9th International JTEFS/BBCC Conference

SUSTAINABLE DEVELOPMENT. CULTURE. EDUCATION

BBCC Mission – Reorientation of Teacher Education
and Research in Education for
Sustainable Development

Abstract book

Editors: Rima Bakutytė
Dzintra Iliško

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I. PHENOMENOLOGY OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Values in a modern society: The example of Polish and Latvian schools

Eugeniusz Switala,
Daugavpils University, Latvia

The article presents the third step of a study that was conducted with an intention to appraise the value orientations and most typical values in European countries, particularly in Poland and Latvia. The study was initiated with an interest and inquiry to compare values and value orientations in Poland and Latvia and determine what values supported sustainability and sustainable education in both countries. The aim of this paper is to conduct a participatory action research in two Polish and two Latvian schools for comparison of some value orientations. Values are presented in the context of a theoretical background used in educational research in Europe and other regions of the world. Frames of reference constructed during the study and data from European Social Survey were the grounds for creating a questionnaire for action research and finding out the tendencies that derive from the experience of school teachers. The survey was preceded with a special training session for the teaching staff, the subject of which was evaluation and its significance for increasing the quality of school performance.

Key words: Values, system of values, school, quality of school work, sustainability.

School in students' descriptions and questions: opportunities or limits?

Tiiu Kuurme, Anu Carlsson,
Tallinn University

The humanity of education arises in holistic education and sustainability discourses. On the other hand, the dehumanised character of school is viewed by Critical Paradigm. The Foucault theory of school is the most known. In this study school is viewed from these two viewpoints. How ambiguity is presented and is it presented at all? Do students see opportunities rather than restrictions and what is their nature? What is the nature of experienced liability? Is school seen as leaving place or as the platform of opportunities? 185 Estonian and 161 Finnish students answered 2 questions: 1) Describe school to the imaginary person, who has never been at school, but he must be a student now. Give the instructions to him. 2) What kind of questions do you ask about school? According to Gadamer, asking questions can be viewed as going into openness. This can be reflected in the nature of questions that are asked. The data was analysed with qualitative content and phenomenological analyses. Students focused on efforts, limitations, objections, desires and coping. Efforts are sensed to be necessary, but the students do not search for deeper causality of restrictions.

Key words: school experiences, opportunities and limits.

Social-emotional aspect of teachers' professional competence: Teachers' retrospective-experience-based view

Skaidrite Uzulina
Daugavpils University, Latvia

The paper reports the findings of a phenomenological study that summarises teachers' retrospective-experience-based views on the social-emotional aspect of teacher's professional competence. Data were gathered by means of semi-structured interviews in the form of deep professional life stories, 3-4 hours in duration. The sample of respondents (N=14) was created by using snowball technique, considering the gender aspect, diversity of Latvian geographic regions, work experience and nationality. The following themes regarding the social-emotional aspect of teacher's professional competence emerged from data interpretation: (1) empathy-based interaction with learners, (2) social inequality, oppression and tolerance, (3) self-actualisation at the expense of learners. The paper concludes with discussing the proposed themes in the context of contemporary scientific research and literature.

Key words: empathy, tolerance, social-emotional aspect, affective experience, childhood experience, retrospective.

II. Research for Education for Sustainable Development

Education for sustainable development as a new direction for the development of education programmes for children centres

Natalia Shesterneva, Tatiana Shesterneva
St. Petersburg State University of Architecture
and Civil Engineering, Russia

The presented materials are dealing with an educational experiment carried out in cooperation with St. Petersburg State University of Architecture and Civil Engineering and Architectural Modelling Studio – an institution of additional education. The objective of the work is to identify main areas of children's education, which effectively contribute to their socialization and formation of their civic attitude. In the course of the project unconventional methods were used — children had classes based on a university course "Urban Planning and Sustainable Development". Among the preliminary results of the work are adapted lecture courses for children and a diagnostic method for testing socialization and children's activity level. These results lead to a conclusion that a multifaceted approach of architectural education and the necessity to consider objects as three-dimensional images taken in connection with the environment allow forming children's research skills. Adaptation of traditional university courses has a significant impact on the level of research among children, irrespective of their future professional specialization.

Key words: additional education for children, architectural education.

Holistic and sustainable behavioural change through means of teaching and learning: Evidence from an Austrian case study

Lukas Scherak,
University of Exeter, Austria

This study reports on the use of cognitive maps and the personal ecological footprint. The aim of this study was to identify if communicating the concept of sustainability within teaching, expressed by the different stakeholders' cognitive maps, leads to behavioural change, indicated by the individual's ecological footprint. The hypothesis presupposes that knowing and understanding the principles of sustainability, demonstrated through cognitive mapping, would result in a greater likelihood of living more sustainably, indicated by a smaller ecological footprint. This research analysed both cognitive maps and ecological footprints through a survey, which was conducted at two Austrian universities and one Austrian school in order to evaluate these two analyses. One part of the survey assessed the perception of sustainability by classifying the words semantically. The other part examined the personal ecological footprint through an ecological footprint questionnaire. Each was conducted separately and then relationships between these two approaches were identified. It was concluded from the results that a wider perception of sustainability can lead to a smaller personal ecological footprint and that there is a direct link between cognition and behavioural change. This article presents new and original understanding on the direct relationship of cognitive maps and ecological footprints.

