

IV.1b THE UNIVERSITY AND EDUCATION FOR LIFE

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Ever since environmental education was recommended for inclusion in the school curriculum at all levels and in all educational modalities by the Intergovernmental Conference on Environmental Education held in Tbilisi (Georgia) in 1977, the issue of how to ensure this inclusion has been a recurring problem. This recommendation was enunciated, furthermore, in the context of the proposal for interdisciplinarity that had been developing in the decade of the 1970s.

The debate on interdisciplinarity, which was bolstered by the Nice conference of 1970, has made valuable contributions to theory and has pointed to the need to reshape an outdated curriculum paradigm centred on disciplines. However, given discipline-based curricula and teachers who are trained in disciplines, interdisciplinarity has not been easy to implement in practice. In the decades since the 1970s, approaches have been launched that have given rise to

a few successful experiences, although they have not changed the institutional *modus operandi* as a whole.

The last quarter of the 20th century and the first decade of the new millennium have witnessed the efflorescence of further discussion on the need for a shift in the learning paradigm in academia (Bawden, 2003), particularly with the general dissemination of complex systems theories and post-normal science (Funtowicz and Ravetz, 2000). Both of these approaches foreground fundamental questions about self-organizing living systems in conditions of complexity, diversity and uncertainty, where facts are multiple and uncertain and where values are in dispute, risks are high and decisions are urgent (Funtowicz and Ravetz, 2000).

However, in general, the structure of the conventional curriculum, with the usual exceptions, has remained intact despite the exhaustion of its heuristic possibilities. The most important of the many difficulties can be summarized as follows:

1. Epistemological and theoretical difficulties deriving from the complexity of changing the substantive structure of disciplines in order to foster interdisciplinary approaches and knowledge dialogues from within knowledge categories.
2. Methodological difficulties associated with the complexity of developing operational strategies within a framework of systemic uncertainty and multiple articulations with a number of related fields.
3. Institutional difficulties related to the many forms of internal resistance, given that any curricular reform will shift the balance of power between scientific communities and academic groups and will affect budgetary allocations and spheres of influence.

Thus, rather than respond to a specific epistemological proposal, the current classification of knowledge by disciplines – and the resulting structure of the curriculum – has acted as a conveyor belt for the historically constructed interests of different scientific communities and, as pointed out by Gass (Apostel et al., 1972), is an eloquent reflection of social values. Today's structuring of knowledge in disciplines is one of the main obstacles to educating for life and transmitting an understanding of the network of life's inherent processes of autopoiesis (Maturana and Varela, 1984), resilience, interaction and exchange. These processes acquire great importance in the sustainability paradigm. In other words, the disciplinary structure of knowledge is part of the problem rather than of the solution.

Apart from any controversy over the concept, sustainability represents interdisciplinarity par excellence, with

its – perhaps naive – aspiration to holistically confront the hitherto unheard-of systemic complexity of contemporary problems. It is increasingly patent that many of the difficulties in strengthening the sustainability dimension in education processes stem from the disciplinary structure itself, which tends to fragment reality.

Interdisciplinarity is not proposed as the philosopher's stone of education but as a way of reorganizing knowledge so as to better respond to the problems of society. It is based on the premise that although reality is severable from theory for study purposes, the different cognitive components that give rise to the various disciplines are inextricably linked. Disciplines as fields of study have overlapping and permeable boundaries. When these boundaries are openly acknowledged and explored, they pose new questions that have significantly added to the available knowledge, most particularly in the case of environmental and sustainability issues.

From a political perspective, interdisciplinarity questions knowledge production and reproduction practices, the very concept of science, the ethical and social dimensions of science, the notion of the epistemic subject and, naturally, the consequences of their application to nature and life as a whole.

