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THE ROLE OF WEARABLE TECHNOLOGY IN ENHANCING PHYSICAL EDUCATION AND STUDENT WELLNESS

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Abstract

Organ donation and transplantation remain the best and most cost-effective clinical approach for people in the terminal stage of organ failure. Given the growing numbers of incidences of patients treated for end-stage renal disease (ESRD) and the plummeting rate of kidney transplantation in the US and Southeast Asia, little is known about the understanding of the life stories of kidney organ transplant recipients, specifically in the Philippines. The present study aimed to provide a narrative study of the life stories of individuals who received kidney transplantation through either a live or deceased organ donor. By employing Dewey's theory of experience, the shared stories of the transplant recipients yielded the following themes: carefree life, struggles before transplant, and psychological effects of the past; support system, journey to liminality, and positive outlook in life for the present stories; giving back, fatalistic view of life and sense of normalcy for the future aspirations or stories of the respondents. Kidney transplantation goes beyond the surgical process; it encompasses lifelong social and psychological transition and transformation for kidney transplant recipients.

Abstract

Technological innovations are changing ways, forms and containers of knowledge. The present work emphasises the cooperation between different subjects that interfere in the development of the individual, in particular, between the worlds of School and out-ofschool, in order to build a Sport-Educational offer that by means of technological language is connoted as universal, effective, inclusive and addressed to all. New technologies applied to the sporting context are inexorably revolutionising both highlevel practice, sports education, educational thinking and even theories of education. According to this view, sport is identified as a new compensatory perspective for disability. In this perspective the Scholas Occurrentes project seeks to give us a sense of what we do through sport, art and technology. It is committed to creating an inclusive and transformative environment, where every young person can develop their potential and contribute positively to the world around them

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. In fact, sport and physical activity in general possess the natural gift of being a valuable psychological, emotional and social resource, thus strongly and decisively representing the idea of a tool that designs around the individual, enhancing his or her potential.

Key words: Sport and Disability, New Technologies, Educational Alliance.

Introduction

Compensation tools, not to mention the aid of technological tools, play a particularly important role in the school environment, accommodating and supporting the individual in difficulty in his or her peculiarities, including and supporting different needs, requirements and needs. Extending the field of observation, however, the concept of compensation can take on a broad, multifaceted dimension and configuration. Extending its qualities beyond the pragmatic and linearly defining aspects, we can consider that compensation, acted against difficulties, can undeniably be a supportive element that looks at the subject's wholeness, therefore applicable in different areas and for different characteristics (Kolotouchkina, Llorente Barroso, García Guardia, & Pavón Mestras, 2021).

In this perspective the Scholas Occurrentes project seeks to give us a sense of what we do through sport, art and technology. It is committed to creating an inclusive and transformative environment, where every young person can develop their potential and contribute positively to the world around them. Thus, sport and motor activity can be seen as compensatory tools, representing an important opportunity for the development of psychological, pedagogical and social skills, as they generally support areas of communication, social interaction and emotional regulation. Through sporting activities we can redefine problematic or complex aspects, guiding and accompanying the subject towards a pathway that is useful and constructive. Sport therefore leads towards considerable support for different aspects of this problematic, while at the same time contributing to the enhancement of the subject's residual capacities (Hammond, Penney, & Jeanes, 2020). Playing a sporting activity means having the opportunity to be projected into a dimension of autonomy where everyone values their own peculiarities and is enriched by the qualities of others. Therefore, in this perspective, sport takes on a very important role in society. Thanks to the collaboration between out-of-school operators and teachers, it is possible to use and deploy the advantages offered by new technologies. In this sense, physical activity is placed in a school context to achieve physical wellbeing, but above all, as a mediator of participation, compensation and growth (Masala, D'Egidio, Peluso Cassese, & Mannocci, 2016).

