

## ANNOTATED TABLE OF CONTENT

### **Education and Sustainable Development: First Steps Toward Changes, Volume 2, 2007**

#### **Preface**

#### ***I. Building a theory on education and sustainable development***

Clara Mandolini

#### **Sustainable education as a way for an integral development of the human being**

The aim of the article is to approach the idea of sustainable education from a philosophical point of view, looking at the cultural conditions for and meanings of an authentic development. First of all, it considers the point of view of the impossibility of an operative definition of “sustainable development”. Showing that this apparent contradiction can be the mark of its fecundity for action, the article then considers what meaning of development and education can be the most adherent to the essential form of human becoming.

Secondly, the concept of development is compared to the ideas of growth and progress as reductive senses of human change that have largely influenced western culture and economy, configuring an unsustainable sense of historical becoming. Sustainable development seems to offer an anthropological wideness for education and for the comprehension of active change, only if it is intended as an “integral” unfolding of human powers in their relation to other people and nature. In fact, some main issues of sustainable education are shown to be convergent towards a non-unilateral form of development.

Jyrki Reunamo

#### **Children’s agency: Imperative in education for sustainable development**

The tradition of education looks at the child as learning and developing, whereas education for sustainable development (ESD) calls for children to also play a role in shaping the environment, to exercise agency in shaping the life of others too. Children should be able to test and apply the principles underpinning ESD, not just to learn, but also to practice their agency in ESD. A balanced amount of openness is needed to allow educators, children and families to take part in the development of their community, that is, without losing the delicate existing structures that have been built up through the years. In the paper, a theoretical model for building a balanced pedagogy is proposed. In the model, it is the interaction between the organism(s) and the environment which is studied. When the organism (child) is changing, the interaction with the environment is about to change too, which, in turn, changes the environment further. Here openness and change do not have any absolute value.

#### ***II. Educational projects on sustainable development: Cultural and political contexts***

Britta Lohmann and Jane Buus Sørensen

#### **Greenland’s recent school reform and sustainable development**

In the new school reform introduced in Greenland in 2003, the subject of sustainable development is nearly totally absent. This paper attempts to point out some of the reasons for this omission. Is it due to the very conservative interpretation, which is widespread in the Arctic area, that the Inuit

way of life is dominantly sustainable, or is it due to the fact that, especially in Greenland, the concept of sustainable development might have some disagreeable connotations? Of course, in the end, the reason might be that the authors of the new curriculum were simply ignorant of this topic. But we have chosen to view the omission as part of the political discussion about the subject of sustainable development in Greenland.

Charlotte Holland and Carmel Mulcahy

**Crossing borders: A report on the Citizenship and Science Exchange (Case) Project**

This paper describes the Citizenship and Science Exchange (CaSE) research project conducted in Ireland between 2003 and 2005. It explores the concept of Borderlands by bringing together students and teachers from North and South of Ireland and the hitherto disparate fields of Science and Citizenship Education. The research was funded by the EU Programme for Peace and Reconciliation and undertaken by the Centre for Cross Border Studies and Dublin City University. The initial focus of the research was to encourage dialogue between teachers and students from both jurisdictions through the twin axes of Science and Citizenship. The research community selected three themes: Environmental Perspectives, Food and Nutrition and Energy through which the dynamic relationship that exists between Science and Citizenship was explored. Discussion of these themes initiated critical reflection on the role of citizenship and science in relation to sustainable development. Teachers were given an opportunity to dialogue on the role of citizenship education in relation to raising awareness of the relevance of supporting and encouraging responsive and responsible citizenship in the key area of sustainable development. They were also afforded a rare opportunity to move outside the realms of their own specific discipline domain and to encounter the exciting prospects that can be realised by working together at school level, at local level and across a border that spanned two specific national jurisdictions and two separate governments. Thus sustainable development allowed a bridging of many borders, both historical and curricular. Students enjoyed similar benefits from the research process and in addition gained a heightened awareness of the importance of sustainable development as a living, breathing part of their academic and personal lives.

Javier Calvo de Mora and Javier Villoria Prieto

**An open model of schooling: Developing education for sustainability projects**

Scholars have realised the necessity of a new schooling model based on active citizenship. This paper explores an open model applied to school organisation providing reasons and contexts to back up its implementation. The main reason for defending this proposal is to carry out an educational process that has as its final result a sense of school involvement, based on two dimensions: identity and belonging. Then, we explain singular types of school projects. These options are being directed to youngsters who have shown interest about the involvement in local activities, such as the promotion of sustainable environment. Perhaps with these schooling models we could improve excellence and equity in the mainstreams of schooling. Finally, a new approach to school organisation within the Faculties of Education is underlined. Academics and policy papers advocate democracy in schools, but not how to achieve it. In this context, we uphold a culture based on sustainability as a way to implement democracy at schools.

