ANNOTATED TABLE OF CONTENT

Education and Sustainable Development: First Steps Toward Changes, Volume 1, 2006

Editorial

I Articles

Philosophy, perception and interpretation of concepts

Tuomo Jämsä
The concept of sustainable education

The present article analyses the English concepts connected with sustainable education and their Latin and Greek predecessors and models. The objective of the article is to create as firm a semantic basis as possible. It is important from the standpoint of how to understand the conceptual foundations of sustainable education, which, in turn, will have implications for the design of its curriculum. The article is divided in four parts; it introduces the concepts of the verbs 'educate' and 'educe', the concept of education, the concepts of sustainability and sustainable education, and the underpinnings of the concepts analysed. A postscript sketches some important features of the philosophical basis for sustainable education.

The verb 'educe' is defined in English as bringing someone out from a condition of a potential existence. The definition may date back to Scholasticism and Aristotle. In the "Nicomachean Ethics", the dialectics between the potential and the actual dominates Aristotle's concept of education. In association with Plato and Aristotle, the Greek idea of 'paideia', the sources of a life-long personal development, are discussed. In the last two sections of the article, especially in the postscript, the significance of the epistemological and ontological prerequisites for sustainable education is examined. From the Aristotelian ethical and educational point of view, the individual moral awareness of each student is highlighted. It is considered to be the objective of all education. A thread of the close connection between moral and sustainable education is running through the text.

Maaris Raudsepp
Sustainable development as an ambiguous regulative idea: A qualitative study in Estonia

The aim of the present study was to investigate how professionals of diverse backgrounds conceptualise the issues of sustainable development (SD). Semi-structured interviews were performed with specialists (N=25) from various spheres of life who were invited to describe their conception of SD and to specify the relative importance of its economical, environmental, social, and cultural aspects.

In the article, we describe some subjective meanings of SD according to professionals of diverse backgrounds and try to extract a core consensus, on the basis of which compromise between different interest groups could be negotiated. Analysis revealed a variety of subjective meanings of SD, which were related either to *utilitarian* or *moral* issues (e.g. material wealth vs. symbolic meaning of nature). Among the possible spheres of application of the notion of SD, culture and the social sphere were clearly underrepresented. Respondents had some difficulty in integrating various aspects of SD.

Anita Pipere
Philosophy of education for sustainable development: Perspectives of doctoral students in education

Education for sustainable development (ESD) could be analysed through the traditional dimensions of educational philosophy. Doctoral students in Education coming from different backgrounds and appealing to different educational theories can provide a useful insight into ESD. 14 doctoral students in Education participating in the study course "Strategies of sustainable development in education. Education for sustainability" were involved in the research. The first part of the course provided the necessary information about the theoretical background of the theme. During the practical part of the course, the students assignment was creative construction of individual views about ESD using the external support materials from the teacher. The scheme of educational philosophy designed by Morris van Cleve and Young Pai (1994) was used as a context to design the philosophy and educational theory for ESD. The aim of this article is to share the results obtained from doctoral students and point to meaningful regularities and peculiarities, which can be traced through the analysis of their suggested model. The model of ESD will be analysed both qualitatively and quantitatively focusing on its strengths and weaknesses.

Marc E. Pratarelli
Education for sustainable development and the new naturalism

Education for Sustainable Development will have limited impact unless scientific and environmental literacy become the foundations for an education of biological motivations that drive the unsustainable consumptive behaviours of modern human beings. This article relies on the theory that instincts coded within the architecture of the human brain are the root causes of human caused environmental problems. Communicating the dire need of reforming human values, so voluntary simplicity and sustainability, mutual cooperation, respect, and trust between all people become absolutely essential for long term survival, requires the study of human and environmental ethics as well as the psychobiology of learning and motivation. People educated in these subjects are more likely to adopt changes in their approach to family planning and community development, if they also appreciate the *nature* of desires to acquire material wealth, strivings for social status and consuming resources – all of which are unsustainable biological behaviours shaped by our cultural experiences.