Keywords: education for sustainable development, cognitive mapping, ecological footprint, environmental education, Austria.

International perspectives on research in education for sustainable development: Constructing a shared understanding

Anita Pipere,
Daugavpils University, Latvia

The paper presents a comparative analysis of four international perspectives on research in education for sustainable development (ESD): (1) perception of research in ESD by European researchers; (2) research agenda in higher education articulated during the Halifax Consultation; (3) research agenda for the UNDESD presented in Paris; (4) ESD research trends in the United States. The criteria of analysis are based on research aims, methodology and sample, the context of ESD and the developed categories of ESD research. The significant overlap of themes and aspects apparent across the different contexts indicates a unified core of ESD research, although there is evidence of contextual factors influencing the research agenda. The study raises several pertinent issues with regard to the ESD research agenda and present possible ways of how these can be addressed. To develop a shared understanding of ESD research a common language has to be developed to facilitate a constructive dialogue and research capacity building.

Key words: ESD research, international agenda, researchers, methodology, categories.

Increasing individual creativity

Natalja van Gejeka,
Riga Construction College, Latvia

The purpose of this article is to show some evidence for the benefits of the suggested method of students' integrative collaboration on the basis of the special technical discipline *Building Constructions* at Riga Construction College school. Quantitative data analysis methods were applied for analysing the changes in the learning environment and the students' creative abilities after the last pedagogical experiment – vector modelling by Jasvin and tests by Torrens. A significant increase in the students' creativity in the experimental class was inferred from the data.

Key words: learning environment, professional school, individual creativity, students' integrative collaboration.

Individual creativity's increasing by students' integrative collaboration in professional secondary school

Natalja van Gejeka, Svetlana Ignatjeva
Riga Construction College, Latvia

The purpose of this article is to show some evidence for benefits of the suggested method of students' integrative collaboration on the basis of the special technical discipline Building Constructions at Riga Construction College's school. Quantitative data analysis methods were applied for analyzing the change in learning environment and students' creative abilities after the last pedagogical experiment – vector modelling by V. Jasvin and tests of creative abilities by E. Torrens. A significant increase in the students' creativity in the experimental class was inferred from the data.

Key words: learning environment, professional school, creative abilities, students' integrative collaboration.

Implementation of education for sustainable development: How it works in South Korea

Andris Ozols, Elena Ozola,
Daugavpils University, Latvia

The aim of the research is to study Korean approach to education management which is a very important part of the global education environment. Over the last 15 years, wide-scaled reforms of higher and school education were conducted in South Korea. During working out and implementation of new education methods and approaches, Korean government and society tried to combine the values of Confucianism, Buddhism, Protestantism and traditional society with innovations in the domain of education and the ideas of education for sustainable development (ESD). Although the public attitude towards the new approach is ambivalent, the effect of synergy is rather impressive. Studying, adoption and introduction of the best global practice may help Latvian and Eastern European countries to avoid mistakes and losses inherent to pioneers.

Key words: education management in South Korea, traditional values, innovations in education, education for sustainable development, effect of synergy.

Adult educational empowerment for sustainable development education

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Sustainable development education (SDE), which covers global economical, ecological, multicultural, political and health aspects, faces the challenge of integrating sustainability ideology into everyday practice of every individual. Theoretical presumptions have formed, which reveal the role of science, education and learning in formation of the meaning of sustainable development and creation of its demand on all society levels. SDE is a powerful instrument in pursuing sustainability goals, and is balancing between formal and non-formal education. The ideas of sustainable development must not only be discussed, but also implemented in practice. Consequently, the critically important role is falling to the adults, who are consciously and busily acting in society. Non-formal education occupies a particularly important place in adult education. Therefore the question is: How to empower adults to pursue sustainable development goals? Scientific problem of adult SDE educational empowerment is being solved in the article. In the first part of this article the essence of sustainability, sustainable development, and sustainable development education is being discussed. In the second part, the particularity of adult SDE is being analyzed. Possibilities of adult SDE educational empowerment for sustainable development are being discussed in the third part.

Key words: sustainable development, sustainable development education, adult education, educational empowerment.

Action in international project eTwinning: one of the innovative learning methods, its usage in Latvia and Europe

Antra Balode,
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The paper reveals requirements of education in XXI Century, the project eTwinning and teachers' activities in it. The challenge and main task of education in XXI Century is to create an approach for obtaining knowledge, which makes students to take active participation, not only listening, to be creative and interested in everything, have a harmony with young people's after school life. One of the suggestions for schools' innovation system is developing of international students' cooperative projects. This paper discloses the opportunities of the international project eTwinning and describes how they are used by Latvian and other European teachers. International project eTwinning is European Commission's Lifelong Learning program's subprogram, which was created in 2004 with a goal to organize cooperation between European educational institutions for common project realization within learning process using IKT.

Key words: international projects; eTwinning.