***III. Higher education for sustainable development***

Stephen Sterling and William Scott

**Cultural shift or accommodation? A snapshot of education for sustainable development in English higher education**

The paper provides a commentary on education for sustainable development (ESD) within higher education in England, in the wider European context. The recent history of attempts to clarify ESD and its implications for higher education institutions is outlined, and some of the tensions between a developing agenda and the autonomy of universities are reviewed. Two case studies, the work of the Higher Education Funding Council for England (HEFCE), and the UK Higher Education Academy's ESD project, are discussed. The paper presents a summary of positive and negative trends and concludes that while the near future is likely to see ESD achieving a higher profile in higher education, the question as to whether this signals a fundamental shift of policy and practice remains unresolved.

Inga Belousa and Alnis Stakle

### **Development and reorientation of education towards sustainability in Latvia after 1991**

After 1991 and especially joining European Union in May 2004, the former Soviet Union country – Latvia – is witnessing processes of globalization and inclusiveness, increased technological development, and re-evaluation of human potential. The current perspective of education in Latvia is based on numerous issues to be re-discovered, re-considered, re-imagined, and re-constructed. This is a trend among others that challenge traditional theoretical conceptions and approaches towards education and confront educators with unfamiliar reality that goes beyond individualism, dogmatism, indoctrination, hierarchical structure of organization, and fosters the development of whole field of higher education.

This article is a theoretical discourse of development of educational thought in Latvia after 1991 with an emphasis on changes, reforms, and challenges. It introduces experience of the Institute of Sustainable Education, Daugavpils University, Latvia that is committed to holistic approach and sustainable development of education. The authors argue that higher education institutions through a holistic understanding of a human person and sustainable development of society offer a transformed meaning of education. The aim of higher education is not simply to hand on the experience and achievements of humanity but to rise beyond the traditional norm-oriented approach and modernist world-view and create a democratic community both inside and outside higher education establishment taking into consideration the global and ecological perspective and recognizing spiritual dimension of human existence.

Ieva Kalve and Sanite Vāne

### **The readiness of Latvia's employed business management students for life and work within the framework of sustainable development**

Latvia and other countries presently in economic transition regained their independence in 1990. One of the main problems has been to restructure higher education appropriately and adapt to a new political and economical system. Today, although the restructuring of higher education is almost complete, new challenges have arisen. There is presently an increasing shortfall of skilled labor that is creating difficulties for the different sectors of society. There is also an acute need for competency concerning sustainable development from the point of view of employers, organizations, and the government.

This paper provides insight and results of research that was carried out at the end of 2006. Results show that employed business management coursing the last year of undergraduate studies or enrolled in masters' degrees are prepared to contribute to the processes of sustainability, which is now in progress. Respondents rated their personal and employer readiness to the meet the challenges of sustainable development. Results show that middle and high ranking management do not provide suitable work environments that promote sustainable development and do not motivate self-improvement in response to new situations.

#### ***IV. Educational leadership: Changing the schools toward sustainability***

Juri Ginter and Doyle Stevick

##### **Sustainable education, the limits of democracy and the importance of participation: A survey of Estonian school leaders**

Democratic mechanisms or institutions do not live up to their democratic or humanistic ideals if participation is low. Unfortunately, participation is not highly valued among Estonian school leaders. Based on a review of recent thinking about democracy, analysis of participation in Estonian schools through the history as well as a survey of Estonian school principals the authors argue that participation could help to address the problem that democracy and democratic institutions alone are not inherently sustainable. This article discusses themes that emerge from the responses of school leaders to questions about cases of democratic or participative activities in their schools, who participated, who initiated the activities, and what the results were. From 400 surveys sent, only 10 responses were received. The response rate and content suggest that participation is not highly valued by school directors in Estonia. The positive examples, however, revealed some common characteristics of successful participative activities.