1. A New Educational Scenario between Paralympic Sport and New Technologies

Sport represents an element of great value and relevance for the individual, since it exerts a strong impact and considerable influence on a series of aspects linked not only to physical wellbeing, but also to elements of a psychological nature, such as the management of stress, anxiety, the regulation of relational abilities and the development or increase of self-esteem. In fact, the communicative and relational potential of sport is linked to its educational and training contents, representing an area of support and backing for connection and interaction, a fully functional means of arousing new relational perspectives, a tool for effective social integration (Maulini, Migliorati, & Isidori, 2017).

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The constructive aspects of sports practice are not limited to communication skills, but from these develop, evolve and expand towards elements of personal awareness and efficacy. In the world of sport, personal efficacy or self-efficacy is expressed through the ability to give maximum effort in a given task or situation, in achieving any goal, perceiving oneself as a valid and effective person. In this sense, the characteristics that structure and define sport and physical activity generate in the subject the propensity to increase this aspect, as they enable one to complete a task, achieve a goal, tackle a problem with flexibility and resist fatigue (Arrigoni, 2008).

Inducing this attitude in individuals means positively modifying their psychological framework, achieving a more congruous social integration and stimulating an important realignment on an emotional and/or emotional level. Given the educational potential inherent in sport and sporting practice, the school, as one of the first educational agencies, cannot ignore an educational and didactic vision that identifies sport as an educational tool (Onnis, 2014).

Therefore, collaboration between all educators, identified as teachers, parents and sports coaches, is a necessary element to promote the correct and global development of the pupil's personality. In the particular case of a disabled pupil, sport stands as an educational tool to emphasise the relational, emotional and motor aspects. In fact, the emotional and emotional aspects represent fundamental elements in sport and, at the same time, potentially critical factors capable of both enhancing and hindering individual and group performance.

It can also be argued that emotions contribute to the learning process because, through increased perceptual awareness, they have the role of tracing the furrow along which ideas and action strategies are formulated. On the other hand, we must not forget that the human being is a combination of rationality and emotionality. The practice of sport, through its praxis, induces this synthesis between the why (cognitive motivation) and the how (emotional drive), which is then expressed in the physical gesture, the corporeity that is experienced consciously and which, as such, becomes personal heritage. Thus, the nodal aspect is the way in which to address the undeniable need to promote an inclusive teaching/learning process, which favours the inclusion and growth of disabled pupils through appropriate intervention (Pan, Hwang, Simeonsson, Lu, & Liao, 2015).

In this dynamic, therefore, it would be legitimate to speak of a compensation perspective rather than simply of tools, amplifying the quality of the compensation intervention, with the aim of supporting and sustaining the subject in its complexity and implementing a true methodology. According to what has been stated, the New Technologies, which have revolutionised the ways and forms of knowledge, education and training, are in support of didactics and education, and cannot but affect the field of Sport as well.

The numerous innovations that have come about thanks to research increasingly directed towards the use of technology in sport and motor activity have generated many positive aspects arising from the combination of “Movement and Technology” and more specifically from the combination of “Sport and Technology”. One of the most successful technological innovations are wearable devices, whose practicality and simplicity has simplified their dissemination. Moreover, they have been of great interest not only in the professional sporting world, but also and especially in the amateur one, allowing one to receive information on one's health and training status in real time. In the professional sphere, there are other technological devices, also simple to wear, that facilitate the collection of data in a meticulous manner (Pavone, 2014).

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They are connected to a personal computer whose task is to receive, process and analyse all the data in order to be able to establish the athlete's state of fitness, and based on this, organise the next training session. It is also important to specify that it is possible to carry out this measurement simultaneously on several athletes and individually, without the risk of confusing the different parameters of each athlete. It is necessary to remember that technology is no substitute for training, because if an athlete takes advantage of all the benefits of scientific innovations but does not train correctly, he or she will never achieve the goal he or she has set. Therefore, sport and technology must work together so that both can develop properly and so that in everyday life technology does not take over from motor practice. The combination of sport and technology has generated many benefits, both in terms of being able to obtain parameters on the physical condition of athletes (Rasmussen et al., 2009).