School network optimization consequences for social mobility of rural children: Problems and challenges in the context of sustainable development

Rasa Pocevičienė, Daiva Malinauskienė,
Siauliai University, Lithuania

Analysis of school network optimization documents, secondary analysis of empirical data in the context of sustainable development create assumptions to state that the main aims of sustainable development, especially in social area, were not realized in respect of rural children, especially in the area of their social mobility. Optimization of school network was more orientated to financial economical effect, but not to the social welfare of the main target of the reform. No study of possibilities was made before the optimization had begun, no basket of social services was formed, no preparatory work was done, such as road network transformation, development of teachers and other staff (for example, drivers of school buses) competencies, which is very important for successful work with rural children transferred to larger schools. There was not enough attention paid to non-formal education of rural children, in spite of its being very appropriate for encouraging rural children's social mobility. The differences in learning culture of rural children were not taken into account, and so on. In other words, the harmony between social and education policy was not ensured, and the main target of the reform – children – became "victims".

Key words: rural children, social mobility, harmony of social and education policy, sustainable development.

Integration of teachers' emotions in teaching of mathematics: Relationships between job satisfaction and metaphoric professional identity

Jolanta Kokina,
Daugavpils University, Latvia

The research recognizes the importance of metaphor as a research tool to explore how teachers' emotions can be related to the teachers' perception of their job satisfaction and professional identity. Considering that metaphorical discourse, in the wider meaning of the term, does not concern only our rational mind but also cognitive reality, it could allow for a deeper and more global involvement of the individual, which is necessary for a meaningful knowledge construction. The present research focuses on the teacher-generated metaphors about themselves and employs a quantitative analysis to examine the dimensions around which these metaphors align. A questionnaire containing open-ended sentences, where metaphoric expression was expected, was distributed to 393 teachers of mathematics. The answers provided were employed as a research technique to identify the dimensions along which the teachers' perceptions aligned. The main aim of the research is to find out the relationships between how teachers describe their professional identity through metaphoric expressions and what the relationship between metaphoric professional identity and job satisfaction is.

Key words: teachers of mathematics, emotions, metaphor, professional identity, job satisfaction.

The relationship between adults' sense of work satisfaction and willingness for self-development

Lidija Ušeckienė, Rima Bakutytė
Siauliai University, Lithuania

The aim of the paper is to reveal the adults' sense of work satisfaction and their willingness for self-development as well to find out the relations between those phenomena. The research has involved 341 respondents of different age, level of education, having different work experience. Using the analysis of documents, pedagogical and psychological literature; correlation and graphic analysis it has been attempted to define the main factors which influence adults' sense of satisfaction or dissatisfaction with their work and their willingness for self-development in relation with their gender, age, work experience, level of education. The research data has disclosed, that work satisfaction or dissatisfaction factors correlates with the gender, age, job experience. The correlation was indicated between adults' sense of work satisfaction and their willingness for self development.

Key words: adults' sense of work satisfaction, willingness for self-development, in-service training.

Exploring pre-service teachers' frames of reference and their orientation towards inclusion or exclusion: Educational action research journey

Ginta Gedžūne, Inga Gedžūne, Ilga Salīte, Dzintra Iliško
Daugavpils University, Latvia

This study was undertaken with an aim to engage pre-service teachers in an educational action research journey leading towards exploration of their frames of reference – personal paradigms for perceiving and making sense of the world, which can be oriented towards inclusion in or exclusion from the social and natural world. We specifically addressed pre-service teachers' views on their interaction with nature. Through journeying with each other in cooperative inquiry into participants' experiences, we encouraged generation of personally meaningful knowledge based on multiple ways of knowing. It was argued that holism as the underlying principle of learning fosters full engagement in cooperative inquiry and exploration of one's frames of reference with their orientation towards inclusion or exclusion. Becoming aware of one's assumptions through educational action research is the first step towards transformation of pre-service teachers' frames of reference to be applied in their future pedagogical activity to help pupils become responsible members of a sustainable world, concerned about the flourishing of individuals, communities and the entire planet.

Key words: educational action research, pre-service teachers, frames of reference, interaction with nature, cooperative inquiry.

School leadership development in Lithuania: Creating a sustainable model

Julija Melnikova,
Siauliai University, Lithuania
Regina Kontautiene,
Klaipeda University, Lithuania

The case for specific school leadership development is linked to the evidence that the quality of leadership is vital for school improvement. The starting point of the research is that there is a range of competences associated with effective school leadership that are developable. Consequently, a primary consideration for systems of education is to identify the means by which a continuing professional development of school leaders can be supported. Thus, quality leadership cannot be assumed or acquired without a coherent, integrated, consequential and systematic approach to leadership development. Hence, the aim of the article is to design a model of a coherent and sustainable school leadership development system in Lithuania that would ensure development of leadership competences required at different stages of leadership career.

Key words: school leadership development, career stages of school leadership, model of school leadership development.

Professional development priorities of principals' educational establishments

Olga Archipova,
Daugavpils University, Latvia

The evolving nature of school environment has placed new demands on educational leaders. Where knowledge of school management, finance, legal issue and state mandates was once the primary focus for the preparation of school leaders, education reform has created an urgent need for a strong emphasis on development of instructional leadership skills to promote good teaching and high level learning. Educational leaders must recognize and assume a shared responsibility not only for students' intellectual and educational development, but also for their personal, social, emotional and physical development. The increasing diversity of school communities places a premium on school leaders that create a vision of success for all students and use their skills in communication, collaboration and community building to ensure that the vision becomes a reality.