Christopher Bezzina, Jeļena Davidova, and Irēna Kokina

##### **Sustainable leadership for school improvement**

Various studies show that for leadership sustainability to be achieved the education authorities and school leaders in particular need to cultivate particular principles. This paper aims to highlight eight principles that can help institutions reflect on the importance behind sustainable leadership and what it takes to cultivate them. The focal point that this paper tries to put forward is that for any change to take place then each individual needs to be prepared to challenge oneself and those around him/her. It is argued that in so far as we create and identify with a purpose, it will define what is meaningful in our beliefs and values, in our attitudes, assumptions and behaviors. It is argued that once we are prepared to make such a commitment towards self and others than we can bring about improvements at the personal, professional, institutional and community level. The need for collaborative research to explore how these principles can emerge and merge is called for.

#### ***V. Cross-cultural and gender issues: Sustaining our differences***

Mare Leino, Marika Veisson, Viive-Riina Ruus, Ene-Silvia Sarv, Loone Ots, and Anneli Veisson

##### **Post-Socialist school – sustainable for boys or girls?**

The aim of this article is to find out what kind of gender norms we develop in post-Soviet schools nowadays, and whether they are sustainable for both boys and girls. It has been argued that especially boys feel miserable in secondary schools (Lahelma, 2002) – is this the case in Estonia as well? The method of research was a questionnaire administered in 2004, when altogether 3838 students from Estonian comprehensive schools participated in the survey. Results of the study show that after hard study-work girls are tired, they have more head and stomach aches, but girls are still optimistic about the future. Boys don't study so eagerly and feel more bored at school compared to girls. Girls do not surrender to difficulties so easily; they work a lot and feel that they belong to school. We can conclude that boys should not be pitied for unsuccessful study; instead efforts should be made to boost girls' feeling secure about the future.

Inga Belousa, Eridiāna Oļehnoviča, Dzintra Iliško, and Ilona Mičule

### **Gender equality in science curriculum: Recommendations of reorienting science education towards sustainable development**

Gender friendly involvement of learners in educational process where both female and male students have equal rights and encouragement to develop their potential, learn about and participate in the field of science is central to sustainable science education. Gender equality is one of the cross-curricular issues that should be observed not only within family environment and the state policy, including educational legislation, but also within formal education process where it should be reflected in teachers' professional mastery of developing teaching aids and study material, designing educational methodology, managing pedagogical process and evaluation. Science education should not be an exception.

The aim of the article is to discuss theoretical guidelines and practical implications of gender perspective in science education. This article is built on experience of highlighting an issue of gender equality in the European Community EQUAL project 'Reducing Causes of Professional Segregation' that was promoted by the Latvian Ministry of Welfare and financially supported by the European Union in 2005-2007. Conclusions of data analysis gained from evaluation of school textbooks of science from gender equality perspective and science teachers' opinion about gender equality issue in science education are reviewed, and recommendations for enriching science education with gender equality aspect are provided.

Inkeri Ruokonen and Maia Muldma

### **“What music means to me”: Estonian and Finnish eighth-grade pupils' opinions on music**

In this article we consider sustainable and cultural meanings of music in basic education by examining eighth-grade pupils' thoughts and experiences. Research material has been collected from the writings of both Estonian and Finnish eighth-graders. Pupils were asked to write a free essay on the topic “What music means to me?”. The essays were analysed comparatively. Their reflections on the meanings of music suggest many challenges for sustainable development to music, culture, and education. Pupils view education in music as an essential part of their lives. Indeed, there is significant interest in having a broader music education than basic education currently provides. The meanings of music are a person's social, emotional, cultural, and creative growth. Music helps pupils to recognise diversity and respect differences. In Estonia and Finland the need of experiential learning in school music education is emphasised, as well as the importance of understanding musical culture as a lively and evolving process.

## ***VI. Contemporary education, experience, and quality of life***

Tiiu Kuurme

### **Students' approaches to education in the framework of the experienced school reality**

One of the bases of the modernist progress idea – the Western educational ideology – includes both the humanist approach to the human being and the view of holistic education. However, studies of school reality have revealed the somewhat unrealistic implementation of these ideas in everyday practice. The current article tries to clarify, how and to what extent the ambivalent nature of the experienced school reality influences the views of young Estonians about education and what is their interpretation of education at school. The qualitative study included 11<sup>th</sup> grade students (N = 144) from eight Estonian high schools. The collected texts were interpreted with the text-hermeneutic method. According to the study, the Estonian students focus not so much on self-development, but on coping with the school culture and on concerns about the future. Although the

spectrum of meanings that characterised the concept of education was wide, the meanings given to what students believe they receive from school appeared to be rather narrow, colourless and mercantile, referring to a school dilemma on the level of students' inner life.

