

REFLECTING ON THE ROLE OF PHYSICAL EDUCATION: BETWEEN NECESSITY, WELLNESS AND RECREATION

Maria LULESCU*

Abstract

*Physical education has known during its long contribution to the human history both a continuation of old thinking such as *mens sana in corpore sano*, as well as new ideas, meant to support the role of children and adults in a changing environment. Major contributions about its role nowadays have discussed the relation with human metabolism and fitness (Drăgan 1978; Cheța and Mihalache 1989) while recent contributors explore its role in multi-cultural educational environments (Bronikowski in Hardman and Green 2011, Howie și Pate 2012). At present, schools and universities have adapted their curricula to turn physical education in a tool able to do more than simply stimulating the body and the mind work together: from a reduction of sedentary activities and focus on depending on computer to an active component of everyday lifestyle. The purpose of this paper is to explore current trends in the approach of higher education institutions, students and teachers to combine physical education as a summum of activities leading to wellness and recreation for the all actors involved.*

Keywords: *physical education, fitness, wellness, recreation.*

Introduction

The role of physical education is known to mankind for millennia. In ancient cultures, and especially in the Roman Empire, as well as in Greek cities, leaders, philosophers and physicians were constantly concerned with improving the conditions of a healthy mind in a healthy body. Adrian Dragnea¹ presents in his volume how ancient Greeks looked at physical education and sport: for instance, the concept of harmony, suggestively expressed by the “*kalos kai agatos*” (a beautiful and good man), including Plato who develops the concept. Aristotle was also to discuss that the lack of balance between physical and intellectual education will determine a negative impact on the child, the future responsible and active citizen. This heritage has been passed to other cultures on the European continent, to many generations adopting the old dictum ‘*mens sana in corpore sano*.’ Such a concept allowed young people be prepared to bring their contribution to the society, and for athletes and military have a good physical condition before confrontations with other competitors or rivals. In the modern era, such concerns were to allow focused efforts to correlate the activity in educational areas with the results of performance in a professional career.

According to Dragnea, Jean Piaget discussed the role of cognition for a learner as a stage-structured process, while Ivan Pavlov presented associated learning as depending on neural cortical activation. More recent contributions continued in the early 20th century up to this day when scientists and teachers debate and work on new areas of research, such as neuroscience. Furthermore, results of extensive surveys conducted in the last decades indicate that in the context

of substantial changes of demographics and multicultural spectrum, exercise contributes to a diminution of stress factors, reducing obesity and dementia for both young and mature generations. This paper tries to look at the effects of physical education for young adults, highlighting its connection to metabolism. Secondly, physical education is explored in terms of a need to be embedded in work and learning, while the third section presents its benefits as wellness and recreation. The final section is one devoted to Conclusions, where I try to sum up ideas taken for key specialists, as well as possible options for future projects and research.

1. Physical Education and Metabolism

Ancient European cultures have acknowledged the contribution of physical education in the existence of children and adults. Physical exercise, including many types of activities, has been acclaimed as a successful method to combat high blood pressure, obesity, cardiovascular diseases, and various psychological disorders. It has also been seen as a way to lead a healthy life, preserving the energy and contributing to an active role in society. However, in practice, many adults in developed countries practice less and less physical exercise, starting from an early age, despite encouragement provided by schools and educators. The current trend of having children at home after school, more often than not playing on a computer than outside, generates its own negative impact. The attraction to online media, and activities excluding a long or serious physical exercise becomes practically widespread in many families. In addition to that, parents are too busy during the week, as well as in the weekend, to play with their children or perform

* Lecturer, PhD, Faculty of Law and Administrative Studies, „Nicolae Titulescu” University, Bucharest (e-mail: marialulescu@gmail.com)

¹ Adrian Dragnea, *Teoria educației fizice și sportului*, Ediția a doua (revăzută), Editura FEST, București, 2002: p. 16

physical exercise as a type of entertainment. In their solid and detailed study focusing on metabolism, Dan Cheța and Natalia Mihalache explore changes associated with metabolism, with an impact on the life of various individuals². Taking into consideration the physical effort, the two researchers suggest that this is far from representing only a certain physical activity using the human organism. Far from turning into it into a torture, the two authors refer to physical effort connected to relaxation, with a variable intensity, and reaching high performance only for those able to undertake and enjoy it. They also discuss various patterns, as related to age: while children often engage in physical exercise including climbing, running or jumping, adults usually prefer walking if not involved in more active forms of physical exercise such as swimming, tennis or football.