Key words: development programmes, module, school leadership, professional development, principals

Constructivist approach as the methodological basis for acquisition of future musician's improvisation skills

Jevgeņijs Ustinskovs,
Daugavpils University, Latvia

Improvisation is a suitable means for activating the learner's creative abilities. The objectives for the subject of improvisation in a musical secondary school are the following: to develop the learners' creative skills and their individuality, to create conditions and lay the basis for the learners' future creative activity, independent formation and development of knowledge, skills and abilities. The issue of improvisation is relevant to the context of sustainability because it allows for lifelong learning, improvement and development. The present study aims to explore the constructivist approach as the methodological basis for the acquisition of future musician's improvisation skills. Literature analysis is the major research method employed in the study. Having performed a thorough analysis of literature as well as compared the core principles of constructivism with the peculiarities of the learning process in musical improvisation, we argue that the constructivist approach is most appropriate for designing a didactical model of improvisation for a musical secondary school. The following core topics of constructivist philosophy can be identified in the process of learning improvisation: activity, order, being, socially symbolic link, lifelong development.

Key words: musical improvisation, constructivism, education, musical thinking, didactical model.

Constructivist beliefs of Latvian teachers of mathematics: Looking into the future

Alesja Shapkova,
Daugavpils University, Latvia

The aim of the research is to clarify the profile of constructivist/traditional beliefs that are characteristic of contemporary teachers of mathematics in Latvia. The sample was made of 390 teachers of mathematics from different regions of Latvia, 96 of whom work at ethnic minority schools. 13 respondents are males. 165 are teachers from bigger towns. The present research is a part of an international research within NorBa project that makes use of a quantitative questionnaire elaborated by project participants. The quantitative part of the questionnaire entails 77 statements. Beliefs of Latvian teachers of mathematics on efficient teaching are more tended to a constructivist approach, yet there exist statistically significant differences among teachers of different social and demographical groups in their constructivist beliefs about approaches in teaching. The information acquired within the research provides a possibility to develop the education of young teachers and teacher professional requalification courses as well as secures the sustainability of the process of learning.

Key words: teachers' beliefs, teaching of mathematics, constructivism.

Teacher's ecological competence in the context of sustainable development

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A sustainable development of today's society can be promoted by ensuring educational sustainability. Already at the end of the 20th century, the substantiation of the concept of ecological perspective in education was found, which provides opportunities for promoting the formation and further development of teacher's ecological competence. The main aim of the present research is to substantiate the teacher's ecological competence in the context of a sustainable development of a local community and school as an integral part of the community's educational and cultural environment.

Key words: teacher's ecological competence, sustainable development, ecological perspective in education.

Karate in spiritual and physical education of adolescents in the context of a humanistic approach

Sergejs Čapulis,
Daugavpils University, Latvia

Humanism is a system of views that is based on the idea of the potential of a human being rather than a forceful education of a person. Humanistic approach is directed to the potential of a person's nature rather than to a forced formation of a personality. A great possibility in the implementation of humanistic approach can be found in spiritual and physical education of students during the classes of martial arts. Karate plays an important role in the system of spiritual and physical upbringing of a personality, providing not only physical, but also moral education. The aim of this study is to ascertain how the implementation of a humanistic approach influences karate lessons for adolescents according to selected set of teaching methods. Eighty 14-15- year-old adolescents participated in the research. The following methods were used: the test "Achievement Motivation and Fear of Failure", a test "Feelings – Activity – Mood"; to define the development level of physical qualities, control tests of the sport standards of the Ministry of Education and Science of the Republic of Latvia were administered. The results of the research confirm that the implementation of a humanistic approach at karate lessons promotes positive dynamics of adolescents' motivation for achievement, the development of physical qualities and the improvement of mood and feelings.

Key words: humanistic approach, karate classes, adolescents, physical education, spiritual education.

Teacher driven research as a tool for professional growth leading to the sustainable education

Dzintra Iliško, Ilona Mičule, Svetlana Ignatjeva
Daugavpils University, Latvia

Research carried by the primary school teachers needs to be embedded, cultivated, sustained and nurtured as a tool for a better understanding of the educational process and for an ongoing professional growth. The authors explore teachers' motivation to conduct the research in the educational setting. It challenges the traditional way of understanding inquiry and offers an operative professional model that will be suggested as emerging out of working notions of the lived terms of inquiry as participatory in nature, open to questioning, holistic in its nature and self- reflective in its essence. Both qualitative and quantitative research methods will be used to study teachers' needs and willingness, as well as factors of resistance of carrying out research in their classroom setting. The focus of the study will be teachers' willingness to engage in the research and it will explore ways that lead to a practitioner carried research. The authors examine factors which might encourage teachers to become more involved in the research and explore the advantages that they perceive as emanating from the inquiry.

Key words: teacher driven research, professional growth, motivation, sustainable education.

