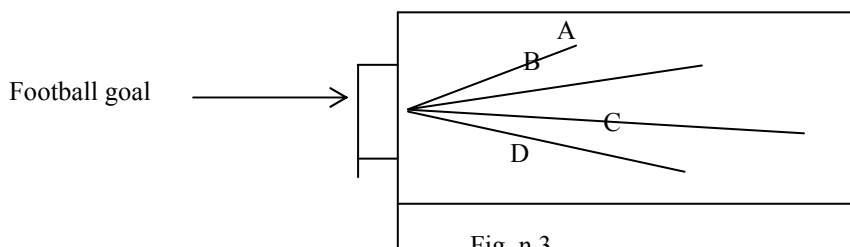


Fig. n.3

Materials and Equipment

Five indoor soccer field; Football balls n.4; Signal flags; Football shirt, shorts and knee high socks; Five soccer goals; Meter for distance; Survey grid.

Results

The project participants have claimed an initial screening and then were divided into two groups, A and B. Group A was formed with the athletes, the disabled and partners, which showed the best performance. Group B was composed with the subjects with lower parameters. The intermediate survey data to assess the skills of coordination of group B, showed an improvement of performance percentage by approximately 6,5%.

The final results, obtained at the end of the activity, have denoted the total percentage improvement of about 8% for group B, confirming the validity of the proposed additional training. Athletes and partners of group A showed greater motivation and concentration, both in performing sports activities (Schalock, 1991) and in daily school activities.

Initial Survey

Number precise steps theoretical n. 20

Table n. 1- Initial recognition of the percentage of accuracy in lineouts, in passes and shots for athletes

Athlete	total n. lineout precise	% total n. lineout precise	total n. passes precise	% total n. passes precise	total n. shots precise	% total n. shots precise
Subject a1	18	90	14	70	12	60
Subject a2	16	80	12	60	11	55
Subject a3	15	75	13	65	12	60
Subject a4	16	80	14	70	13	65
Subject a5	14	70	12	60	10	50
Subject a6	13	65	11	55	12	60
Subject a7	20	100	18	90	16	80
Subject a8	19	95	16	80	18	90
Subject a9	18	90	17	85	19	95
Subject a10	16	80	14	70	18	90
Subject a11	17	85	16	80	16	80
Subject a12	16	80	16	80	20	100

Table n. 2- Initial recognition of the percentage of accuracy in lineouts, in passes and shots for partners

Partners	total n. lineout precise	% total n. lineout precise	total n. passes precise	% total n. passes precise	total n. shots precise	% total n. shots precise
Subject p1	20	100	19	95	19	95
Subject p2	19	95	20	100	19	95
Subject p3	19	95	20	100	18	90
Subject p4	20	100	19	95	20	100
Subject p5	20	100	20	100	19	95
Subject p6	19	95	20	100	19	95
Subject p7	20	100	20	100	19	95
Subject p8	19	95	20	100	20	100
Subject p9	20	100	19	95	20	100
Subject p10	20	100	20	100	19	95
Subject p11	20	100	20	100	20	100
Subject p12	20	100	20	100	19	95

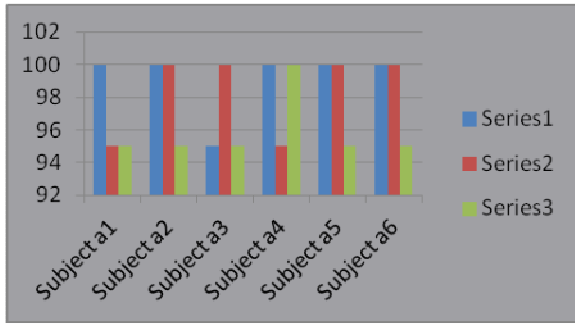
The results of the initial survey, together with the performance and relationship criterions, have determined the constitution of the A control group and of group B which ran a supplementary course:

