

Metodologie Tecnologiche nello Sport per promuovere l'Inclusione

Technological Methodologies in Sport to promote Inclusion

Davide Di Palma

University of Napoli "Parthenope"
davide.dipalma@uniparthenope.it

Antonio Ascione

University of Napoli "Parthenope"
antonio.ascione@uniparthenope.it

Luca Impara

University of Study Niccolò Cusano - Telematics Rome
luca.impara@unicusano.it

ABSTRACT

The aim of this paper is to highlight the technological methodologies in the sports context, able to favor an inclusive process towards people forced to live in situations of psycho-physical and social discomfort, such as the disabled.

Like in the school system, where technology already provides an important support in the proposal for an inclusive education, such innovations and tools are required to amplify the inclusive benefits that sport is able to generate.

In this regard, we want to analyze a proposal for a technological strategy in the water polo discipline, with the aim of promoting the inclusion of the disabled.

Lo scopo del paper è quello di evidenziare delle metodologiche di tipo tecnologico nel contesto sportivo in grado di favorire un processo inclusivo nei confronti delle persone costrette in situazioni di disagio psico-fisico e sociale come i diversamente abili.

Al pari del sistema scolastico, dove la tecnologia fornisce già un importante supporto nella proposta di una didattica inclusiva, tali innovazioni e strumenti sono chiamati ad amplificare anche i benefici inclusivi che lo sport è capace di produrre. Si analizza, a tal proposito, una proposta di strategia tecnologica nello sport della pallanuoto che mira a favorire l'inclusione dei diversamente abili.

KEYWORDS

Sport; Technology; Inclusion; Education; Didactics.
Sport; Tecnologia; Inclusione, Educazione; Didattica.

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Introduction

Technological progress, especially in the field of information and communication, has changed and conditioned, over time, almost all the activities carried out by the human being in all the social-relational sectors. Right through an effective and efficient management of these new technological resources, a series of opportunities can be generated, able to promote inclusive processes for weaker subjects, such as people with disabilities (Baroni & Lazzari, 2013; Di Palma, 2017; Foley & Ferri, 2012).

In the school context, through the support of information and communication technologies (ICT), it is possible to promote an inclusive didactics that positively stimulates the autonomy of students with disabilities, and the consequent growth of self-esteem (Lage, Platt, Treglia, 2000; Peluso Cassese, Di Palma & Tafuri, 2017).

What we have just affirmed for the school system lays the foundations for developing the hypothesis of employing the methodologies resulting from technological innovations, in the sports one too. This would allow amplifying the inclusive value for disability and diversity in general, which sport has always held (Di Palma, Ascione & Peluso Cassese, 2017; Tafuri et al, 2017).

In this regard, we will analyze an experimentation proposed in the water polo discipline, which, by employing certain technological strategies, pursues the goal of improving accessibility to people with disabilities, or in any case belonging to disadvantaged groups, within the pools. Achieving a facilitating accessibility is the basis of this project, which allows increasing the sports practice level by the disabled, and fully developing the inclusive potential of sport.

1. The Development of Inclusive Didactics through the Technological Support

For years, the ICT have characterized and conditioned all the relational and communication processes in different areas such as education, culture, social sphere, etc., representing a constant factor in the individual's everyday life. The scenario is the same (if not even more marked) for people with disabilities, including in the education and training contexts, where the Information and Communications Technology, by stimulating the Assistive technologies (AT), have considerably increased the development of autonomies (Foley & Ferri, 2012; Salend, 2015).

At school, the effective management of technological innovation and the related hardware and software, if properly selected, can encourage the participation of the disabled athletes and students in learning paths, allowing breaking down those barriers of access that increase the gap with the fellow students. The ICTs, both from the methodological-didactic and the organizational-managerial point of view, seem to hold strength points for at least three aspects (Guglielman, 2011; Starcic, 2010): precision, adaptability, and motivation.

The use of technological tools, precisely thanks to the flexibility that characterizes them, avoids the phenomenon of standardization of training processes for the benefit of personalization, based on every student's learning styles and rhythms (Calvani, 2012; Pavone, 2010).

Moreover, the European Commission itself finds in the ICTs an effective instrument to support educators in the difficult task of personalizing learning, making the teaching activity cooperative, focusing on autonomy and on the development of skills, also in extremely heterogeneous contexts and in the presence of students and athletes with special needs (European Commission, 2011).

Didactics, but more generally inclusive education, provides an important basis for ensuring equal opportunities for people with special needs in any context; It requires the application of flexible methodologies, able to satisfy the different (and often complex) needs of every student. The types of classroom practices that support the inclusion of students with special needs, such as the disabled, include (Besio, 2005; Salend, 2015; Starcic, 2010): cooperative learning and teaching; cooperation in the problem solving phases; set up of heterogeneous groups; planning and evaluation of the work carried out by every student; systematic monitoring and assessment.