Educational action research: Adaptive learning for creation of practical wisdom

Ilga Salīte,
Daugavpils University, Latvia

The presentation will offer the experience of reorienting teacher education to address sustainable development. To fulfil this aim, action research is being more and more extensively used. Advocates of action research theory allow for a diversity of generalisations which enables the use of unusual and often forgotten perspectives which can help create and nourish sustainability-oriented relationships in education. The presentation will be focused on learning and knowledge creation as an adaptive process. It will evaluate the opportunities offered by adaptive learning with characteristic respect towards the evolutionary and the flexible in evaluation and use of experience. Theoretical and practical considerations will be illustrated with experience from action research in teacher education.

Key words: educational action research, teacher education, adaptive learning, wisdom, sustainability.

Self-assessment of pupils' learning achievement in basic education

Natalija Gerina, Larisa Silova, Jelena Badjanova-Lomzina
Daugavpils University, Latvia

The diagnosis system of pupils' learning achievement in Latvia fails to provide complete feedback on related challenges or ensure timely supervision of pupils' learning achievement and effective preventive measures. In Latvian education system, assessment functions as a control system that determines the correspondence of pupils' knowledge, skills and attitudes to the requirements of the state standard. We argue that assessment should be based on and stimulated by pupils' reflective activity, thereby enabling pupils and teachers to examine the school holistically by means of internal, external and self-assessment. The paper explores the views of in-service and pre-service basic school teachers on self-assessment of pupils' learning achievement in the context of sustainable education. The paper aims to promote pedagogical discussion about self-assessment of basic school pupils' learning achievement.

Key words: pupils' learning achievement, self-assessment, basic education, sustainable development**.**

Holistic approach model for teaching mathematics in grades 7-9

Līga Mateusa,
Daugavpils University, Latvia

The holistic approach in mathematics teaching is formed, taking into account four factors affecting the learning process: scientific environment, aesthetic environment, psychological environment, and surrounding environment.

A holistic approach model is established, which makes teachers' work easier, and pupils' study process easier and more interesting.

The efficiency of the model was tested in classes of mathematics. The research lead to conclusions that properly organized study environment can get the pupil involved, so that the learning process becomes direct instead of being indirect; learning is not forced but is a natural outcome of activities. The efficiency of the learning process was confirmed by observations, surveys and test results.

Keywords: holistic approach model, environment, efficient study process, sustainable knowledge

Competences of teacher-researcher in work with primary school learners in the process of learning

Elga Drelinga, Elfrīda Krastiņa
Daugavpils University, Latvia

The teacher of the future is a teacher-researcher who is aware of the trends of sustainable development in education and possesses skills of relating his/her professional actions to the management of a qualitative, modern learning process, focused on a child with his or her needs and age and development peculiarities. The aim of the present research is to identify, on the basis of literature analysis, pedagogical observation and teacher interviews, the competences necessary for a teacher-researcher in work with primary school learners. Qualitative analysis was used to analyse the obtained data. It was established that the most essential competencies for a teacher-researcher are creativity, ability to assume responsibility and be responsive to the needs and interests of the learners.

Key words: teacher-researcher, competences, process of learning, research activity.

The Role of Art in Cultural Education: Policy Statements and Challenges for Practice

Edita Musneckienė
Šiauliai University, Lithuania

Objectives: The aim of the research is to analyse the role of art and visual culture in education toward cultural sustainability and development. In recent years cultural education has gradually become a policy issue in the European countries. The aim of the article is to discuss the issues of cultural education, the role of art, presenting art as a method in education, the ways of learning through art-based practices. What are the main important issues in cultural education? How culturally oriented art education and creative art practices can contribute to education for sustainable development?

Methods and outcomes: The review of the literature on this topic presents the most topical discourses of cultural education and reveals the contribution of art education to cultural identity formation of youth. The interviews with teachers about their conceptions of cultural education, sustainability, youth culture discuss the issues of cultural education and its challenges for practice.

A summarization of research shows a growing interest in social aspects, environment, multicultural education, media cultures in education. The role of arts becomes evident and acceptable in different kinds of culturally oriented educational projects. Culturally based art education could play crucial role in cultural competence and identity formation of youth.

The discussion will focus on the need of developing teachers' competences and implications for future research into art and cultural education.

Key words: Cultural education, cultural sustainability, visual culture, art education.

IV. EDUCATION FOR SUSTAINABLE DEVELOPMENT IN HIGHER EDUCATION

Some developments on education for sustainable development in higher education institutions

Walter Leal Filho,
Hamburg University of Applied Sciences, Germany

The implementation of sustainable development in higher education is a global trend. Yet the intensity and the depth with which higher education institutions are taking on the challenge of sustainability significantly differ. This paper presents a global analysis about how higher education institutions are including sustainability issues in the different areas (e.g. teaching, research, outreach and institutional management) and describes the progress made in this field during the last 10 years. A special emphasis is given to the problems and barriers which prevent developments in respect of the integration of sustainability issues in higher education. Finally, some concrete steps which may be undertaken in order to allow universities to integrate sustainable development in their activities and also in regional development are outlined.

Key words: sustainable development, higher education, global analysis.