In an article published in 2000, Edward F Coyle³ explores the physical activities and processes changing the functions of the human body. Data from various studies mentioned in this paper also take into discussion the role of a healthy diet. Moreover, the American specialist debates on how “[t]he metabolic and mechanical stresses of physical activity stimulate many healthy adaptations in numerous tissues and organs” (513S). He also discusses the determinants of metabolic stress of physical activity, which cover, in his opinion, factors such as the type and intensity of exercise, the level of physical fitness, nutritional factors, and environmental factors.

A good control of weight is a major motivation to attend physical activities every day. Although the metabolism is largely influenced by genetics, becoming more physically active helps one’s body to have an efficient response to calories-burning. Exercising not only burns calories during a physical education session, but it also sustains a higher metabolic rate. The result is that the individual can burn more calories during one day. From over 50% to almost 70% calories, depending on age, genetics, lifestyle and gender, are burned by the body in producing hormones, breathing and blood circulation. This is known as basal metabolic rate (BMR), and it can vary from one individual to the other. Regular exercise as well as spontaneous activities ranging from running on the treadmill to getting up to switch the TV remote control can also contribute with an average of 20% to 30%.

In order to improve one’s BMR, using physical exercise as a means to prevent various potential affections for the future adult requires establishing short term and medium term objectives, such as losing weight, serum lipids levels, lower blood glucose levels and prevent potential complications. The increase of smooth muscle mass enhances energetic metabolism and the production of anti-inflammatory cytokines. In

additional to overall benefits for one’s balance of life and work physical activity, the regular and diversified involvement in physical routines triggers positive immunologic responses with an anti-inflammatory effect. Physical education and physical activities are known to work as factors increasing the immunology of cells, with a visible impact on the physiological mechanism and contributing to one’s motor flexibility and neuroprotection of the nervous system. When defining the amount of physical activity or routine, an important interrelationship exists between the total dose of activity and the intensity of each particularly planned and delivered activity. *Dose* defines the total amount of energy expended in physical activity, while *intensity* refers to the rate of energy expenditure during such activity. *Intensity* can be described in absolute or relative terms. Absolute intensity shows the rate of energy expenditure during exercise and is usually measured in metabolic equivalents or METs, where 1 MET equals the resting metabolic rate of about $3.5 \text{ ml O}_2 \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$.

Both for healthy individuals, as well as for patients suffering from nervous illnesses, physical activities determine a strengthening of immunity, together with the development of movement, cognitive and functional independence abilities. In the last decades, several studies took place, in order to explore the physiological benefits brought by physical activity to the immune system. For patients or individuals who are recommended to follow physiotherapy through physical activity, a positive effect on the immune system was observed, including an improved cells flux, the identification of the antigen, and the reparation of damaged tissue. Dragnea (2002) underlines in his extensive contribution that: “Physical exercises have numerous beneficial effects on the organism, reason for which they are recommended as means to prevent diseases at the level of all systems and organs of the body (prevention), as well as in the process of rehabilitation, recovering after various diseases (therapy).”⁴ Those effects are noted for all humans, no matter their age, including healthy individuals or those with a particular illness.

2. Physical Education as Necessity in Work and Learning

In his extensive and well-structured volume, Ioan Drăgan⁵ presents the correlation and interdependence of work and physical education. According to him, and other specialists conducting research at that time, work has a certain pattern for any human being: the individual is capable of a good performance for a certain while, followed by a diminution, while for

² Dan Cheța, Natalia Mihalache, *Efortul fizic și metabolismul*, Editura Sport-Turism, București, 1989, pp. 23-28.

³ Edward F. Coyle, “Physical Activity as a Metabolic Stressor” in *The American Journal of Clinical Nutrition*, Vol. 72, Issue 2, 1 August 2000, pp. 512S-520S.

⁴ Adrian Dragnea, *Teoria educației fizice și sportului*, Ediția a doua (revăzută), Editura FEST, București, 2002: p. 147

⁵ Ioan Drăgan, *Refacerea organismului după efort*, Editura Sport-Turism, București, 1978, pp. 23-82

another individual this fluctuation may not have a similar ascending and descending curve. In his view, although there are differences, research undertaken for subjects involved in work showed that starting working after a short break determines a better performance, allowing the person to increase again his/her results. He also discusses the role of physical education in terms of prevention: physical activities contribute to a lower risk of neurosis and other associated psychological disorders or dysfunctions. This is the very reason for which athletes seldom experience depression or similar affections.