Education and Sustainable Development: Context of teaching and learning

Astrīda Skrinda
Individual learner differences: Towards understanding the importance and value of diversity

Understanding the ways, in which learners differ from one another, is a fundamental concern to those involved in foreign language acquisition, as researchers or books synthesizing and evaluating research on foreign language acquisition have tended to concentrate on the study of similarities. The article argues that greatest importance should be attributed to the awareness of the learners as individuals as well as members of a group and differentiation of instruction to satisfy the needs of the very many learners in a learner-centred foreign language classroom. It has to be a holistic process, in which the learners both as individuals and in groups can receive maximum opportunity to learn and develop.
Based on Ellis' classification of individual learner factors, this article considers such matters as group dynamics, learning strategies, age, language aptitude, intelligence, motivation,

personality, and a few others, which have been distinguished to explain differential success among foreign language learners. The article explores the roles of a teacher to accomplish a challenging task to satisfy the very many different students in a foreign language classroom, which would secure the learners' sustainable development for them to become versatile and integrated personalities.

Margarita Tereseviciene and Vaiva Zuzeviciute
Learning in higher education – practice and challenges (Lithuanian case study)

Quality of learning opportunities in the contemporary higher education is of an utmost importance, as universities play a major role in the process of expansion of lifelong learning. Learning is a complex phenomenon; it is worth studying it through the exploration of the elements that comprise learning. Some of the learning elements are more influential than others for the learners or teachers in higher education. Among these are applications of learning strategies that activate certain parts of cognitive systems. Contemporary students are of various age and life experiences, and their sustainable development is possible, if various aspects of professional and personal development as well as socio-economic aspirations are met. Application of learning (especially – meta-cognitive learning) strategies enables students to manage their learning in a most effective and rewarding way under the pressure of internal and external factors. Interactive model of learning, which enables a sustainable approach to the analysis of students' learning in higher education, is presented in this paper together with the results of the study completed in 2002-2004 concerning the approach of students to their learning. Conclusions concerning the controversy of the issues are presented.

Hannele Cantell
Sustainable education, learning processes and students' environmentally responsible behaviour

The present article focuses on three aspects of education and sustainable development: first, the idea of lifelong education; second, the different processes of learning, especially the contextual learning; and third, challenges of empowerment, participation, and environmentally responsible behaviour.
Participation and active citizenship are among the central issues of education for sustainable development and especially social sustainability. At the moment, teachers are strongly encouraged to collaborate with the society outside the school context. The main objective for the participation and environmental education is to empower people to be environmentally responsible actors in their own life. Without the effectiveness of the education for sustainable development, this goal cannot be reached.
The article concentrates specifically on the contextual learning and its perspective on participation and the education for sustainable development.

Anu Leppiman and Sirkka Puustinen-Niemelä
Joy of learning in project work: Sustaining the learner and the teacher

The present article describes Estonian and Finnish social work students' learning of joy (in camp-based family tutoring) relying on holistic human treatment in multicultural family camp project "Weekdays".
The theoretical framework of this research is based on Lauri Rauhala's (1989) holistic human and learning theories, David Kolb's (1984) experiential learning theory, and Taina Rantala's (2005) treatment of the joy of learning.

The qualitative participatory action empirical research material has been collected within years 1999-2004 on the basis of students' diaries (N=49) from Estonia and Finland, as well as the camp reports, all produced in the "Weekdays" family camps.

Preliminary results of this research showed that being actively involved with the "Weekdays" project the students of both countries were rendered able to learn through experience, which was experienced as the joy of learning.