Group B		Group A	
Athlete	Partner	Athlete	Partner
Subject a1	Subject p1	Subject a7	Subject p7
Subject a2	Subject p2	Subject a8	Subject p8
Subject a3	Subject p3	Subject a9	Subject p9
Subject a4	Subject p4	Subject a10	Subject p10
Subject a5	Subject p5	Subject a11	Subject p11
Subject a6	Subject p6	Subject a12	Subject p12

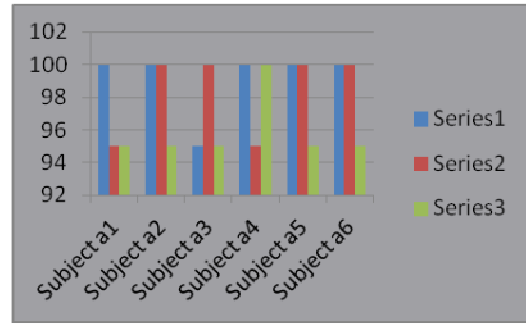
Intermediate Survey

Table n. 3 – Intermediate recognition of the percentage of accuracy in lineouts, in passes and shots for athletes and partners group B

Athlete	Partner	total n. lineout precise	% total n. lineout precise	total n. passes precise	% total n. passes precise	total n. shoots precise	% total n. shoots precise
Subject a1		18	90	16	80	15	75
Subject a2		17	85	14	70	14	70
Subject a3		16	80	13	65	13	65
Subject a4		17	85	14	70	15	75
Subject a5		17	85	14	70	13	65
Subject a6		15	75	13	65	15	75
	Subject p1	20	100	19	95	19	95
	Subject p2	20	100	20	100	19	95
	Subject p3	19	95	20	100	19	95
	Subject p4	20	100	19	95	20	100
	Subject p5	20	100	20	100	19	95
	Subject p6	20	100	20	100	19	95



Graphic 1 – Group B
Performance intermediate testing athletes

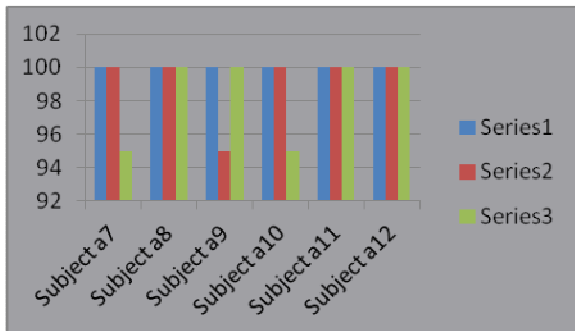


Graphic 2 – Group B
Performance intermediate testing partners

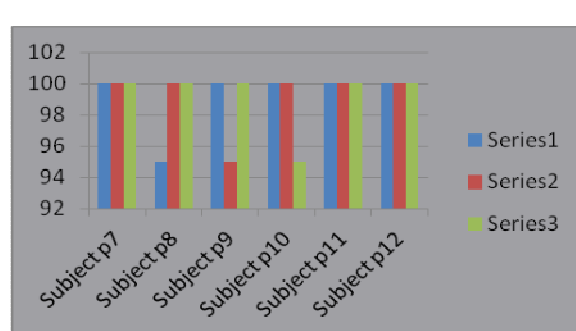
Final Survey

Table n. 4 - Final recognition of the percentage of accuracy in lineouts, in passes and shots for athletes and partners group A

Athlete	Partner	total n. lineout precise	% total n. lineout precise	total n. passes precise	% total n. passes precise	total n. shoots precise	% total n. shoots precise
Subject a7		20	100	20	100	19	95
Subject a8		20	100	20	100	20	100
Subject a9		20	100	19	95	20	100
Subject a10		20	100	20	100	19	95
Subject a11		20	100	20	100	20	100
Subject a12		20	100	20	100	20	100
	Subject p7	20	100	20	100	20	100
	Subject p8	19	95	20	100	20	100
	Subject p9	20	100	19	95	20	100
	Subject p10	20	100	20	100	19	95
	Subject p11	20	100	20	100	20	100
	Subject p12	20	100	20	100	20	100