In a recent study dedicated to the impact of physical education on patients with mental disorders by Elisabeth Zschucke, Katharina Gaudlitz, and Andreas Ströhle⁶, the authors present significant correlations between mental health and physical activity. They present results of physical exercise leading to an impact on panic disorder, post-traumatic stress disorder, generalized anxiety stress disorder, social phobia and other disorders. Howie and Pate also acknowledge in their study that there is a correlation between physical activity and cognition: "The overall findings continue to be positive; as PA increases, cognitive function and academic achievement generally increase."⁷

In the current European context, most countries experience dramatic changes in terms of demographics, with a considerable increase of the number of senior citizens compared to working adults. According to sociologists, such a change is the result of lower birth rates on the one hand. Many adults get married considerably later than their parents' generation, and have children after turning 40 or 45. Because of this, it is vital to educate adults and senior citizens to continue physical exercise while working and after retirement. Physical activity and exercise training have risks that must be considered when recommending regular physical activity for the general population and for individuals with cardiovascular disease. Fortunately, several strategies are recognized as effective at reducing risk when recommending physical activity. Walking, the most popular activity and the standard example of a moderate-intensity activity, is a low-risk activity.

It is necessary at this point to indicate what kind of measurements can be performed to find out the contribution of physical education, or physical activities carried out outside physical education classes. Physical activity is defined by specialists as movements of the human body generating the contraction of skeletal muscles, which increases the consumption of energy level above the basal level. Physical activities cover the following categories: occupational, home

chores, free time and transportation. Physical activities can be measured in METs (an acronym standing for metabolic equivalent). One MET represents the amount of oxygen consumed by one person per unit of body weight during 1 minute of rest. As a standard, one met equals 3,5 ml oxygen used during one minute, and nowadays there are numerous calculators (including online versions), which present the variation of mild activities, such as reading or writing, to moderate options (walking, gardening etc.) to very intense ones (cycling, running, or skiing).

Teaching physical education involves multiple decisions about the planning, carrying out, and evaluation of learning motor skills. This decision-making base develops from knowledge concerning factors that influence motor skill learning.

Teachers of physical education can benefit from developing knowledge about how various factors influence instruction as well as knowing how and why learning happens because of their involvement in teaching skills. It is vital to remember that teaching and learning have a close relationship. Effective teaching supports and nurtures learning. Better learning, even lifelong learning, happens when a teacher is able to establish the most appropriate environment for students to learn skills adapted to their individual needs. For teachers of physical education, their knowledge and experience comes for years of studying motor learning, correlating their findings with those of other peers, and taking the lessons from practice back into teaching methods. Michal Bronikowski observes in this sense that "a sport coach's role is to lead his/her pupils to a certain level of competency in the area of a specific sport, focusing on skills and technique, whereas a PE teacher should concentrate on the overall holistic development of motor (motor development), cognitive (moral, social and intellectual development) and behavioural patterns (attitudes and habits)⁸".

Taking a systematic approach to teaching and learning, Adrian Dragnea presents the motor characteristics depending on age⁹. He then focuses on effort as part of physical education and sport, detailing its dynamics, the coordination of the effort by the instructor in a class of physical education versus one training in sport and concluding with its general characteristics. He links the general lines of physical education classes with specific information about training in sport, the selection of youngsters fit for this area, as well as the role of the physical educator and trainer.

In this context, encouraging students from different backgrounds and abilities to attend classes of physical education is a must. In addition, numerous

⁶ Elisabeth Zschucke, Katharina Gaudlitz, and Andreas Ströhle, "Exercise and Physical Activity in *Mental Disorders: Clinical and Experimental Evidence*, *Journal of Preventive Medicine & Public Health*, Jan. 2013 (Suppl.1): S12-S21

⁷ Erin K. Howie and Russell R. Pate, "Physical Activity and Academic Achievement in Children: A Historical Perspective", *Journal of Sport and Health Science*, 1, 2012, p. 165

⁸ Michal Bronikowski, "Transition from Traditional Approaches to Teaching Physical Education", in Ken Hardman, Ken Green, *Contemporary Issues in Physical Education* (eds.), 2011, Maidenhead: Meyer & Meyer Sport, p. 109.