Carol Fortino
Sustaining leadership through mentoring: Tracing the cascade of influence

There is a great diversity of positions that one can hold in environmental education, a term recently redefined by the broader concept of sustainable development. These jobs span education, government, business, the non-profit and private sectors. There has been abundant earlier research concerning the goals, philosophy, and content for teaching and learning about, in and for the environment (Fien, 1988). Today's information about sustainable development issues is updated regularly (Earth Institute, 2005). However, there is a paucity of research on the men and women who attain leadership positions in this field of work known for its controversy and instability. Environmental leaders are defined as those who are recognized by their networks of peers as they engage in sustainable environmental pursuits. They are not as visible as well-known activists, but they are often even more effective in their personal impact. This article highlights research about the nurturing and development of environmental leaders. It suggests that mentoring, defined as a personal and professional relationship developed over time, is an answer to increasing the human capacity for leadership that is essential to the field of sustainable development. Specifically, this journal article describes a mentoring "chain" following the lives of four leaders by describing their initial meetings, the development of the relationships, and the cascading effectiveness of their influence from one to the other.

Vanda Aramaviciute and Elvyda Martishauskiene
Meaning of life within the context of sustainable development

The present article is devoted to the investigation of the issues of the meaning of life, which step into the foreground in the sustainable development throughout one's lifetime and closely relate to the processes of acquisition of key competences. The issues are discussed within the framework of Existentialist – phenomenological and hermeneutic theories of philosophy. Alongside those philosophical views, psychologists' attitude towards meaning as the integration basis for human living is discussed. The relationship between meaning and values is revealed, with different value systems compared. The exceptional role of moral values is put forward and underpinned. On the basis of two diagnostic studies (carried out in 1998 and 2001), the peculiarities of senior school students' attitudes towards values are defined and some tendencies of change are outlined. A clearly marked tendency for the weakening of positive attitudes towards moral values at upper-secondary level is stated.

Aleksandra Šļahova, Ilze Volonte, Māris Čačka and Roger Haw Boon Hong
Evaluation aspects of creative process

The evaluation of students' creative works of art is an issue of major importance. Art pedagogy has always questioned the ways and criteria of the evaluation of creative works.

While presenting the evaluation of pedagogical work at Daugavpils University and in other educational establishments, we need to conclude that the evaluation of students' creative work greatly depends on the individual educator's opinion, which can sometimes be partial.

It is substantial to study students' opinions about their intentions, as rather often the teacher, having observed the piece of art, gives a remark, "This work of art is no good". Such evaluation prevents the desire of a student to participate in the creative process again. At the worst, the evaluation might cause a negative attitude towards the courses of study and provoke a disinclination to participate in them. In this respect, a table with the most significant criteria for the evaluation of academic creative works has been worked out. This article also presents a scale of evaluation of students' creative works.

Jeļena Badjanova
Development of musical culture in preschool and elementary school teacher education

Taking into account contemporary tendencies, Latvia will get more and more closely involved in the world cultural process. Culture appears to be as many-sided as human beings who produce it and who are its main products. Each personality may be regarded as a bearer of culture. Latvian people have an ancient tradition that is necessary to sustain in the future as well. In this respect, great significance is attributed to musical culture, as national traditions are closely related to folk songs. Sustainable education contributes to the development of the cultural identity concordant to spiritual human values through the environment and generational continuity. Hence, the author of the present article makes an attempt to analyse the orientation toward sustainable development in musical culture developed within the higher education preparing preschool and elementary school teachers. The author of the article theorises the notion of musical culture in the context of social and sustainable development and tries to bring together conceptions of other authors as well as to describe her own approach in relation to the problem investigated.

According to questionnaire results, a part of the students do not pay any attention to musical culture having sustainable character.

Sustainable development in preschool education

Ingrid Pramling Samuelsson
Sustainable development – what does that mean in preschool?

Sustainable development with regard to young children's learning means using the UN Convention of the Right of the Child as a base for education – it also means developing a strong identity in each child that can help him or her to make choices, think critically, and express their opinions. Of course, children should also be exposed early to questions of economics, democracy, and the environment. Last but not least, sustainable development means that teachers should focus their intentions on children's understanding of the world around them. This statement is based on a theoretical perspective on learning as a relation between children and the world around them, that is, each child's understanding of sustainable development is related to his or her experience. The article is also based on the results of children's understanding of different aspects of the world around them found in earlier studies.

