Sport and the Environment

Environment, Sustainability and the Agenda for Physical Education

Genetically Modified Athletes: Some Answers to the Questions Everyone is Asking

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Environment, Sustainability and the Agenda for Physical Education

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The perspective of how the subject physical education has changed with time is indeed significant for me as a lecturer at the educational institution that was formed by the gymnasiarch Per Henrik Ling in 1813.

Ling then created The Royal Gymnastic Central Institute and initiated the foundation of a pedagogical gymnastic system that was adopted around the world. Today, however, the term "gymnastics" has been taken away from the name of the institute that he formed, reflecting the strong position for sports in general. The agenda for physical exercise in a pedagogical context has likewise changed substantially with passing time.

The patterns of causes behind these changes are complex. But independent of which "body culture" has been dominant, it has been "surrounded" with rationalisations that are legitimate in mainstream society. For example, how often do we hear and read about the value of sports for health and in socialising young individuals into co-operative and ethical behaviours. Indeed, cultures connected to different forms of physical activity have sought to demonstrate a responsible citizenry, to be a constructive force in society and to take part in solving its problems.

Sustainability - a rationality for physical education?

In light of the question "what good can physical activity do for society and the individual?", one may speculate if there are important contemporary and conceivable inputs to the subject of physical education (PE) that so far has been more or less neglected by the PE institutions, e.g. teacher training colleges?

I believe the answer is "yes". With the following question, one such aspect is focused on: "Is it reasonable that the dimension of sustainable development affects the agenda for physical education, and if so, in what ways?"

The need for a sustainable development (SD) was formulated by the UN World Commission on Development and Environment in 1987, as a consequence of the burden, primarily in the western countries, on the ecosphere (1). SD has been defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (1). It involves social, economical and ecological factors that integrated can result in SD. Almost all nations have signed the 1992 Rio declaration and have thereby committed themselves to implement a changeover to SD in their respective nations.

The concept of SD is far from being developed, in operative terms, with regard to the width of social, economical and ecological factors. However, there is a clear standpoint that SD demands a substantial reduction of the utilisation of resources, e.g. energy and raw materials.

The degree of reduction needed varies with different variables, but on average there is a need to diminish it to 10% of the present levels within 1-2 generations, i.e. 25-50 years (2).

Thus, resource utilisation is a critical factor when evaluating physical activities in terms of compatibility with an SD. It is, for example, less resource consuming if we can jog in a nearby forest rather than to take the car to a golf-course far away. This is not only because of the difference in transportation but also because of the difference in, for example, energy consumption coupled with maintenance of the two different arenas for the physical exercise. And in the case of transportation with a car the energy consumption is associated with emission of carbon dioxide, nitrogen dioxide and carcinogenic agents with detrimental effects on health and the environment.

A need for analysis

It is apparent that before we discuss possible effects on the agenda of PE as a consequence of the need for sustainable development, we have to make more of a systematic analysis of the field. Both in relation to the competitive sports movement and in relation to the public health aspects of physical activity, with respect to all ages in the population and gender. I will, however, in this paper limit my input to the latter dimension.

There is a growing body of knowledge about how physical activity can contribute to physical and psychological well-being, health and physical capacity as well as prevention of diseases. This indicates rather distinct demands on the level of physical activity to attain effects on e.g. disease prevention (see e.g. reference no. 3). At the same time the level of physical activity is low in a considerable part of the population in many "developed" countries (see e.g. reference no. 4). It is therefore important to survey conditions that can facilitate and stimulate physical activity in the population to an enhanced level under conditions that comply with SD.

The decision to be physically active is dependent on both individual and external factors. Examples of individual factors are interest, motivation and physical capacity. Examples of external factors are available places, arenas and clubs for exercise. Costs for the individual, time needed, disposable time and accessibility are other examples of external factors. Some external factors facilitate and stimulate the participation in physical activity, whereas others effectively hinder it.

Exercise effects on health and productivity reveal beneficial possibilities in a cost-benefit analysis. However, exercise can also lead to injuries and involve negative environmental effects, due to e.g. transportation, that represent costs both on the levels of the individual and the society. External factors of importance for physical activity, such as areas and arenas, need also to be evaluated with regard to costs for e.g. maintenance and administration as well as for their effects on the environment and resource utilisation.

With integrated cost-benefit analyses of this kind, it is possible to evaluate whether or not different physical activities and the conditions associated with them will result in burdens on the ecosystem and economically negative or positive results from the perspective of the society. Thereby it is possible to attain an understanding of which physical activities and conditions that, at the population level, comply with SD.

An addendum and final comments

In the beginning of the 19th century Per Henrik Ling identified the importance of human movement being based on the laws and needs of the human organism (5). This was crucial input toward the thinking and establishment of our physical education system. Today, it appears
reasonable to state that we need an ad
dendum: "Human movements should also be executed in forms and under con
ditions that comply with the ecosystem and a sustainable development".

Viewing physical activity from these perspec
tives represents indeed a great chal
lenge for the field of physical education.
This is so, not the least, since we are lack
ing knowledge about several of the

factors mentioned above. These matters also need to be illuminated globally in
terms of different cultures, economics and
climates as well as geographical condi
tions, including rural and urban settings.
A great need for research therefore exists.

It is, however, important that the present
paucity of knowledge does not stop us from
discussing these matters. It is valu
able if we can make use of the potential
of physical activity to support a changeover to sustainable development.
Therefore, to the extent that we clearly see these possibilities, the time is ready
for discussion on how they can be inte
grated in the pedagogical context of the
physical education subject in the school
system and thereby in concrete terms, im
plementing a new rationality in the field
of physical education.

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