Tatjana Uzole

### **Contemporary education and human well-being: Dealing with “full catastrophe living”**

The aim of this article is to examine the connection between education and problems of human psychology and the consequences of this link nowadays using qualitative methods: 1) biographical self-reflection on and analysis of professional and life experience in form of phenomenological quasi-interview with readers; 2) projective qualitative analysis of a single drawing using the focus group approach with different groups of the educational community. The validity of methods was ensured by triangulation and internal/external validation.

It can be concluded that the current educational system as such does not provide a healthy human functioning, development, improvement and self-realization. The education as it is provided in majority of institutions moulds unhappy, depressive and lost personality without roots and future, it teaches humans to hide their problems, to run away from them and does not help in finding the escape. The author invites you to take a look at the forgotten and usually outcast Christian philosophy of life, which might provide the escape from the catastrophic dead end for the contemporary person and society altogether.

## ***VII. How to become a researcher? Educational action research for sustainable development***

Olga Grišāne

### **Organization of environment for the development of research skills in secondary school**

In this article we will focus on the contents of comprehensive school students' research work and the organisation of this process. The development of research skills has been viewed in this study as one of the objectives of sustainable education that emphasises: (1) the principles of ecology, integration, and spirituality and (2) the succession between secondary and tertiary education. In this article, students' research work has been analysed by focusing on students' choice of topics related to environmental, social, and economical contents.

The article aims to analyse the results of secondary students' research work as well as to formulate pedagogical conditions to be observed in organising research in secondary school in order to create an environment favourable for the development of research skills.

We will analyse the data obtained by (1) studying the content and approaches for 1216 students' research works; (2) assessing 623 works using unified criteria of quality evaluation in order to discover the correspondence of their contents with the principles of sustainable development; (3) assessing 35 reviews of students' research works.

As a conclusion, the secondary students' interests in research themes, approaches to the design of their research work, and the pedagogical influence of the reviewers as one of the pedagogical conditions to be observed in organising research will be evaluated.

Anita Pipere

### **Becoming a researcher: Interplay of identity and sustainability**

This study on researcher's identity oriented toward sustainability aims to clarify 1) the beliefs on the meaning of researcher, quantitative self-evaluation as a researcher, substantiation of this self-evaluation; 2) variations in four sample groups regarding the mentioned indices, and 3)

sustainability-oriented beliefs on the meaning of researcher, their variations and self-evaluations in the four sample groups.

Master students in Psychology and Pedagogy, doctoral students in Pedagogy and university academics provided five criteria of what makes a researcher, evaluated themselves as the researchers on 11-point scale, and substantiated this self-evaluation. Combination of qualitative and quantitative data collection and analysis was applied.

There were considerable quantitative and qualitative variations in the researcher's criteria, the quantitative self-evaluation as a researcher, its substantiation and sustainability-orientation of researcher's beliefs. The doctoral students appeared as having the most sustainable and sustainability-oriented beliefs on researchers' identity. The implications of the study could help improve the training for research in graduate and post-graduate programmes and set further research directions in a field of sustainable science and a university environment oriented toward sustainability.

Ilga Salīte, Ilona Mičule, Mārīte Kravale, Dzintra Iliško, and Alnis Stakle

### **Toward the sustainability in teacher education: Promise of action research**

The presented chapter contains the analysis of experience acquired by engaging the first-year university students in an action research for designing a broader vision of sustainable education. The participants of action research were next teachers mastering the study courses "Environmental Pedagogy" and "Education for Sustainable Development", students-experts already completed these courses before, and researchers from the Institute of Sustainable Education, Daugavpils University.

The chapter displays the results obtained in three action research activities, where research participants distinguished sustainability in various ways: (1) by identifying the contents of sustainability/unsustainability and evaluating environmental, economic, and social problems; (2) by explaining the contents of sustainability in students' essays; (3) by modeling the contents of sustainability through the group discussions.

The variety of experiences aimed to extend the students' opportunities of identifying their individual systems of reference in research activities, as well as to encourage their reorientation toward sustainability. Educational environment favorable for the development of research skills was created, simultaneously providing the future teachers with a possibility to articulate their own views on sustainability, sustainable development, and sustainable education. At the conclusion the authors discuss the findings in the context of the co-evolutionary relations between a person and nature, science, and society, focusing on the need for a teacher-researcher and possibilities of education for reorientation of unsustainable social views and actions toward sustainability.