Jyrki Reunamo and Marja Nurmilaakso
Language objectives in the Finnish preschool curriculum

In Finland, national pre-school curriculum for six-year-olds was released in 2000 and pre-school is currently available for all six-year-olds. Language and communication have a central role in the curriculum. The present research is focused on two questions: 1) How do

teachers see the role of language in preschool? 2) How do teachers' views relate to the sustainable development? The research method used is a survey. Teachers regard language rather as relating to child development than as a cultural phenomenon. The teachers' appreciation of language objectives reflect their enthusiasm about pre-school. The results reveal the question whether the teachers' academic emphasis is reducing language to something that must be learned. If so, the children may not adopt a participative and creative role in sustainable development.

Leida Talts, Helle Sikka, Ene Mägi, Maie Vikat and Airi Kukk
Attaching value to educational objectives in early years: A way toward sustainable development of children

The present article deals with social and ethical objectives of Estonian pre-school and primary school teachers and their assessment of the children's achievements at the end of the pre-school and at the end of the first school year. Building bridges between the different levels of education allows us to have more possibilities to support the sustainable development of children. The study is based on three questionnaires carried out in 2002-2004. Our research findings have shown that teachers assess sociability as an educational objective considerably lower than other objectives. The shortcomings in ethics and social skills may deepen at the following level of education and endanger academic coping. Attaching importance to educational objectives in early years is a principal guarantee for sustainable coping of a child.
The aims of the current article are: 1) to find out the position the educational goals related to ethical and social skills occupy in the assessments of pre-school teachers; 2) to deal with children's social skills before they go to school and at the end of their first school year; 3) to compare the understanding of teachers of the goals related to ethical and social development of children and children's actual achievements in this field.

Sustainable development in teacher education and training

Rudīte Grabovska
Sustainability as a pedagogical category and its perspective in teacher education

The issue of sustainability integrates the reference to harmonious life in a global sense with deep understanding of evolution of living beings and life supporting systems. With the overlapping of different scientific disciplines, sustainability has also been recognized in education. However, its particular perspective in teacher education is rather vague. Thus, the aim of this article is to evaluate sustainability as a pedagogical category and to identify its perspective in teacher education. This article introduces the origin of the concepts *sustainable development* (SD) and *education for sustainable development* (ESD), theoretical background and research findings of the UNITWIN/UNESCO project "Reorienting Teacher Education to Address Sustainability" while focusing on the situation of teacher education in Latvia.

Andrea Kosáros, Ildikó Katona and Gyula Lakatos
The role of higher education in environmental education for secondary schools

Nowadays, the importance of environmental education is a central issue. In the curriculum of secondary schools, environmental education and improvement of the environmentally friendly behaviour are also significant aims. However, teachers have often had difficulties to accomplish these tasks.

We have analysed the occasions when secondary school students meet environmental issues in schools. According to the outcomes, these occasions are very few and are linked only with certain subjects. For many reasons, one of the most important problems stems from today's teacher training.

The present article studies the connection between the teacher training curriculum in Hungary and the environmental education in secondary schools. Beside analysing the present situation, the article suggests ways for improvement of secondary and higher education.

Liljana Skopinskaja
Intercultural communicative competence: A new challenge for sustainable education of language teachers

Teacher in-service training is now increasingly seen as an important means of effecting ongoing change in educational systems. Making intercultural education an integral part of the teachers' continuing professional development is probably one of the greatest challenges in foreign language instruction. The aim of the present article is to propose an approach to train language teachers in intercultural communicative competence as part of their sustainable education. The in-service training programme described here tries, on the one hand, to link the accomplished research and development within the framework of activities of the Council of Europe's European Centre for Modern Languages with a specific training system at Tallinn University, Estonia, and on the other hand, to assist teachers in integrating intercultural communicative competence in language instruction by improving their intercultural skills and providing them with necessary guidance on promoting intercultural learning.

