

Editorial

The theme of the first issue of volume three of *CEPS Journal* is sustainable development in education. The main purpose of this issue is a discussion of the concepts and implementation of the principles and guidelines of sustainable development in education.

The principle of the sustainable development of society conceives the development of human society and its influence on nature in such a way that it organises and modifies the satisfaction of needs in various areas, so that present generations do not threaten the satisfaction of the needs of people and other living beings in the future. Thus, education for sustainable development encompasses content from natural sciences and technical studies (environmental protection, the development of contemporary technology), social sciences (politics, economic development) and the humanities (ethical questions, responsibilities and social development).

We wanted to stimulate a discussion of scientifically determined facts and findings on the influences of human beings on the natural environment and the development of contemporary societies based on the principle of sustainable development, particularly those that are suitable for inclusion in preschool and primary school. The authors were invited to submit articles that substantiate the principle of sustainable development as a specific and clearly identifiable principle of education, on both the levels of concept and practice (knowledge, ethics, goals, values). We also suggested individual themes and educational strategies for encouraging sustainable development on all levels of schooling and in various subject areas (natural sciences, technical studies, social sciences and the humanities), for example 1) the connection of the economy with the environment (especially the impacts of the economy on the natural environment), 2) the connection of specific production methods in agriculture and industry, and the environmental difficulties and controversies associated with them, 3) the connection of knowledge of the environment with a candid analysis of history and politics, 4) the connection of economics, production and consumption patterns with the responsibility of companies and states, as well as of the international community, 5) the management of natural resources and the protection of biological and regional diversity, 6) education that encourages satisfaction with environmentally friendly activities, e.g. how to reduce the economic demands for transport and the use of energy, and 7) the principles and cases of environmental protection and the efficient use of energy as maxims of innovation and the development of new technologies, etc. In consultation with the editors of this issue, it was also possible to select other approaches to the theme.

In this issue of *CEPS Journal*, five authors from different countries, including Austria, Sweden, Germany and Slovenia, discuss in their papers the importance of sustainable development in science and art education. One paper can be found in the *Varia* section.

The paper by Franz Rauch and Regina Steiner entitled *Competences for Education for Sustainable Development in Teacher Education* presents authors' views on competences in the context of cross-curricular themes, such as sustainable development and education for sustainable development. The authors present these competences especially in the light of the United Nations Decade for ESD (2004–2015). Recent literature on education for sustainable development lists a number of competences for education for sustainable development in various fields, with the exception of teacher education. In the Austrian research project KOM-BiNE (Competences for Education for Sustainable Development in Teacher Education), as part of a large-scale EU project, a competence model for education for sustainable development for educators was developed. The KOM-BiNE competence model consists of areas of competences within fields of action. The constituent elements of the competence model are described by the authors in detail and are illustrated by examples.

The second article, *Respect for Nature – A Prescription for Developing Environmental Awareness in Preschool*, by Eva Årlemalm-Hagsér, illustrates sustainability as the striving for an environmentally sustainable world and respect and care for the non-human world, as well as efforts to establish social, economic and political justice for all human beings. This paper deals with education for sustainability in the Swedish pre-school, from two perspectives: first, the views held concerning the relationship between humans and nature; second, young children's participation and agency. The theoretical part presents the theory behind the study with a case study approach. The empirical material is derived from 21 applications from Swedish preschools to be certified with 'The Diploma of Excellence in Sustainable Development' (Swedish National Agency for Education). The main findings show that few critical questions have been raised about the human-nature relationship in the applications, even though views concerning the connectedness with, and care and respect for the natural world are emphasised. Children's participation and agency are neglected in a structure of ready-made views, activities and working methods already imbedded in the current pedagogical practices. Implications for research and practice would be to further explore how the understandings of the relationship between humans and nature are constructed within early childhood education.

In the paper entitled *Live What You Teach & Teach What You Live: Student Views on the Acceptability of Teachers' Value-Related Statements about*

Sustainability and Climate Change, Gregor Torkar reports the results of a survey among pre-service and in-service students of pre-school education and students of environmental sciences on the acceptability of value-laden statements made by their university teachers on issues of sustainable development and climate change. The results show that the students expect their teachers to promote the principles of sustainable development. The majority of students considered unacceptable any teacher's statement that would throw doubt on the cause or necessity to act against climate change. Teacher's statements emphasising global issues that have, or could have, a direct impact on developed countries (e.g. climate change) received higher support than those global questions that impact underdeveloped or developing countries more (e.g. poverty, child labour, access to natural resources). In conclusion, it is emphasised that teachers should assist students in developing their own moral positions on complex issues such as sustainable development and climate change. Structured discussion techniques, such as panel discussion, forum and debate, should be regularly and carefully implemented into lectures at the university level.

The fourth paper, by Mareike Burmeister and Ingo Eilks, entitled *Using Participatory Action Research to Develop a Course Module on Education for Sustainable Development in Pre-Service Chemistry Teacher Education*, presents the development of a course module on sustainability issues and Education for Sustainable Development in German pre-service chemistry teacher education. The module was inspired by empirical research findings about the knowledge base of student-teachers. It was created and cyclically refined using Participatory Action Research. Experiences gained during its three-year application are reflected upon by the authors, including feedback collected from student evaluation sheets. The results also showed that the participants responded extremely positively to the course. The student-teachers stated that the module was interesting, relevant and valuable for their later profession as high school chemistry teachers. They also emphasised that they developed specific competences in sustainability, and education for sustainable development.

The final contribution to this thematic issue about sustainable development in education is entitled *Visual Art Education: Between Spatial Sustainable Development and the Image of Architecture*, in which Beatriz G. Tomšič Čerkez considers the role of education and its implications in the formation of a critical and conscious user of architecture. In the development of educational strategies related to the sustainable development of our common space and environment, the main question is how to develop programs at all educational levels to promote critical and responsible attitudes towards the common environment covering all the aspects that shape the concepts of sustainable spatial

development. However, it is not possible to create strategies without proper information about the views of the students, so Tomšič Čerkez collected and analysed these views among secondary school students. The research based on the idea that in order to promote the education of critical and responsible »perceivers« of the environment, one of the most efficient critical attitudes towards the world would be to develop an unconditional connection of the art work with »everyday life conditions«.

At the end of this issue, we find one paper in the Varia section by Metoda Kemperl, entitled *Contemporary Art and Citizenship Education: The Possibilities of Cross-Curricular Links on the Level of Content*. Unlike the previous phenomenon of modern art, contemporary art strives to return to society and everyday life. Understanding contemporary art calls for active citizenship. This is particularly true in regard to so-called relational art, which demands active participation from the part of the viewer. This paper examines the possibilities of a connection of contemporary art and citizenship education in elementary schools; the analysis is focused on the curricula of the subjects of Art Education, and Citizenship and Patriotic Education and Ethics. It finds their link quite troublesome, since the absence of contemporary art from the curriculum of Art Education seems to be of a conceptual nature. The author suggests that via a more intense inter-institutional link between schools and contemporary art galleries and museums the common goals of art education and citizenship education can be realized. The paper therefore strives to show potential cross curricular links in content on three examples of participatory practices.

This issue of CEPS Journal ends with a review by Jasmina Kolbl of the book *Providing High Quality Science Knowledge Using Submicrorepresentations* by Iztok Devetak, published by the Faculty of Education of the University of Ljubljana (ISBN 978-961-253-076-1).

IZTOK DEVETAK AND JANEZ KREK