This new conception has made it possible to view diversity in the field of sport no longer as an obstacle that does not allow motorised practice, but on the contrary, disability is seen as an ability that is present but in a different way, and as such it must be utilised in a way that satisfies one's will. The ultimate aim of what has been said is not to succeed in having the person with a disability be considered "normal" to all intents and purposes, but simply to allow the full development of the potential inherent in each individual, so that aspects such as autonomy, social identity are included in a design that provides for the full participation of the person in both sporting and social life (Van Praag, Shubert, Zhao, Gage, 2005). This new vision of the person with a disability totally changes the idea of sporting activity for the disabled, which is no longer seen exclusively as a mere recreational activity to be proposed without any social or motor objective to be achieved. On the contrary, new "ideas-rules" are established that allow people to participate in any form of sporting activity, whether it has an exclusively social-amateur purpose or is of a competitive nature. The person with a disability is placed at the centre of the entire motor learning process, so as to make him or her aware of it and an active part of it, thus enabling reflection on one's actions and consequently on one's identity (Reilly, Buskis, Gross, 2012).

2. The Value of Motor and Sport Activity in Disability

Our society, today more than ever before, is characterised by a spasmodic search for perfection, projected on the one hand towards the achievement of models of excellence in both work and sport, and on the other hand particularly attentive to those who struggle to adapt to such a demanding environment. The latter include people with disabilities, i.e. those individuals who, as the United Nations specifies, have "long-term physical, mental, intellectual or sensory impairments that in interaction with various barriers may prevent their full and effective participation in society on an equal basis with others" (UN, 2006).

The evolution of the concept of disability and, consequently, the gradual introduction of terms that focus on the concept of the person without emphasising his or her pathology, represent the premises for allowing this category of subjects to become part of realities previously reserved only for the able-bodied, such as the reality of sport (Russo-Neustadt, Beard, Cotman, 1999).

Associating sport with the world of the disabled is an action that stems from the desire to consider this subject as a human being, unique and unrepeatable, endowed with great potential that may not find practical expression in certain contexts. The disabled person can, with full rights, access the world of sport, because he or she is capable of developing physical-motor, intellectual and social skills. Sporting activity represents the manifestation of the body's innate need to express itself, since movement is one of man's primary needs (Siegel, 2012).

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Sport enables the individual to improve physical qualities, to enhance cognitive and psychic aspects and to develop very valuable social-relational skills, especially in specific disability conditions. These are the premises necessary in order to argue how the Paralympics phenomenon today represents an element of great interest and consideration for the social inclusion of persons with disabilities. In order to gain a better understanding of the normative and conceptual development of disability, it is essential to dwell on the role played by the International Classification of Disability and Health (ICF).

In 2001, profound changes were made: the ICF repeals the construct of handicap and transforms it to include that of disability. In the new concept, disability is defined as the result of a discrepancy between the demands of the environment and the performance of the individual. The ICF is considered to all intents and purposes a broadly WHO tool for classifying health and disability. It moves from the disability of people to the health of people, assuming that any person, at any time in life, can have a health condition that becomes a disability in an unfavourable environment (Moliterni, Magnanini, & Ferraro, 2018).

The vision that emerges from the bio-psycho-social model of the ICF (WHO, 2001) is not, in fact, limited to the identification of a person's deficits, but seeks out the modes of functioning in a vision oriented towards the maturation of his or her identity, within the framework of participation in life contexts. The ICF considers the different moments in the life of every human being, from the activities performed, material, daily and cultural, to a more or less active participation in social life. These possibilities, during their course, may be limited by various factors, identifiable as personal, environmental or resulting from pathologies and traumas.

At this point, the concept of disability changes according to the new classification that identifies the person's difficulties in functioning both on a personal level and in social participation. The ICF describes or classifies everything that can occur in association with a particular health condition. Applicable to anyone with a particular condition, it represents a revolutionary concept in the field of disability that for the first time takes into account the contextual and environmental factors in which a person lives (Ianes, & Cramerotti, 2011).