The idea of sustainable development in the Master study programmes of the Latvian higher educational establishments

Valērijs Makarevičs,
Daugavpils University, Latvia

In this presentation we will provide the results of an analysis of the Master study programmes of Latvian higher educational establishments. The aim of the analysis is to reveal the aspects of the idea of sustainable development which are reflected in these programmes. In the analytical research of the study programmes two criteria have been used, namely, the structural and content criteria. The structural criterion determined the level of the programme. The level was considered as the highest one if the idea of sustainability was the basis of the conception of the programme. The content criterion took into account the aspect of the idea of sustainable development which was reflected in the study programme: social, environmental, economic aspects or their combinations. It has been stated that in the Master study programmes the idea of sustainability is most often used as an element of the study course. The issue of environment dominates.

Key words: sustainability, Master study programmes, level of the course, contents of the course.

Formation of student's personal design culture as an element of the education system for sustainable development

Tatyana Stenina,
Ulyanovsk State Technical University, Russia

The present article considers the problems of the formation of students' personal design culture in connection with the increased intensity of the occurrence of social innovations. The importance of the given process as one of the elements of an education system for sustainable development is proved. The author offers the concept of the organisation of a socially-determined design activity of students.

Key words: social designing, design culture of the person.

Mapping crossroads between the Bologna Process and education for sustainable development

Laima Galkutė,
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Analysis Centre, Lithuania

The Bologna Process has affected higher education (HE) in Europe stimulating significant changes concerning quality standards in academic achievements of graduates, teaching and learning methods, research and innovation as well as commitment to promote the cultural and social development of societies. However, the UN Decade (2005-2014) of Education for Sustainable Development (ESD), particularly the UNECE Strategy for ESD which seeks to integrate the principles, values and practices of sustainable development into all aspects of education and learning, is not widely recognized as a tool in facilitating HE reforms. The presentation will discuss the interplay between the Bologna-2020 action lines and ESD. Important questiosn will be raised, such as what are the connections of transversal competences and ESD competences defined by the UNECE indicators? How ESD features, such as a holistic approach, dealing with complexities, creativity and innovation, empowering and achieving transformation could enhance HE quality? What are the essential competences of a future-oriented teacher? These are the main questions to be outlined when looking for synergies between ESD and the Bologna Process.

Key words: higher education, education for sustainable development, synergy.

Re-thinking university education and job market: The case of Kenya

Jonah Nyaga Kindiki,
Moi University, Kenya

Re-thinking the concept of marketing university education is one of the options which foster equal opportunities for all in the society if higher education has to promote education for sustainable development. The concept of marketing university education is widely acknowledged in the developed world but the practice in developing countries like Kenya has not yet attained strategic levels. Although there is some success with the implementation of education for sustainable development by marketing university programmes which help graduates to be self employed rather than focus on white collar jobs, there are some issues concerning the mismatch between university education and job market due to irrelevant curriculum, high levels of university graduate unemployment, lack of uniformity in the sector and uncontrolled expansion. The findings reveal that there is a possible relationship between the way marketing is perceived and understood by customers in relation to targeted job market. Where the focus of university mission is on issues of the relevance of curriculum and customers' needs, marketing perceptions and understanding are more customers focused. This paper recommends that higher education could contribute to sustainable development if universities offered curriculum relevant to the job market. This strategy could help in minimizing graduate unemployment, maintaining uniformity in academic standards and controlling university expansion.

Key words: Key words: marketing, university, education, unemployment, development.

The emerging role of electronic learning materials in contemporary education

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The increasing use of electronic learning materials not only in distance education and e-learning, but also in traditional face-to-face lectures shows how important electronic learning materials are in the modern education system. The aim of this paper is to investigate students' attitude to electronic learning materials, their preferences to different electronic learning materials and their willingness to participate in the creation of new electronic learning materials. The author of this paper presents the results of a research – students' survey about their preferences to different learning materials. According to findings, the students who attend face-to-face lectures use not only electronic resources which are available at university web page, but also various resources from the internet. Electronic learning materials could be an effective tool for creation of a student-centred learning environment. Students are ready to share their ideas and opinions with their lecturing staff and, at the same time, are quite passive when it comes to participation in the creation of electronic learning materials.

Key words: electronic learning materials, student-cantered learning, learning environment, wikis, interactivity.

Teaching renewable energies: The case of the wind

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The utilization of the wind for energy production is especially important in regions which have appropriate meteorological conditions. Possibilities for energy application of wind mills will be reviewed and critically evaluated, and special requirements related to the wind energy will be discussed. Proper selection of the areas for best location of windmills and the special conditions for the right choice will be overviewed. An estimate will be given of the amount of energy which could be produced from wind under the conditions of a continental country. Some hilly areas of Hungary are appropriate for establishing wind-farms, like karstic territories. Karstic systems are extremely sensitive areas. Therefore, it is highly significant to study the processes taking place in epikarstic systems and to analyze the changes due to human impacts. A didactical method for teaching the issue will be discussed.

Key words: wind, renewable energy, epikarst, teaching sustainability.

