Eco-citizens of the Earth

The undimming profligacy of modern society is increasingly at odds with the need to protect Earth’s natural environment. Fundamental to finding a balance between people’s human rights and their environmental responsibilities is a complete rethink of education – inducing necessary and lasting change to the lifestyles of the next generation and beyond – argues Professor Marc Boutet.

What interests you most about environmental protection and sustainable development?

It’s the state of the relationship between human and nature. The human adventure is a situated one, in a wonderful, unique context. Destroying it as we’ve been doing in the last 200 years equates to destroying ourselves. John Dewey used to write that humans are made in such a way that when they touch, they are at the same time being touched; he used the word transaction instead of interaction to describe the relationship between humans and nature.

I came into the environmental education field not only because of my personal appreciation of nature and desire to protect it, but also because of my belief that the capacity of local communities to take over their environmental destiny is the key to sustainable change. In my mind, this needs to be borne by a structured educational process.

How important is education to the protection of the environment?

When I was 20 years old and in need of a summer job, I had the choice of either being an assistant researcher for an ecology professor studying moose habits or a counsellor in a summer camp offering an intensive outdoor experience to underprivileged New York City kids. Both options seemed to me to be contributing to nature conservation. Retrospectively, I now understand that I made an intuitive choice for education because of its transformative power. Environmental education, and I would say only environmental education, can induce the necessary and lasting changes to our life habits that are needed.

Do you think there is sufficient awareness of the importance of environmental education?

Definitely not. Environmental education is a non-disciplinary field that does not fit the traditional structure that characterises our organisation of schools. There is surely discourse among international authorities about its importance, but there are only a few examples of translating this idea into school systems.

Can more be done to drive interest in this area?

Training teachers is the best way to integrate environmental education into the formal school system. Millions of them work with millions of children every day throughout the world, representing a powerful changing force. However, this calls for a transformation in teaching practices: relating disciplines instead of teaching them separately, developing systemic thought not only analytic, appreciating the complexity of the real world, etc.

In order to achieve this, a strategy is required in which teachers are engaged in individual and collective reflection on their practices, starting from their environmental values and looking for concrete ways of teaching through and for the environment and sustainability. Non-formal and informal education should also be targeted in the same manner through NGO educational programmes.

Is there an overarching aim to your investigations into improving environmental education?

I have had a strong belief that research is part of the solution to many educational issues for a long time. The common thread of my commitment has been a search for ways to enhance teaching practices, built around three axes:

- A didactics axis structured by the central research construct of environmental citizenship that supports the description and comparison of environmental and sustainability education programmes, the development of educational activities and the supervision of teachers
- A teacher training axis structured by the construct of reflective engagement, which enabled me to redefine the primary and preschool teacher training programme at my university and to create a unique graduate programme for supervisors that has been also partly offered in Guinea
- A teaching practices axis structured by the construct of the coherence/relevance of a teacher’s actions within the class, from which I elaborated a framework for analysing classroom management practices

What challenges have you encountered during the course of this work and how have they been surmounted?

One challenge was to overcome the ‘definition dementia’ that characterises the field of education for the environment and for sustainable development. Another was to get closer to real practices within programmes, not simply using discourse about those practices. For this, we had to give practitioners confidence in our intentions, show them respect, demonstrate that we were able to appreciate the requirements of their work and that reflecting upon the results of our analysis could help them better reach their goals.
The ABCs of sustainability

Canadian researchers led by the Université de Sherbrooke in Quebec, Canada, have been investigating and improving teaching practices and educational initiatives focused on the environment and sustainable development since 2002.

IN SOME COUNTRIES nowadays, children are learning the basics of computer programming in their first years of school. Targeted education such as this is aimed at preparing the next generation for an increasingly global and digital world of tomorrow. However, the trials of the Digital Age will not be the only ones these children will face.

By the middle of this century it is expected that the human population will have swelled to 9 billion and, with this growth, dealing with food and water scarcity, coping with the strains on agriculture, finding clean and efficient methods of generating energy and adapting to climate change are just some of the challenges this generation’s children and grandchildren must tackle to ensure the continued existence of the human race.

LEARNING ENVIRONMENT

In this context, environmental education is a surprisingly underdeveloped and poorly defined field. It was not until 1972, during the first United Nations Conference on the Human Environment in Stockholm, Sweden, that a declaration towards policy action was produced: principle 19 of the Stockholm Declaration specifically calls for ‘education in environmental matters, for the younger generation as well as adults’. Since that time, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has led international calls to bring environmental education to the masses.

However, despite these efforts, only sporadic initiatives and supplemental, elective school curricula currently exist to provide any kind of environmental literacy – a situation that does not support the skills and knowledge building in learners necessary to have an impact on attitudes and behaviours. Furthermore, a lack of governmental support for integrated educational initiatives coupled with semantic wrangling over what ‘environment’ and ‘environmental education’ mean have stymied the evolution of environmental educational practices.

ENVIRONMENTAL CITIZENSHIP

With the goal of bringing clarity to the environmental education field, Professor Marc Boutet from the Faculty of Education in the Université de Sherbrooke in Quebec, Canada, conducts research and training that focuses on teaching, emphasising the role of education in solving environmental problems.

