

## Content of the present issue

Environmental education is the common feature of the issue, based on presentations in the First International Environmental Education Conference (IEEC2016) held in Eger, Hungary in April 26-28, 2016. Seven scientific papers are selected and completed by a book review.

The author of the first paper, Martin Haigh studies 'Connective Practices' which are effective educational activities and critical for sustainability education. They bridge the gap between knowledge of environmental problems and the attitude to do something about them. Three moments of pedagogic theory are employed for the application of sustainability education. From *Deep Ecology* comes the pedagogic ladder, leading to recognition of the Ecological Self. The Connective Practice concept comes from *Social Sculpture* and the provocative work of Joseph Beuys. Finally, *Invitational Education* adds concern for the learner's inner being. Learning invitations aim to remove the obstacles that hold learners back from positive creativity. After this theoretical and methodological characterization of the Connective Practices, two case studies illustrate the task of inviting learners to develop pro-sustainability values and affirm them by a personal creative response.

The second paper by Poudrier, Claude (Environmental Education and Active Citizenship) emphasizes the importance to include and activate the citizens starting from the age of 4 years. The Action Research for Community Problem Solving i.e. a model developed in Quebec, Canada is in the focus of the paper. For successful environmental education the experience of the author and objective surveys by a national network claims for the needs of the following characteristic features: Active participation in community life; Accountability and community belonging; Partnership development; Democratic daily life; Community roots and social responsibility.

This paper is followed by an overview of environmental problems and their education based on the experiences of the author (Taligás Tímea: Overview of main environmental challenges and the educational possibilities to tackle them). She points at the problem that the frequent reference at climate change hides the several other problems, as production of the required energy, providing drinking water and food in the appropriate quantity and quality, or preservation of the nature. To solve these challenges we need environmentally conscious societies. The way to such societies leads through environmental education, everywhere.

After the review by an environmental scientist, the environmental problems and education are tackled in the third paper by Mika, János (Education in the Sustainability Development Goals (2016-2030), sustainability in the education), too. Both the problems and the education are discussed here according to the UN document in the title. Though sustainability is understood in its widest way (i.e. including the tasks from the society and the economy, as well), there are many environmental problems among the 17 Goals of the document and Goal 4

definitely deals with the long-term needs of education. The paper collects several other targets of the document, points at further needs of education not mentioned among the goals and provides graphs and maps that are recommended to use for teaching of and by sustainability.

One key problem, that has already cause irreversible changes, is surveyed by Nagy, Éva (The Comparative Analysis of the Biological Diversity in Schools) in the fourth paper of the issue. The study summarizes the methods that serve the teaching of species diversity and attempt to sum up the institutions where they are used. There are several questions tackled by the paper, e.g.: Do we give enough impressions for the young generation to taste the actual world, attracting their attention to sustainability? Do we spend enough time with our students getting acquainted with all animal and plant species, around us? In other words, does the biodiversity actually exist in our today's public education?

The next paper deals with a new effective tool in pedagogy (Rigóczki, Csaba and co-authors: Gamification on the edge of educational sciences and pedagogical methodologies). The paper provides a literature survey on the best practices in the field of gamification which field is explosively growing, though only a small percentage is linked to pedagogical methodologies. The paper explores the role of gamification in pedagogy, focusing on environmental education and analyzing the elements and mechanisms of the games. After a few interesting examples, the paper finally compares the characteristics of gamification with some acknowledged pedagogical paradigms in Hungary.

The topic of the final paper of the issue deals with the e-School4s, the e-school for sustainability in the Danube region. Several international conventions countries across the world integrate and implement education for sustainable development, and e-School4s is an innovative way to study sustainable development in schools. The paper present an inspiring example, the e-School4S Comenius project, the framework of which teachers and NGOs across borders collaborated to build interactive e-learning courses for secondary school students.

The issue is being complete by a book review on Ecosystem Services of Headwater Catchments (Edited by Krecek Josef et al, reviewed by Kürti, Lívía). Though this book is not focused on environmental pedagogy, but on the important questions of the environment occurring in a water catchment, the first two editors and four further authors participated in the IEEC2016 in Eger. Five chapters of the book deal with environmental education. The book was published by Springer Verlag in 2017.

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