Education and training of pharmacists in Lithuania and Italy: a comparative analysis

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In the European Union countries pharmacy specialists are educated and trained according to different programs. Lithuanian university of Health sciences and Italian universities pharmacists' education and training programs analyze reveal differences. In Lithuania there is only one university where pharmacist are educated that leads to unified study program. Pharmacy faculties in Italy have 2 specialties: Pharmacy (Farmaceutica) specialty and chemical pharmacy (Chimica farmaceutica) specialty. Pharmacy specialty is oriented into job in pharmacies, and chemical pharmacy specialty - in laboratories. After university, in Lithuania pharmacists have 2 ways: to choose biomedical doctoral studies or go to work (in pharmacies/ pharmacy companies). Italian pharmacy specialists have more choices: 1) doctoral studies 2) work (in pharmacies/ pharmacy companies/ laboratories) 3) specialization studies – after those studies pharmacists can also work in a hospital. Specialization studies for pharmacists in Lithuania do not exist.

Key words: education of pharmacist, chemical pharmacy, pharmacy, higher education, specialization.

Competence structure of doctoral students' research in the context of sustainability of 3rd cycle study programme

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The study aims to uncover the structure of competences of doctoral students' research. The study was carried out at the end of 2010, questioning doctoral students and candidates for a scientific degree (N=64), who did self-assessment of 38 research competences by 5 point score. The 3rd cycle study programme experts (N=5) ranged 40 research competences into 5 groups by their significance degree for doing research work**.** By performing factor analysis and cluster analysis, 3 competence groups were identified: systemic, communicative and instrumental, their structure and dynamics were analysed**.** The conclusions indicate that. with the increase of research work experience, there increases the proportion of systemic competences in the total structure – for the candidates of scientific degree, and they are more developed than those of doctoral students, although they are those who more essentially feel the insufficient development of instrumental competences. For the sustainability of the 3rd cycle study programmes, it is important to have the innovative component, which can be improved in the total competence structure.

Key words: research, doctoral students, competences, competence structure, 3rd cycle study programme.

Procedural Action of the Model of Figurative Insight

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Aim: to recognize the pedagogical conditions of the creation of pedagogue's figurative insight using the model of figurative insight in the process of its development.

Methods: the project by prospective pedagogues of art – the proposal of dominant in the aspect of three levels of the model of figurative insight. The qualitative analysis of the creativeness level in the relations with the means of expression and the levels of figurative insight.

Results: the connection of the content of prospect experiences with the elements of desirable content – the artistic means of expression. The creative works by students in Art and Literature, the link of their development opportunities with the possibilities of experimental exercise creation in the following research.

Conclusions: the figurative insight of art pedagogues and students can be developed using the relations among the dominant, verbal and visual images.

Key words: model of figurative insight, dominant, artistic means of expression.

V. Organization of Learning and Research Environment in Education for Sustainable Development (pre-school, primary, and secondary level)

Use of experiential marketing technologies in teaching at higher education institutions

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In Soviet times, the approach to education turned the teachers into actors while the students were passive spectators. Contrary to that, the contemporary model of education offers the possibility of making the students active participants of the processes of education. The active part will be transferred from the teachers to the students, while the process of education will be determined by the students' imitative activity rather than the guidance of the teacher. In the contemporary education market, the administrators, teachers and students will be interdependent parties of the processes of education. In order to implement the above, it is necessary to apply the technologies of experiential marketing. The proposition of experience comes about if the educational institution appears as a stage with the educational process being a kind of setting intended to engage the students into the active processes of education. The impressions from the education are brought about by four constituents acting concurrently, which are: the education proper, entertainment, aestheticism, and escape from reality. The constituents of the experiential marketing technologies are as follows: arousal of the interest, engaging into action, active participation in the process, striving to share the experience with others. Use of the technologies renders the educational process attractive, interactive and memorable.

Key words: education, experiential marketing, impressions, marketing technologies.

The role of teaching approach in students' mathematical self-efficacy

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The study aims to prove that a constructivist teaching approach has larger potential to facilitate students' mathematical self-efficacy than a traditional teaching approach. The data collection was based on two research methods. The students' mathematical self-efficacy was explored by the relevant scale of an internet survey elaborated by the Singapore National Institute of Education and conducted with the grade 9 students in the schools in Latvia (N=2880). The teaching approach used in mathematics lessons by the teachers (N=370) of these students was detected by two relevant scales in a survey elaborated within the framework of Nordic-Baltic Project. The comparison of teachers and students' answers shows the correspondence between the teaching approach and students' self-efficacy. The findings from both surveys show that in classes where the teachers use a constructivist teaching approach the students have higher mathematical self-efficacy than in classes where a traditional approach is used. The student's mathematical self-efficacy depends on the teaching approach used by their teachers.