But what interdisciplinarity does not necessarily confront is the essentialist foundation of scientific discourse in Western thinking, that is, the relationship between scientific knowledge, truth and objective reality as opposed to the knowledge that inhabits the territory of appearances and that presents deformed or distorted realities. Arditì (1991) notes that the perception of knowledge understood as a mimesis of reality – that is, the process of knowledge that assumes knowing subjects who seek to represent reality as such in their thinking – has been in crisis since it was formulated in the post-Descartes period. The search for the essence of reality in order to protect the truth and, therefore, the assumption that there is only one true reality, will not be quelled by the interdisciplinarity proposal or by a dialogue of knowledge unless we radically question the aspiration – a development of the Enlightenment – to search for the unity of reality and for all-encompassing knowledge as an explanation for all discrete phenomena and, instead, begin to take into account the diversity of the world.

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In the current education system, with the university at its apex, it is easier to educate for life from informal processes, that is, using strategies that view education

as a social process rather than as a curricular process. In the education system as it has developed in modernity, we are cultivating forms of collective ignorance and of mass destruction through strategies that plant the seeds of unsustainable lifestyles in the minds of subjects. Hence, much of the content and practices of educational institutions need to be unlearned as a prerequisite to reconnecting with the life processes around us.

Some of the most fruitful experiences that have developed in this critical period marking the end of the industrial age have commenced with analyses conducted outside educational institutions, reflecting community-based approaches that overcome the breakdown of socio-cultural norms and values propagated by marketing and the media. One such example is the Transition Movement in the UK led by Rob Hopkins, which promotes the reduction of energy consumption, community self-organization focused on local solutions, the use of goods produced in a sustainable manner, the primacy of the group, the relearning of life skills and harmony with the rest of nature.

What, then, does education for life mean? There is no easy answer, firstly, because it is not enough for students to learn about the processes, cycles and dynamics of life on the planet. If this were all, natural scientists would be committed to the defence of such processes in all areas of daily life – and unfortunately this is not necessarily the case. In other words, the amount of information that is available is not enough to change values and attitudes. This is very evident from the media focus on scientific literacy regarding climate change, which has failed to produce a transformation of lifestyles and consumption patterns among the public (González-Gaudio and Meira, 2010).

Secondly, the problem is not resolved by educating people *in* contact with the dynamics and processes of nature. I do not deny the important contribution of outdoor education programmes, especially in developing sensitivity to the processes that sustain life on the planet. However, we have to recognize that, in general, there is a disconnection between the learning experiences of children and their personal lifestyles (Brookes, 2004). In other words, the experiences of children do not lead to analysis of, and much less change in, the unsustainable habits that characterize people's everyday lives. The concept of 'the good life' continues to be centred on the notion of a level of comfort that is fuelled by high levels of energy consumption.

The problem lies, then, in educating *for* life, and not in educating *about* and *in* the environment. This still relevant discussion regarding environmental education was broached back in 1972 in a doctoral thesis by

Lucas (1979). The most valid approach to building a proposal for educating for life lies in the critical pedagogy of place (Gruenewald, 2003), a synthesis of two trends that have developed along separate pathways but which share common goals and approaches that are not only compatible but mutually complementary. Critical pedagogy proposes an agenda of cultural decolonization and place-based education that emphasizes the spatial aspects of social experience strengthened by an environmental dimension.

Gruenewald's approach concurs with situated environmental learning (O'Donoghue and Lotz-Sisitka, 2006), which advocates for environmental education practices consistently acquiring deeper meanings coherently situated in their own contexts, particularly in frameworks of poverty, vulnerability and risk. This is particularly relevant to the projects for adapting to climate change that are so urgently needed worldwide. In this regard, I draw on the valuable contributions of Donna Haraway (1995), a primatologist who has made major contributions to feminist scholarship and to developmental philosophy and biology – a model, indeed, of the interdisciplinary interfaces mentioned above. Haraway points out that objects of study must explicitly point to the place of departure, since – leaving aside the research method used – we cannot escape our subjectivity and socio-cultural context. This approach is key, as educating for life is not possible from abstraction but can only take place in specific situations holding meaning for our lives. It also defines our political and ethical stance regarding the problems encountered, because positions and meanings are never neutral, no more than education for life can be politically or ethically neutral.

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