This tool has now been accepted by 191 countries as the international standard for measuring and classifying health and disability. The information provided is a description of human functioning and the restrictions arising from it. The ICF defines disability as the consequence or result of a complex relationship between an individual's health condition, personal factors and environmental factors representing the circumstances in which the individual lives. This model attempts to arrive at a synthesis, so as to provide a coherent perspective of the different dimensions of health at the biological, individual and social levels (WHO, 2001). The European dissemination of the ICF has led to a semantic change of the words health and disability: the former is not the absence of disease, but the full realisation of one's potential. The second is a health condition resulting from an unfavourable context and can be a transitory, permanent, regressive or progressive condition.

Thus, the person is seen in his/her totalitỳ and, if anything, the limitations of his/her functioning and the extent to which the unfavourable environment influences his/her participation are identified. Consequently, it is necessary to act on the contexts, making them favourable to the specific needs of the individual, offering everyone the chancè to express their resources and potential to the best of their ability, beyond specific difficulties. In 2007, the WHO published the International Classification of Functioning, Disability and Health for Children and Youth

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(ICF-CY), so that it could be universally used for children and adolescents in the fields of health, education and social services (WHO, 2007).

The ICF-CY seeks to respond to the needs related to the classification of health conditions and manifestations of disability in children and adolescents, in light of the fact that these situations are different in developmental age than in adult age, in terms of nature, intensity and impact. Cognitive and language development, learning, education become objects of interest, and particular attention is paid to playful activity, in terms of commitment and involvement in solitary, cooperative or shared play (Spaldinget al., 2013). A further peculiarity of the ICF-CY classification model is the interaction between a person's ability to function and the social context with reference to the field of technologies, described in the "environmental factors" component as any product, tool, equipment or technology adapted or designed specifically to improve a person's functioning. Consequently, a prominent role is assigned to motor, physical and sporting activity in the learning of bio-motor, social and civic skills and competences, including the dimensions of autonomy and responsibility. Such learning can be hindered or facilitated by environmental contextual factors. Such competences involve skills such as knowing how to work in a group, cooperating, helping, supporting those in difficulty, recognising and accepting differences (Moliterni et al, 2018).

When considering sporting activity as a factor of inclusion, it is essential to consider these elements as evaluation procedures in order to design teaching and educational interventions aimed at removing barriers and implementing environmental facilitators. The International Classification of Functioning, Disability and Health for Children and Youth-ICF-CY is considered the most suitable model for this purpose, but it is scarcely used in the educational sphere and is almost absent in assessment practices. In order to foster the learning of skills and competences, including social ones, participation in motor and sports activities alone is not enough, but it is essential to bring about qualitatively effective interactions (Guttmann, 1977a).

Among the most effective interventions are those of a cooperative nature (team or pair games), which have been shown to facilitate the learning of social skills. Furthermore, several studies indicate that in the presence of adequate educational support, inclusive motor and sports activity interventions aimed at pupils with disabilities are successful and tend to develop positive attitudes towards them (Guttmann, 1977b).

Also in the vision and mission of Scholas Occurrentes, sport takes on a role of primary importance in becoming a promoter of significant values with particular regard to inclusion. As Pope Francis himself declared, "Our world has become a global village with multiple processes of interaction, where every person belongs to humanity and shares the hope of a better future with the entire family of peoples. At the same time, unfortunately, there are many forms of violence, poverty, exploitation, discrimination, marginalization, restrictive approaches to fundamental freedoms that create a throwaway culture. In this context, Catholic educational institutions are called in the front line to practice the grammar of dialogue that forms the encounter and appreciation of cultural and religious diversity. Dialogue, in fact, educates when the person relates with respect, esteem, sincerity of listening and expresses himself with authenticity, without obscuring or mitigating his own identity nourished by evangelical inspiration. We are encouraged by the conviction that the new generations, educated in Christian dialogue in a Christian way, will leave the classroom of schools and universities motivated to build bridges and,

therefore, to find new answers to the many challenges of our time. In a more specific sense, schools and universities are called to teach a method of intellectual dialogue aimed at the search for truth."