These strategies can be beneficial for all students, even for those that are particularly talented. The initiatives aimed at the inclusion of people with special educational and sports needs can be considered an extension of the principle according to which school and sport should frame the special needs of every student and athlete. Teachers, like all educators, are faced with increasingly different and specific requests due to the considerable increase in the heterogeneity of the groups of students (in terms of mother tongue, gender, ethnicity, religious confession, ability, etc.); this makes it necessary for their educational and didactic action to make use of the opportunities offered by new technologies, so as to be able to respond to the needs for personalized teaching and stimulate students to become autonomous in lifelong learning.

Information and Communication technologies hold a great potential to support the autonomous learning, the collaborative construction of knowledge and the skills development; they represent an important reality in the inclusive education process of the main social contexts, such as school and sport (Calvani, 2012; Di Palma, 2017).

What we have affirmed has stimulated the analysis of the importance of applying the tools and methodologies based on technological innovation, also in another strongly social context similar to the school one, like the sports system, in order to benefit of its inclusive potential as more effectively as possible.

2. The Inclusive Potential of Sports Activities

Sports practice has taken on an increasingly important relevance in the management of people with disabilities, because it can potentially make an incisive contribution to their integration or re-integration in a social context (Di Palma, Ascione & Peluso Cassese, 2017; Misener & Darcy, 2014; Tafuri et al, 2017).

Through sports experience, a disabled athlete, when relating to the outside world, has the opportunity to discover a healthy collaboration, which goes beyond personal relationships, and manages to discover the joy of human relationships. Within the sports world, in fact, the established interactions are manifold and of different type; for example, the athlete comes into contact with his coach, his teammates, in the case of team sports, and with his opponents. This complex panorama of connections allows the subject experiencing a wide range of feelings and emotions, handle possible relational conflicts, and learn to adapt the relationship according to the persons with which he interacts. In the interpersonal relationships, the subjects are recognized goals and a specific role, thus enhancing the process personal identity building (Di Palma, Raiola, Tafuri, 2016; Guiggi, 2012; Hodge, Lieberman & Murata, 2012).

Sport is an essential element at emotional, social and inclusive level, made up of a multidimensional, dynamic, and playful environment suitable to intensify awareness of oneself and of one's own body. It also combines physical activity

with that recreational, promotes health, longevity, physical and psychological well-being, and is a social inclusive development driving force (Peluso Cassese, 2011; Madella, 2010).

All this characterizes this sector as an excellent tool for the integration of minorities and groups at risk of social exclusion too. Integration and inclusion are the objectives, sport is the vehicle, because it assigns everyone a precise role in a collective and teamwork context, and manages to break down barriers and walls created in the outside, since we are all equal in sports. More specifically, there are inherent features in sport that determine and stimulate the inclusive value of this sector (Beyer, Flores, Vargas-Tonsing, 2009; Di Palma, Ascione & Peluso Cassese, 2017; Farinelli, 2005; Light, Dixon, 2007; Russo, 2004; Tafuri et al, 2017):

- Sportsmanship. Performers at every level, sports clubs and other operators in the sports world must behave according to the principles of loyalty and sports fairness, and must actively cooperate in the promotion of a social and cultural civil (as well as sports) togetherness.
- Respect. In sport, it needs to refrain from any behavior that is likely to damage the physical integrity, as well as the moral dignity, of the opponents during sports matches and competitions. It also needs to implement initiatives aimed at raising awareness, in the audience attending sports events, on the respect for athletes, teams and their supporters.
- Sports culture. Sports language is universal, it goes beyond borders, languages, religions and ideologies, and has the ability to unite people, creating bridges and fostering dialogue and hospitality.
- Respect for common rules. Sport is characterized by rules equal for everyone regardless of the individual's ethnicity and culture; it represents a neutral ground confrontation, able to put everyone on an equal footing. Learning from an early age to accept the common rules of play has a highly educational and training value towards acceptance and inclusion.
- Non-violence. The sports world rejects physical and verbal violence, fighting against behaviors or statements which can somehow cause it or incite to it, thereby limiting the occurrence of exclusionary expressions.
- Enhancing diversity and uniqueness. In sports, the natural differences of origins, skin color, language and culture are critical to enhance and enrich the individual. In the game, there are differences in roles and characteristics; The winning team results from the right mix. Team spirit promotes cohesion by valuing positively the uniqueness of each person.

At the foundation of the cardinal principles of sport as a phenomenon of inclusive didactics, those who play the role of educators in the training process of young athletes, both non-disabled and disabled, are of fundamental importance in this sector. It is therefore necessary to guarantee that all the subjects playing this role of responsibility are well trained and qualified (Mari, 2007; Tafuri et al, 2017).