Rima Grigaitiene
On the issue of English teacher training and the principle of sustainability in approach to intercultural communication competence development

On the theoretical level, the article deals with the issue of teaching a foreign language as an international one with the ultimate goal to develop productive and receptive language skills and to enable the learner to communicate with representatives of various cultures for academic and professional purposes. The study process is realised via cultural discourse as it itself suggests the semantic meaning and motivation: learners of a foreign language develop their communicative language skills dealing with the topics provided by variety of learning material of cultural and social life contents. Still, the cultural context in international English teaching is no longer limited to one English speaking country but rather to multicultural information, both about English speaking and non-English speaking cultures. The international language studies, however, establish direct links between the target language culture (i.e. English, German) and the source or the native language culture (i.e. Lithuanian), since the student is supposed to be able to analyse the former reflecting on the latter. The latter principle is known as intercultural communication and its successful development necessitates a certain respectful, i.e. sustainable, approach to cultural varieties and diversities without discrimination of the source culture of a non-English speaking student.

The article covers the survey findings based on student opinion about their competence in learning and teaching English as an international language, awareness of multicultural discourses and suggestions on possible ways of situation improvement.

Detlev Lindau-Bank and Monika Narberhaus
"Learning a difficult profession": Students' project about the load of teachers work

At the University of Vechta, students preparing for teaching are doing research about load of teachers' daily work. Understanding the workload and claims of teaching and educating is a relevant contribution to the professionalization of future teachers during their training in spite of the concentration on specialized subjects and didactics. The most important goal of the project, therefore, is the conveyance of the key competence, which we call the ability to optimise one's claims, according to Antonovsky's salutogenic model. To reach this goal, students had to ask teachers about the load of their daily work. Some results of this qualitative research are produced in this contribution.

Sustainability in social and economic context

Irēna Katane
Sustainable development and changeability of rural school as an educational environment in Latvia

Nowadays, there are many opportunities to extract new information, exchange various experiences in the rural educational environment concerning unconventional thinking and activities, innovations, and self-development that is largely connected with the processes of globalisation and integration. However, there are many factors which really endanger the sustainability of rural general education schools**.** Results of empirical research in Latvia testify that nowadays small rural schools as self-evaluating and self-developing systems of educational environment want to keep equilibrium with changeable external environment. We can observe new tendencies and priorities of the self-development of rural schools. There are both qualitative and quantitative changes in the educational environment of rural schools. Various models of educational environment of small rural school exist in Latvia. The modern rural schools become inwardly inclusive environmental systems.

Tatjana Bulajeva and Vilija Targamadzė
The concordance of organisational goals and behaviour as an essential prerequisite for sustainable development strategy implementation

The processes of globalisation make a great impact on contemporary educational organisations. Reacting to a rapidly changing environment, they have to revise the paradigm of organisational development so as to see whether it is adequate to the designed management strategy of organisation development. A global and international strategy implementation becomes a great challenge for contemporary educational organisations.
A globally developed strategy of sustainable development provides good guidelines for the future development of the world organisations. The present article analyses the aspects of the management dealing with the implementation of these guidelines at an institutional level. Different models of organisational behaviour and organisation management are discussed
The concordance of organisational goals and behaviour is an essential prerequisite for the sustainable development strategy implementation in educational organisations.
The management by objectives is a managerial strategy, which can lead to the successful implementation of ideas of sustainable development into educational institutions and the modification of their behaviour.

Ruth Alas
Toward sustainable corporations: Factors influencing learning in Estonian organisations and the implications for management education

Although there is a certain tendency toward a sustainable way of doing business in Europe, it is not popular in the post-socialist countries, including Estonia. Even contrary: in some cases managers and owners compare corporate social responsibility with socialism. This comparison gives a negative meaning to this topic. In order to achieve sustainable development, sustainable corporations with new type of management are needed.

Soviet managers mostly exercised legitimate and coercive power. The social skills needed for achieving referent power were not taught. Under the Soviet rule, management was taught as the process of planning, organizing, and controlling resources. Based on the results of empirical study about factors influencing organizational learning, the paradigm shift is suggested for management education in Estonia: to teach future managers the skills to enable them to create a learning environment in Estonian companies. Also teachers of management should be prepared differently.