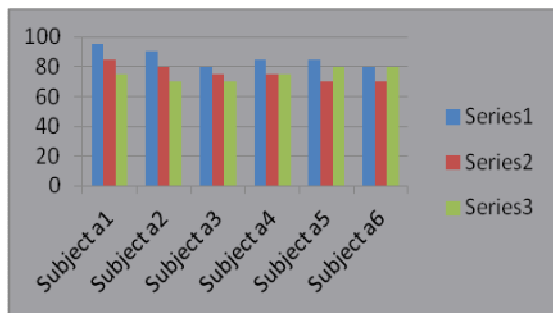
Graphic 3 – Group A
Performance final testing athletes



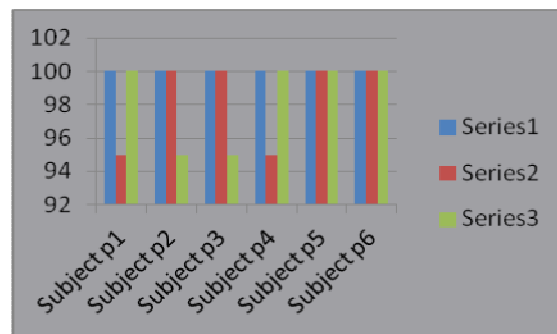
Graphic 4 – Group A Performance final
Performance final testing partners

Table n. 5 - Final recognition of the percentage of accuracy in lineouts, in passes and shots for athletes and partners group B

Athlete	Partner	total n. lineout precise	% total n. lineout precise	total n. passes precise	% total n. passes precise	total n. shoots precise	% total n. shoots precise
Subject a1		19	95	17	85	15	75
Subject a2		18	90	16	80	14	70
Subject a3		16	80	15	75	14	70
Subject a4		17	85	15	75	15	75
Subject a5		17	85	14	70	16	80
Subject a6		16	80	14	70	16	80
	Subject p1	20	100	19	95	20	100
	Subject p2	20	100	20	100	19	95
	Subject p3	20	100	20	100	19	95
	Subject p4	20	100	19	95	20	100
	Subject p5	20	100	20	100	20	100
	Subject p6	20	100	20	100	20	100



Graphic 5 – Group B
Performance final testing athletes



Graphic 6 – Group B
Performance final testing partners

Conclusion

The participation of children in the second phase of the project Unici and Pari Special Olympics Italy showed a greater collaboration between partners and athletes, aged between 16 - 18 years, favoured from the execution of collective exercises consisting in mini soccer games. The division into two groups has stimulated the engagement and concentration (Hutzler, Oz, Barak, 2013), of the B group that wanted to improve test results through the exercise of passing and shooting (Vatta, 2006), accepting with enthusiasm the 10 additional training sessions in addition to two hours of physical education during school hours. All participants have been monitoring by sports doctors. The objectives related to the increase in the percentage of passing and shooting through the improvement of coordinative abilities have been achieved. The unified soccer (Hutzler, Barak, 2013), has been practiced on indoor fields. It was also found that the improvement of interpersonal relationships and collaboration within the team have been found and this result is very important for the integration of disabled people. (Angermeyer, Kilian, 1997).

Discussion and perspective

The sport can be a beautiful and rewarding experience, it can promote the maturation and growth, can improve self-image and personal safety.

The sport for athletes with disabilities (Filoramo Bal, 2007) must be organized between individuals with the same degree of disability in order not to bring out significant differences between the participants, but encouraging growth and stimulating enthusiasm for the comparison and the development of collaborative skills and relationships (Angermeyer, Kilian, 1997)

The model of teamwork Special Olympics can succeed in schools that facilitate awareness-raising and training for volunteer work for students without disabilities, the project partners, and for the entire school staff, giving an important social and educational value to the sport (D'Intino, Oronzio, Di Marco, 2005) in consideration that are more than four million athletes involved in Special Olympics activities in approximately 170 countries around the world.

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