⁹ Adrian Dragnea, Aura Bota, Monica Stănescu, Silvia Teodorescu, Sorin Șerbănoiu, Virgil Tudor, *Educație fizică și sport – teorie și didactică*, Editura FEST, București, 2006, pp. 43-48

European and international agencies plan and deliver projects aimed to show that physical activities outside the classroom have major benefits for any professional. Moreover, activities during the classroom combined with those outside it support young adults to socialize and minimize their dependence on electronic media. Evidence from higher institutions curricula and academic practice demonstrate that the combination of such activities with a healthy diet and diminution of coffee, sweets and alcohol supports the integration of young people in a fast-changing professional environment. The increased energy demand for everyday tasks requires those living with physical disability to improve cardio-respiratory fitness. To maintain health, 20-40 minutes of aerobic exercise is recommended three to five times a week. Individuals participating in exercise can rate the intensity of this exercise from very easy to extremely difficult. Teachers need to adapt their strategies to support those who might say towards the end of the class "I feel I cannot do it any longer." An open and friendly environment, and the support of other students will provide a suitable learning medium for those of different physical abilities. Adjusting rules, using adequate equipment and provide short breaks or low-paced routines will also sustain effectiveness. In particular, there is a need to focus on physical activity promotion efforts via organizational (e.g. work sites and communities) and legislative policy changes, rather than just on the individual level. Teachers cannot work only in a bilateral system of relationships; their efforts with the students, and the engagement of students in physical activities in universities and outside them can reach sustainability if multiple sectors of society get involved: health agencies and professionals, sport organizations, and community or youth centres, to name a few.

When students are expected to attend structured activities, they need the tools to engage in them. Such tools of active participation in physical education are movement skills. Students need to be able to walk, run, jump, throw and catch with confidence. Unlike other educational activities where reading or responding to tasks can be fail to engage the whole classroom, the physical education classroom makes everyone act as on a public scene. Few, if any, children and youth would voluntarily and intentionally put themselves in a situation where their lack of skills is publically on display for others to view. The opposite is also true: students who feel competent in their abilities and have acquired basic skills, are much more eager and willing to participate in activity. Physical education is the only subject that specifically aims to equip students with the movement skills necessary for voluntary participation in activity both during the school day and after school.

3. Physical Education as Wellness and Recreation

Nowadays, wellness is a familiar concepts and it crosses the boundaries of gym or spa centres. However, its definition varies, according to specialists placing an emphasis on one element or the other. In general, researchers agree that wellness transcends the area of health, that it is a rather self-directed approach encompassing a holistic vision.

The National Wellness Institute defines six major areas, according to the diagram below¹⁰ as defined by Bill Hettler:



The key dimensions of wellness are:

- *Occupational*: referring to one's personal satisfaction derived from work. It relates to both gifts and skills used by individuals in their professions in activities that are seen as gratifying;
- *Physical*: this dimension recognizes the necessity of regular physical activity, including learning about diet and nutrition;
- *Social*: it refers to the role of the individual in the community, as well as the relationship between people and nature;
- *Intellectual*: it concerns one's creativity, the engagement in mental activities. It covers activities in the classroom and beyond the classroom, keeping one's curiosity and challenging the mind with creative tasks;
- *Spiritual*: describing one's search for meaning in life, as well as the harmony of the individual in the universe;
- *Emotional*: this dimension refers to emotions and the acceptance of one's feelings, keeping a positive attitude throughout one's life.

To follow wellness and have results, physical activities can be accumulated gradually. For instance, two 10-minute bicycle rides to and from class and an alert 15-minute walk to the post office or bank office. Wellness specialists recommend to choose activities which are seen as enjoyable and that do not interfere with the daily routine. Recent data also indicates that regular physical activity, regardless of intensity, makes everyone healthier and protect people from many chronic diseases. Physical fitness has several components, many related to health and more specifically to sports or other similar activities. The five

¹⁰ http://www.nationalwellness.org/?page=six_dimensions, accessed 10 January 2018

components of fitness most important for health are: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition (the proportion of fat and fat-free mass). To reach good results in fitness sessions, trainers and specialists recommend to work based on short-term adjustments, with the aim to get long-term changes. For example, when running, the breathing and heart rate will increase during exercise, and the body learns to pump more blood. Although people differ in terms of fitness and performance, they can get particular types of training and amounts of routines that work in a rewarding manner. In fact, this leads to the progressive load of exercise over time. Ideally, a fitness programme combines an active lifestyle with a well-structured physical programme to develop one's fitness.