Eva-Maria Kangro
Money attitudes: An aspect of sustainable development

The aim of the present study was to investigate money attitudes focusing on the people of different educational levels and directions, financial background, and career preferences. 500 participants (62% females and 32% males) responded to the self-report questionnaire. The average age of the participants was 22. Yamauchi and Templer's 34-item Money Attitude Scale (MAS) (1982) was used to measure respondents' attitudes to money. The items of the scale were divided under five factors: Power-Prestige, Retention-Time, Distrust, Quality, and Anxiety. It appeared that the lower the respondents ranked the financial situation of their childhood, the lower they scored on Quality and life satisfaction, while higher on Distrust and Anxiety. Life satisfaction as well as Quality and Power-Prestige dimensions of MAS tended to be higher for the respondents who wished to work as managers. Female respondents were more anxious about money, males tended to score higher on Quality. The older the respondents were the more characteristic of them was careful planning of money and monitoring their financial situation.

II International research

Teacher Education for the Future Project: A Collaborative Study of Diverse Perspectives from Fiji, Korea, the United States, and Latvia

Lindsey N. Conner and William L. Greene
General scope and purpose

The basic premise of this project is that teacher preparation programs will need to respond to the educational challenges and changes in society in the 21st century, in order to create global citizens of the future. Susan Greenfield, a futurist, considers that it is not surprising that education systems worldwide appear to be in crisis (Greenfield, 2004). She cites that there is little consensus about what education should be providing due to compliances with core curricula, pressure, audits, consultations and experimental new ideas. It is likely that large-scale changes in lifestyles, that may become the norm in a couple of decades, raise fundamental questions about education as we know it. Greenfield (2004) suggests that a

challenge for the system is how education influences the mindset of 21st century learners in that if our environment is going to change radically, so will our brains.

The overall purpose of the project was to investigate perceptions about the future directions for teacher education and to compare these internationally. This multinational study has been carried out in the context of the aims of education in each country, how teacher preparation and classroom practices reflect those aims, and how teacher preparation can be responsive to future needs and problems locally, nationally, and globally. A central question guiding this project is: How should teachers educators and teacher preparation programs respond to the perceived need to transform schools and schooling to meet the needs of citizens in the 21st century. What are the challenges ahead, and what directions have been suggested in the literature?

> Katarina Tuinamuana, Greg Burnett, Jeremy Dorovolomo and Frances Koya-Vaka'uta
> **Teacher education for the future: A case study of Fiji at the University of the South Pacific**

Is teacher education equipped to face the challenges of a rapidly changing world, or will it be "business as usual" in our education faculties? Education in young nation states like Fiji faces major challenges in an era of unprecedented globalisation. The impact of current global socio-economic developments is being experienced at all levels of society, and teacher education is not immune to these influences. The study on which this paper is based therefore investigated issues surrounding teacher education for the future, providing an exploratory case study of one institution in one country: the University of the South Pacific (USP) in Fiji. It is a preliminary study contributing to a larger multi-national study of five other research sites. The main research question that is addressed here is: What are the perceptions of USP student teachers (STs) and their counterpart school-based mentors (referred to in Fiji as 'Associate Teachers' or ATs) in the following three areas: (1) The aims of education, (2) How teacher preparation and classroom practices reflect those aims, and (3) How teacher preparation can be responsive to future needs and problems locally, nationally, and globally.

> Kiok Yoon
> **Education for the future as perceived by professors, cooperating teachers, and student teachers in Korea**

> William L. Greene, Steven D. Thorpe, Younghee M. Kim and Linda A. Hilligoss
> **Teacher education for the future: The United States case in the State of Oregon**

> Alnis Stakle
> **Attitude towards teaching and learning in the context of students' educational philosophy**

> Mārīte Kravale
> **Understanding of the aim of education in Latvia**

> Ilga Salīte
> **Aim of education in the context of present and future educational issues: Perspective of teachers**

Conclusions