In this project, Scholas operates through the first large-scale virtual educational platform, designed to integrate the largest number of educational centers in the world, regardless of whether they are private or public, secular or religious. In this context, various initiatives are being pursued. The virtual platform Scholas.social allows teachers, from primary school to university, to dialogue to try together to redefine education, starting from the common problems to be addressed in the light of the slogan "An education that does not generate meaning, generates violence". Scholas.social aims to encourage students to debate freely with each other as a training tool for responsible citizens. Debates also have a very concrete function: to teach students to seek specific solutions to the problems that concern them. At the same time, Scholas intends to contribute to the training of young people and adults without resources, in an attempt to make access to vocational training more democratic, an essential aspect for leading a dignified life free from violence. Cátedras Scholas has extended the network to the university environment, inviting professors, students and researchers to contribute in common platforms to discuss the specific problems of their academic fields and countries, offer solutions and share educational and research projects. Also in this case, we do not limit ourselves to the transmission of notions, but in line with the underlying vision of the world, the development of technological awareness and the need to develop sustainable projects is promoted among students, as well as to spread awareness of the importance of healthy food accessible to all. The network is complemented by Scholas.arts, Scholas.labs, and FutVal, which promote interest in art and sport as a complement to the school's traditional content. Once again, the idea is to educate to values through teamwork, while at the same time awakening the imagination and creativity of students with a particular predisposition in this sense.

Among the experiences proposed by Scholas in the digital field, the project "Digital Emotions – Virtual Creative Paths on the Future We Dream of" proved to be of great significance. The proposal that Scholas has chosen to present to the Ministry of Education and Italian schools aims to respond to the requests for help from teachers, school directors and students from all over Italy who are asking for support for their educational path. Distress, stress, panic attacks, depression and demotivation. These are the words most present in the requests for help that come from the world of Italian schools. Scholas has therefore developed a digital educational proposal of 3 cycles of meetings, 12 meetings in total, 3 for school principals and teachers and 9 (3 cycles of 3 meetings each) with high school students. The proposed model takes into account the emotional well-being of young people and adults in a framework of digital citizenship. Scholas uses the potential of technology as a formidable tool for human connection between people. As already done successfully in the "Piazzetta Digitale" project, Scholas and the Ministry of Education have grasped the potential of the digital tool in order to nurture a community of students and teachers that day after day, week after week, has been strengthened around very important issues, such as education, the concept of community in times of crisis, the importance of mutual listening and meeting between people with different stories, experiences, ideas.

Conclusions

A further aspect with which science has influenced the world of sport is certainly video technology. Thanks to it, it is possible to carry out an accurate analysis of the athletic gesture, making it possible to improve the same,

without forgetting the capacity, which this latter tool offers, to spread and promote the sporting event more, allowing an analysis of the race in detail and analysing all the salient moments. These aspects have made the sporting event more spectacular, thus succeeding in attracting new practitioners, bringing a return in both economic and socio-educational aspects. Therefore, in relation to the wide range of Technological Tools, expendable in the school, educational and sporting fields, if exploited in the most appropriate way, they generate positive effects on the entire learning process, to such an extent that they are useful in any context; they are therefore also used in everyday life. In this sense, the school must direct the binomial school-motor activity towards a close collaboration that leads the learner towards the correct use of technology, so that he or she becomes accustomed to its benefits. At the same time, if the pupil must be able to make use of the technology present in school, the teacher must know and be able to make appropriate use of ICT, so that emotions such as interest, enthusiasm and love for any other activity (reading, music, art, physical activity) can be aroused in each pupil.

Therefore, the teaching-learning process must certainly take into account the interactive and multimedia aspect, so as to enhance the full potential of each subject so as to achieve better and more enjoyable results for the pupil. The term inclusion means the ability to include an element within a group, specifically within the school environment, being inclusive means being able to make all pupils citizens with rights and duties, therefore able to live actively in society.

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