COMPETENCIES AND SKILLS IN EXERCISE AND SPORT SCIENCES PROGRAM BY ONLINE EDUCATION

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Review paper

Abstract

Till the end of 20th Century the superior education of the highest level of training in physical education field was managed by the High Institute of Physical Education (ISEF) where the teaching/learning was mainly focused on the practice activities. The main purpose of the ISEF was to promote the progress of the sciences applied to physical education and to provide the basic scientific and technical culture for the preparation and improvement of those who wished to dedicate themselves to the teaching of physical education and to technical employments in sportive field. Since 1998 degree courses has been adapted to the University reforms and currently Italian Universities offer 92 degree courses in Sport and Exercise Sciences (38 bachelor's degrees and 54 master's degrees) mainly funded on traditional teaching/learning methods and only 4 universities with 7 degrees course (4 bachelor's degree and 3 master's degrees) founded on online teaching. In Italy the early online Universities has been established in the three-year period 2004-2006. The aim is to deduct the way to previous the unique way both of them mode: online and traditional methods because of the legal value of the tituli is the same. With an appropriate educating and training it can uses the neural network theory. It is possible to establish deductive rules of an expert system for the prediction of the opponent's move in a direct confrontation for the fight activities and sports game. Training enables students to use the motor schemes that they acquired during training (perceptual affordances).

Key words: *online education, physical education, training, motor development.*

Introduction

During the year 2018, the Council of the European Union has released the new "Recommendation of the Council on key competences for lifelong learning". Every person has the right to quality and inclusive education, training and lifelong learning, in order to maintain and acquire skills that enable them to participate fully in society and successfully manage transitions in the labor market. Every person has the right to timely and tailor-made assistance to improve employment or self-employment prospects. This includes the right to receive support for job search, training and retraining. These principles are defined in the European pillar of social rights. In a rapidly changing and extremely interconnected world, every person will need to have a wide range of skills and competences and will have to develop them continuously throughout their lives. The key competences, as defined in the reference framework, intend to lay the foundations for creating more equal and more democratic societies. They satisfy the need for inclusive and sustainable growth, social cohesion and further development of democratic culture. In this vision the body and the movement has the main aspects for the developmental age (Latash 2009, Latash, Levin, 2004, Kathleen, Nancy, 2009, Chapman, 2009, Hoffman, 2009, Iacoboni, 2008). Thus the educational and didactics aspects of motor control and learning linking to sport skills are the significant function to acquire competencies (Raiola, 2017, 2014, 2013, 2011ab, Gaetano, 2012). To understand the complex scientific paradigm of exercise and sport sciences has to refer at the epistemological approach (Raiola, 2019ab, Raiola et al, 2018, D'Isanto, 2018) and to link with special needs and socio-affective consequences (Altavilla et al, 2015ab). The focus of the framework are: a) identify and define the key competences necessary for employability, personal fulfillment and health, active and responsible citizenship and social inclusion; b) provide a European reference tool for policy makers, education and training providers, teaching staff, guidance specialists, employers, public employment services and the learners themselves; c) support the efforts made at European, national, regional and local level to promote the development of skills in a lifelong learning perspective. The framework outlines eight types of key competences: functional alphabetical competence; multilingual competence; mathematical competence and competence in science, technology and engineering; digital competence; personal, social, and ability to learn to learn; competence in matters of citizenship; entrepreneurial competence; competence in matters of cultural awareness and expression. Digital competence presupposes an interest in digital technologies and their use in a familiar and critical and responsible way to learn, work and participate in society. It includes computer and digital literacy, communication and collaboration, media literacy, the creation of digital content (including programming), security (including being at ease in the digital world and possessing skills related to cyber security), and issues related to intellectual property, problem solving and critical thinking. Till the end of 20th Century the superior education of highest level of training in physical education field was managed by the High Institute

of Physical Education (ISEF) where the teaching/learning was mainly focused on the practice activities. The main purpose of the ISEF was to promote the progress of the sciences applied to physical education and to provide the basic scientific and technical culture for the preparation and improvement of those who wished to dedicate themselves to the teaching of physical education and to technical employments in sportive field (law n. 88, 1958), and for over fifty years they have represented the only training path to teach physical education in the high (first and second grade) school, while CONI and the National Sports Federations directed the other training activities in sport field (D'Isanto, 2016, D'Elia et al., 2018). In 1998 the legislative decree n. 178 provided the "Transformation of the high institutes of physical education in faculties and degree courses in Sport and Exercise Sciences". This transformation led a diversification of curricula because of new professional profiles. Nowadays Sport and Exercise Sciences degrees are not limited to train physical education teacher (it is needed a master degree and a specialization course), but offer curricula aimed at the training of various graduation profiles for job positions in management of sport, sport science and adapted physical activity and sport (D'Elia, 2019). The aim is to deduct the way to previous the unique way both of them mode: online and traditional methods because of the legal value of the tituli is the same. Method of study is based on theory approach is based on an argumentative theoretical study in two steps according to archive/documentary methods. Firstly, documental research with the juridical approach to analyze and examine the old rules and the new ones on accreditation of degree courses, the rules of online university and then to verify the whole application of them. Secondly, basic research on new technologies on virtual environment and its form to interface in human movement. The results comes out from the integration of the two steps.