Central to Boutet’s work is the concept of environmental citizenship, otherwise known as eco-citizenship, which has been defined by UNESCO, other organisations and distinguished academics in the field in many different ways and from various perspectives. Boutet and colleagues analysed and reformulated these descriptions through the lens of a belief that environmental citizenship should be the central aim of all environmental education initiatives.

First, two aspects of the relationship between humans and their natural environment were defined based on: solidarity with other living beings in which humans do not see themselves as masters or owners of the world but more as members of the biosphere; and responsibility for the maintenance of living systems, in which humans recognise and embrace their particular role in the biosphere – that of being conscious and capable of compassion.

From this, five key concepts were identified from the literature that form components of what it means to be an environmental citizen:

- Developing sensitivity toward the natural environment
- Being aware of one’s power to take action (empowerment)
- Applying critical thinking
- Acquiring skills for democratic participation
- Mobilising knowledge required to identify environmental issues and move into action

Not only does this construct provide a framework for assessing the impact of current environmental education initiatives and training educators, but it also forms an organising principle on which concerted long-term interventions that are complementary to one another can be based.

An illustration created for the teacher training sessions that Boutet and colleagues have developed.
INTELLIGENCE

EDUCATION FOR THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

OBJECTIVES

- To support the description and comparison of environmental education programmes, the development of educational activities and the supervision of teachers
- To redefine primary and preschool teacher training programmes
- To develop teaching practices using analyses of classroom management practices

KEY COLLABORATORS

Dr Ghislain Samson, Université du Québec à Trois-Rivières, Canada • David Tilus, le Groupe d’action francophone pour l’environnement, Haiti • Kadiatou Diallo, ENPETP, Guinea

PARTNERS

La Biosphère d’Environnement Canada • Le Réseau québécois des CFER • Le Groupe d’aide pour la recherche et l’aménagement de la faune • Le Programme d’éducation à l’environnement et à la citoyenneté • Le Groupe d’action francophone pour l’environnement • l’École nationale des professeurs de l’enseignement technique et professionnel (ENPETP)

FUNDING

La Chaire de recherche Normand-Maurice Social Sciences and Research Council of Canada

CONTACT

Dr Marc Boutet
Professor in the Faculty of Education
Office A7-145
Université de Sherbrooke
Quebec, J1K 2R1
Canada
T +1819 821 8000
E marc.boutet@usherbrooke.ca
bit.ly/usherbrookeusherbrooke
bit.ly/youtubeinterview

PROFESSOR MARC BOUTET has Bachelor’s degrees from Laval University and the University of Ottawa. He worked for several years as a teacher and teacher trainer before returning to University as a professor. He received his PhD in Education from Laval University.

WORKING WITH EDUCATORS

Boutet has worked in close collaboration with educators in assessing the impact of environmental education programmes. “So far, we have developed and validated tools that allow us to evaluate environmental education programmes’ general impact on participants,” he explains. Cooperating with six programme organisers, mainly based in Canada but also including one in Haiti, Boutet assessed the following initiatives, chosen because of their longevity and the recognition of their quality and originality by the environmental education community: the Training and Recovery Business Centre (CFER); Freshwater Fish Observation Network; Environment Canada’s Biosphere; Des Chenes School Board’s Support Group for Wildlife R&D (GARAF), Citizen’s Educational Environment Programme (PEEC) and Environmental sensitisation and education project, which is part of the Binational project to rehabilitate the watershed of the Artibonite river.

IMPACT ASSESSMENT

Self-assessed multiple choice questionnaires, direct observations, and participant and parent interviews were all used to gauge whether participants’ daily practices and opinions changed in relation to the five components of environmental citizenship. Following this, a web portal for stakeholders in various programmes will be created to build an enlarged community, exchange information and compile ongoing data that will give more depth and empirical generalisation to the results already obtained.

So far, Boutet’s team concluded that, although sensitivity towards the natural environment and empowerment were expressed as major outcomes by the vast majority of participants, the development of critical thought, which allows the subtle ethical, political, social and economic aspects of an environmental issue to be considered, was very little observed: “We found that empowerment is the main impact, but that environmental education programmes should aim more explicitly at developing nature appreciation as a basis for eco-citizenship,” he confirms. “We also found strong evidence that the teacher effect is a determinant of the impact of a programme on learners.”

The latter result has inspired Boutet’s current research focus because, although revealing clear evidence of the influence of educators on the impact of initiatives, the study did not clearly identify common characteristics underlying why successful impact had been achieved. “We need to study teachers’ influence in more detail through elucidating their practical knowledge in environmental education and following the transformation of their practices towards the integration of environmental education as a core component of their teaching,” Boutet reflects. “So far, the strategy of accompanying educators in reflection upon their practices seems to be the best way of doing this – we are in the process of testing our hypothesis.”

ECO-GENERATION

By offering support and advice to teachers in the complex field of environmental education, Boutet and colleagues hope that the students of these teachers will be trained from an early age to preserve the Earth’s natural environment. These children will grow to become environmental citizens who impart their knowledge to their loved ones and ensure, through everyday actions, that the needs of humanity today are balanced with those of the future planet.