Once described the great inclusive potential of the sports sector, we can start analyzing a project carried out in water polo, which highlights how technology can enhance the benefits of sport in this sense.

3. Technology in the Water Polo for Inclusion

The application of technological strategies and methodologies in water polo is characterized by the choice to manage the use of digital systems not only to support the development and spreading of this sport, but also for a social and educational growth. In fact, the main objective of this project is to promote the social inclusion of disabled people, by guaranteeing the latter the maximum accessibility to sports facilities, and in this specific case, to swimming pools. This accessibility to structures has the clear consequence of bringing the sport closer to disability, and then produce the benefit previously described (Di Palma et al, 2016; Isidori, 2012; Misener & Darcy, 2014).

Of course, the social purpose goes hand in hand with the possibility to stimulate, at the same time, the increase in the number of performers, in communication, information, promotion, training, prevention, study, sponsors, and therefore in sport in general (Di Palma, 2017; Ruta et al, 2012).

The implementation methodology provides that all the useful and important information to get to sports centers, i.e. how to access them, what general services can be used, etc., are made available in a simple and updated way.

For example, professionals are working to develop an app, available on smartphone, tablet or directly on the pc, containing maps of paths specially collected for people who have difficulties. This is possible through the use of algorithms that make it possible to transform the data collected by directly covering the available routes in itineraries (from/to) for getting to the swimming pool. These itineraries take different colors on the basis of the degree of difficulty encountered, and in relation to the possibility of overcoming or not the exclusive barriers that can be found during the path.

These maps, then, are matched with another set of information, concerning:

- The presence and precise location of the public transportation stops, accessible in immediate proximity to the location, which allow getting to the sports facility;
- The location of parking spaces reserved for disabled people, closer to the swimming pool.

Another function provided by this technology project for water polo is the one provided through the "360° Virtual Tour", which allows showing exactly pictures inside the sports facilities, and therefore provide all the exact information on the various sectors and services offered, and on the modalities, times and spaces, useful to people with disabilities for accessing them. This function also allows for a simpler mobility within the structure, through the possibility of being guided by both visual and vocal support.

Yet, there are "Video Tutorials" through which to watch and listen to what exactly the various courses offered by the pool are, and what kind of attentions are reserved specifically for people with disabilities. The interaction through the videos is completed with the presentation of the staff, which allows breaking down the social barrier that risks being present during the first approach.

In this regard, one last specific function of the planning is the instant messaging service with the staff for people with disabilities, in order to consolidate the relationship between the disabled and the sports provider.

What described above makes it much easier for disabled people to access sports activities, thanks to the possibility of breaking down physical, organizatio-

nal, communication and social barriers through the use of simple technological innovations within everyone's reach.

Furthermore, other development perspectives in the use of technology in the sports sector, supporting a process of social inclusion, could result from the use of the Internet of Things (IoT). The IoT is a possible evolution of the use of the Internet, where objects become recognizable and acquire intelligence thanks to the fact that they can communicate data about themselves, and access aggregate information from others (Xia et al, 2012). For example, it could be possible to include sneakers that communicate time, speed and distance to compete in real time with people on the other side of the world, or sports equipment able to communicate to the blind their features, etc. The goal of the Internet of Things is to ensure that the electronic world draws a map of the real one, giving an electronic identity to things and to the physical environment, and this would provide a series of global information that can make sports centers "accessible" to all, whether they athletes, experts, simple course goers, accompanying person and/or fans, with or without a handicap.

Feasible solutions to develop the inclusion of disadvantaged subjects, such as people with disabilities, would be multiplied greatly, but the spreading and implementation of the main points of this project would be already important to show a concrete attention of the sports sector and technology towards the development of disability.

Conclusion

An appropriate and efficient use and application of the technological innovations grants the opportunity to foster the development of the inclusion phenomena for disabled people, and for any category in a socially disadvantaged situation.

Through the use of technological tools in the school contexts it is possible to break down exclusive barriers which, in the past, have always represented a considerable limit to the spreading of inclusive didactics. This scientific contribution has analyzed how this phenomenon can be reproduced also in another context at the basis of our society, like the sports one.

It has been proven that the potential inclusive value of this sector, guaranteed by the presence of some peculiarities that have always characterized it, can be amplified through the adoption of currently available technologies.

The proposed project highlights, in fact, how an effective combination of the sport-technology pair positively stimulates both the accessibility to sports for the disabled, and the resulting benefit of social integration and inclusion generated by its practice.

Despite the fact that what we have analyzed is based on a relatively basic use of software and hardware, this project is part of a management approach to technological methodologies in sports aimed at the promotion and implementation of social inclusion.

A possible starting point for future research, in this regard, could be the development of a project that foresees the exploitation of leading-edge technologies that are as close as possible to the IoT, for the performance of sports activity by a group of subjects with disabilities, with the aim of assessing the social benefit perceived by the latter.

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