In order to achieve maximum results from physical education seen as a wellness general goal, people need to know that this implies sometimes considerable changes. As a result, people need to accept that certain behaviours and attitudes are problematic and that they have to take action in order to improve the quality of their life. People need to have a good knowledge of themselves, and then to decide to take appropriate action. As a final step, good practice and long-term results appear if individuals become able to monitor their performance, assess their activity and adjust the plan for the coming period. Social habits may also act as support to one's motivation: if students have a community or group of friends interested in health, physical education and wellness, they will become better motivated towards durable outcomes. In addition, specialists advise young people to select one aim and follow it for a certain while, and once they feel on a safe track in that respect, they can add another aim to their list, and follow it until completed. The main idea behind this logic is that trying to change everything in one's life is so stressful, that it may obviously lead to failure. Taking moderate steps but staying focused is a tactic leading to better results.

The most common advice is to practice daily with in moderation since this contributes substantially to good health. The starting point is to assess one's physical activity profile, and build on it. As practice attempts are made, the results are assessed, reflected upon, modified, and refined over and over again with persistence and perseverance until eventually, automation is achieved. Students can be encouraged to assume roles of responsibility by taking out, distributing, and putting away equipment, leading warm-ups, and even assuming the role of a referee during a classroom competition or game.

In what concerns recreation, this is generally associated with structured group activities which are meant to benefit both individuals and group/communities. Such activities clearly depend on team spirit, skill development and enjoyment.

Depending on age, skills and interests, people are attracted to sports, as well as creative activities. Sometimes, they could choose a combination, for instance dance. Some researchers consider that due to the changes of lifestyle of many adults, young people tend to spend less time playing in a group or in an outdoor environment than a couple of decades ago. However, with the rise of new sports and games, certain teenagers or young adults have more opportunities than their parents when those were young. Leisure or recreation participation can also be a resource for adolescents to cope with stress in their lives. Participation in recreational activity has been associated with decreased anxiety and depression, improved self-esteem, decreased psychological stress and reduced drug use.

Physical activity and personal engagement in satisfying leisure activities need to be a focus towards wellness throughout life. Their importance does not diminish with age, disability or chronic illness. While chronic conditions and health deficiencies may present challenges as we grow older, by using planning and creative thinking, modifications can (and should) be made to make activities accessible and enjoyable. Exercise programming should be monitored regularly and may change, based on an individual's progression, stabilization or improvement. In addition to various documented health benefits, such as decreased blood pressure, increased insulin sensitivity, and improved cardio-respiratory endurance, participating in physical and leisure activities tend to decrease isolation and increase inter-personal and community socialization, integral facets of independent living and quality of life.

In the light of those mentioned above, European countries directed their efforts to improve the physical education. One of the promising current lines is the European Framework of Quality Physical Education (EFQPE) adopted in February 2018¹¹. The document establishes and presents the concept of Quality Physical Education, its aim and role. It also refers to the idea of "physical literacy", and "physical educated person". The document is the first version setting standards in five learning areas: movement literacy; health-enhancing physical activity; health consciousness beyond physical activity; self-awareness and self-management and finally problem solving and constructive thinking.

Conclusions

Recent research investigating the relationship between activity and mental health has found a clear interdependence between physical activity and good mental health. Participation in movement activities can reduce anxiety, stress, and depression.

In today's world, health and well-being are regularly discussed and remain a priority for the

¹¹ European Framework of Quality Physical Education, <http://www.eupea.com/health-conscious-future-oriented-life-management-key-competence-2/>, accessed 20 February 2018

educational system, no matter what country or continent we think of. Although schools and higher education institutions cannot be expected 'to do everything at once', they can continue to provide opportunities and experiences that contribute positively to the health and well-being of all students. There are numerous outcomes that contribute positively to students and youth's well-being that can be realized through participation in a quality, daily physical education schedule.

Successful programmes can be implemented by teachers, but good results for the future generation depend on accepting new practices, learning from the experience of other European countries and engaging in research able to provide new tools for long-life learning. Observing the role of wellness in the current

experience of a busy adult, with a longer career than that of previous generations, teachers and universities can adopt tasks, adjust curricula and work with other organizations interested in the well-being of their citizens.

Arguments presented in this paper support a combined approach versus physical education, benefiting from the new direction set by the European Framework of Quality Physical Education. In practical terms, schools and universities will continue to focus upon a reorientation of their curricula and structuring of all study programmes to correspond to the needs of the 21st century. Research need to go hand in hand with practice, and governmental policies be complemented by actions undertaken by community organizations.

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