14 CURRENT ISSUES IN BIOLOGICAL EDUCATION RESEARCH: THE CASE OF HEALTH EDUCATION

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Health education promotes a feeling of responsibility for one's own and others' health, enabling each individual to critically perceive each actual situation and adopt the most appropriate and efficient behaviour. In this view, health education is education for the lives of individuals and communities, contributing to the learning of how to improve not only one's own physical health but also interpersonal relationships, leading to a general improvement of collective well-being (Larue *et al.*, 2000). Health education addresses the person as a whole, mobilises knowledge, beliefs, social representations, behaviours, and interactions with the physical and social environment. It is not meant to say what one must do; rather, it is meant to inform and create conditions that will allow a person to acquire the competence to make (as much as possible) free choices for what he/she estimates is healthier for him or herself, as well as for the others.

The nature of knowledge in health education is rather unique for several reasons. First, health issues are usually acquired by traditional means, mainly following family practices and empirical knowledge, with little scientific basis. Often, this traditional knowledge is an epistemological obstacle (Bachelard, 1938; Astolfi et al., 1997) to the acquisition of new scientific knowledge.

Second, the source of the scientific knowledge to be transmitted in the field of health education is biomedical knowledge which, traditionally, is not devoted to the education perspective. Moreover, biomedical advice is usually formulated by reference to current health problems, which often emerge as controversial with time (Sandrin-Berthon, 1997; Ewles & Simnett, 1999).

Third, scientific knowledge concerning health issues is often manipulated by commercial lobbies, mainly from the agriculture, food and pharmacological sectors, addressing health misinformation in product advertising and propaganda (Souccar & Robard, 2004).

Finally, health scientific knowledge is usually statistically validated at the population level—Epidemiology, Public Health—identifying determining factors (age, sex, lifestyle, environment) for each disease, and aimed at establishing a causal link between these factors and disease growth (Vetter & Matthews, 1999; Helman, 2000). What is true in terms of the probability of disease growth in a population cannot be applied to the individual.

Health education tends to be based on a topical approach, which means working separately on issues such as eating, safety, sexuality and relationships, substance use (smoking, tobacco,

other drugs), bullying, etc. This topical approach has been criticised for several reasons: it can be "problematic or ineffective as such approaches are sometimes based on assumptions relating to human behaviour, which are difficult to justify and not supported by evidence" (IUHPE, 2008: 4); adding up the teaching sequences of such a diversity of topics presents a huge amount of time, which imposes limits on the teachers' actions, who tend to transmit information only (Pizon, 2008). Therefore, instead of an exhaustive topic-by-topic approach, a more effective one would be to develop children and young people's life skills and competencies, enabling them to consider the different health topics in the reality of the social and environmental contexts of their lives (IUHPE, 2008). Furthermore, uniting themes, such as "learning how to take care of oneself and of others" and "preventing health risk behaviours", could cut across topics at a theoretical and pedagogical level.

For the prevention of risk behaviours, educators must bear in mind all of the above factors when implementing pedagogic activities on the prevention of risk behaviours in the classroom, which are associated with knowledge, attitudes and awareness. These three approaches are shown in Figure 1 and can be described as follows:

- i) Scientific knowledge To approach the problems caused by substance misuse: implement pedagogical approaches to the physical, psychological and social dimensions of the risk behaviours' effects, based in scientific knowledge. Attention must be paid to ethical issues concerning potential effects of the approach regarding stigmatisation of the smoker, drinker or drug-abuser.
- ii) Attitudes To develop personal and social competencies: develop self-esteem, stress management, risk management, conflict management. These competencies empower children and young people to make informed decisions, to make choices, to take action and to develop positive attitudes toward health risks.
- iii) Awareness To approach the environmental context: make children and young people aware of their specific familiar and close social environment to identify critical situations facilitating the risky behaviour. This implies developing critical thinking.

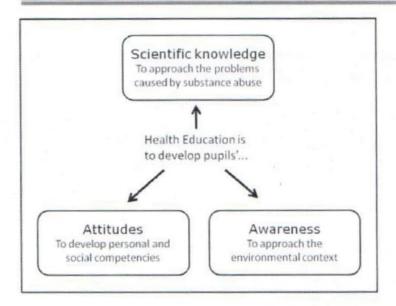


Figure 1. Dimensions to take into account during school activities for the prevention of health-risk behaviours.

Defining the teacher's role in health education is rather delicate for several reasons. First, health and health education lie at the intersection between the private (pupil's family) and public (public health policies) domains related to behavioural issues which are determined culturally and as the most intimate of personal decisions. Furthermore, in health domains, recommendations change with time given the extraordinary progress in knowledge and the construction of new scientific models as well as fashions governing what is considered moral and what is considered immoral. In addition, in the contemporary world, where the importance of appearance is emphasized and where many consider a perfect body and perfect health to be the ultimate aim, can it be hoped that schools will contribute to the promotion of a single healthy mode of living or a body cult?

In the field, it is not easy to identify the school's mission regarding the balance between formal curriculum and the power of models transmitted by the media. Biology teachers, having specific training in biology and biology education, are expected to implement health education in schools. In general, they have good competencies in teaching biology and health (scientific knowledge) but have little or no training in working with students' attitudes and awareness (Figure 1) of health issues. Therefore, the aim of teacher training in health education is to help teachers get a clear view of their responsibility in health education and its ethical limits. Before giving them methodological tools, teacher training aims at helping them build their professional identity (Jourdan et al., 2008).

The way in which health promotion is organised and implemented in each country differs depending on the history, objectives and structures of that country's school system (Pommier & Jourdan, 2007). Developing research, and affirming and reinforcing the work done in teachers' training in health education are major issues to promote teachers' competencies for providing opportunities to children and young people to be more empowered about health and health risks as they grow up.

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