Traditional and online Sport and Exercise Sciences degrees

Since 1998 degree courses has been adapted to the University reforms and currently Italian Universities offer 92 degree courses in Sport and Exercise Sciences (38 bachelor's degrees and 54 master's degrees) mainly funded on traditional teaching/learning methods and only 4 universities with 7 degrees course (4 bachelor's degree and 3 master's degrees) founded on online teaching. In Italy the early online Universities has been established in the three-year period 2004-2006. These universities adopts an innovative learning modalities by developing research strategies for most advanced technological solutions and by integrating non residential communication tools such as e-learning, videoconference, mobile learning and completed within presence special activities as workshops and seminars. These online activities have replaced every subject that doesn't need of any special law obligation for the expertise of the students in high education in physical education and sport. However the online Universities could also implement bachelor and master degree in physical education and sport because of the not compulsory with in presence activities. A peculiarity of the Sport and Exercise Science degrees is that "the special purposes, the curricula of degree courses of the physical activities and sport class provide, in relation to specific objectives, the deepening of some lessons and activities, with placements in facilities, training and sport organizations, businesses, public administration structures and laboratories, in addition to visits of study at other Italian and foreign universities, including in the framework of international agreements" (DM 270/2004). Afterwards the new minister decree 16 March 2007 on bachelor and master degrees gives more importance than the last one, which gives not less of 25 University Credits in physical education and sport as literally wrote: "in the form of internships and practical work conducted in appropriate facilities for dimensions and specifications provided for the activity and the number of students" (DM 16 March 2007).

Because of the different methods between online and traditional degree courses, the aim is to identify a main stream to:

- realize the online activities without the real within presence activities.
- take place a practical activity within presence mode and training skills whatever the mission of online university is the application of new technologies by on line mode.
- involve the new technologies theory in compliance with the law and to give an optimum educational offer to students and, so, how it is possible to solve a controversial application of the laws with the mix mode teaching: in presence activity and in distance one.

Discussion

By reading the law (Minister Decree 4 august 2000, Minister Decree 16/3/2007, Law 289 27 December 2002 comma 5 art 26, Article 8 commas 2 of Decree April 17, 2003) it compliances to implement a correct way to make a placement planning for bachelor and master degree courses in total respect and its mission statement of the online university. We are going to find a solution for these academic activities and to adopt the correct process in comply with law.

The perspective of using computer games in virtual environment to educate and train of complex skills is in the large diffusion also for mental training method in high performance. It gives examples from the development of an attention trainer for piloting skills, cognitive trainer for basketball, volleyball and, a recent effort to develop a cognitive trainer, ice hockey. If this teaching method and useful tools are good for high sport performance why isn't it used in education and training for teachers and coaches?

The current theory of motor control system has a significance analogy with the mechanisms and processes of these technologies, particularly the closed loop theory by Jack Adams and the open loop theory by Richard Schmidt (Schmidt, Wrisberg, 2008) give some practice responses to how the mind can work when it has merged in virtual environment. Actually the motor imagery theory, that is the theory that substances the mirror neurons system in those movement that needs of anticipating decision. Furthermore it talks on the other theory system that is the future development in the virtual environment.

Conclusion

With an appropriate educating and training it can uses the neural network theory. It is possible to establish deductive rules of an expert system for the prediction of the opponent's move in a direct confrontation for the fight activities and sports game. Training enables students to use the motor schemes that they acquired during their training (perceptual affordances). Both of them teaching/learning mode could have the same common mixed part utilizing the professional subject of Human movement and sport sciences in similar manner and, in other hand, the whole theoretical subjects such as human and experimental sciences. For the internship, workshop/workouts and technical education and practical session in physical activities and sport, it has to deep the augmented reality, virtual reality, and robotics applied both of them.

In conclusion, due the fact that both (online and traditional) degree courses have the same legally recognized validity, it is necessary to agree teaching methods. Essential knowledge, skills and attitudes related to this competence are the following. People should understand how digital technologies can help communication, creativity and innovation, while being aware of what it means in terms of opportunities, limits, effects and risks.

They should understand the general principles, the mechanisms and the logic underlying the evolving digital technologies, as well as knowing the basic operation and use of different devices, software and networks. People should take a critical approach to the validity, reliability and impact of information and data made available with digital tools and be aware of the ethical and legal principles involved with the use of digital technologies. People should be able to use digital technologies as an aid to active citizenship and social inclusion, collaboration with others and creativity in achieving personal, social or commercial goals. Skills include the ability to use, access, filter, evaluate, create, program and share digital content. People should be able to manage and protect information, content, data and digital identities, as well as recognize software, devices, artificial intelligence or robots and interact effectively with them. Interacting with technologies and digital content presupposes a reflective and critical attitude, but also marked by curiosity, open and interested in the future of their evolution. It also imposes an ethical, safe and responsible approach to the use of these tools.

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