Key words: self-efficacy, teaching, constructivist approach, traditional approach, mathematics

Creating a theoretical model for the interaction of educational programmes in the context of sustainable development and urban planning

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St. Petersburg State University of Architecture and Civil Engineering, with the support of the Ministry of Education of the Russian Federation, is working to develop a methodological basis for creating a continuous educational system, involving universities, schools and institutions of additional education. The applied methods include creation of a theoretical model of the interaction of educational programmes and formation of a general educational strategy for developing particular university courses in all educational institutions. Some of the preliminary results are an original urban planning educational programme for schoolchildren, a methodology for adaptation of the educational programmes of schools for their further development in a common educational system, recommendations on the implementation of the ideas of sustainable development in educational courses for children. Although this educational experiment requires further approval, it is possible to conclude that there is a great scope of possibilities regarding implementation of education for sustainable development in educational programmes of children's centres and educational institutions.

Key words: continuous education, urban planning education.

Development of competence (excellence) centre for the improvement of the quality of vocational education

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Significant changes have taken place during the recent years in vocational education in Latvia, the aim of which has been to promote the development of the institutions of vocational education that are oriented towards increasing the quality of education and encouraging them to diversify the education programmes they are offering and to improve professionally the study process that would correspond to the abilities and interests of the learners. The new demands reveal the necessity to change the way the work is organized in vocational education institutions. It is envisaged to establish 14 competence (excellence) centres of vocational education in Latvia by 2015. The aim of the study is to examine the experience of other European countries in establishing the competence (excellence) centres which are aimed at satisfying the needs of the society, free market and every individual. In order to achieve the aim the authors will analyse the latest documents that provide information about the competence (excellence) centres of vocational education as well as analyse the experience of the competence (excellence) centres of other European countries. The study will result in working out recommendations for a successful establishment of competence (excellence) centres of vocational education in Latvia.

Key words: vocational education, professional education competence (excellence) centre.

Interplay of cultural and natural heritage in the protected areas as a learning environment in education for sustainable development

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Education for sustainable development is value-based and interdisciplinary, therefore engagement of learners in real-world situations and a personal relation with an issue under consideration is of particular importance. Protected area is a specific place where biodiversity is determined by the ways our ancestors perceived nature and the way they used resources in the past. On the other hand, it represents a complex and dynamic socionatural system as a learning setting. It provides a possibility to investigate situations by involving a range of disciplines and scientific evidences to identify present problems and challenges in order to discuss opportunities and create scenarios for sustainable futures. The presentation will be illustrated by an example of the field studies programme for the children of 7th and 8th grades carried out in the Zuvintas Biosphere Reserve. The programme covers both subjects of social sciences (history, geography, ethics) and science (biology, chemistry, physics). This approach is currently under development in regional and national parks with the emphasis on creativity and researcher's competence of children.

Key words: real-world situation, interdisciplinarity, value-orientation, ecosystem approach, futures thinking.

Ecological education for provision of sustainable development

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The paper substantiates the topicality of the issue under study. Provision of sustainable development requires ecological education. Successfully organized ecological education could save the mankind and change the attitude towards nature, prevent the threats to nature and to the existence of mankind. The paper describes the concept of sustainable development and emphasises that ecological education has an important role in advancing sustainable development. Since there is a little evidence to prove that present suggestions are effective enough for ensuring sustainable development, ecological education could be the means to favour the provision of sustainable development. Thus, the idea of ecological education becomes a strategically necessity in modern times. The conception of ecological education lies at the basis of the promotion of educational level and the formation of human ecological awareness. Ecological education is such a model of education process that reaches the final aim, that is, the formation of ecological awareness. It is a complex and long-term process that includes not only knowledge, but also skills and attitudes. It deepens the awareness about the changes in nature and society and the role and place of humans in these processes of alteration. A study of efficient education is performed. It aims to appraise the role of ecological education in the provision of sustainable development and, on the grounds of these findings, to identify the ways to improve or increase the flexibility of ecological education. The selection research methods was mostly determined by the possibilities of information acquisition. The used measurement instruments (the methods and means of data collection) are uncovered. The methods of statistical data processing were used for data processing and analysis. An evaluation of educational standards from the view of ecological education was performed as well as the real quality (knowledge, skills, attitude and other criteria) of ecological education was appraised in the present study. The most direct correlation among the research components was uncovered. The research proved that the phenomena of nature and society are naturally connected and influence each other causally. The conclusions are drawn on the grounds of data analysis. In the UNO conference in Rio de Janeiro on the topic of environment and development, the document Agenda – 21

was created stating that favouring sustainable development and raising the human ability to solve the problems of environment and development is the key role of education.

Key words: balanced and durable development, ecological education, ecological crisis, ecological awareness, ecological, empathy, ecophilia, the quality of ecological education, self-identification.

Informing the society about pre-school education and educational support in the context of sustainable development

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Sustainable development strategies express concern about shortage of information: information receivers are scantily informed, whilst information providers themselves are scantily informed about actual information needs. The study aims to generalise the experiences of informing the society about pre-school education and educational support in the European Union countries in the context of sustainable development. The applied research methods were content analysis, which enabled comparing international documents and research on the analysed topic, and meta-analysis, which enabled generalizing documents and research of separate countries on informing the society about pre-school education and educational support and formulating generalising conclusions. Conclusions of the research encompass the significance of the role of informed society in the context of sustainable development, experiences of informing the society in order to achieve social welfare abroad; it is disclosed how the phenomenon of informed society and involvement of the society into active participation processes and decision-making are perceived. The conducted research will enable to ensure sustainable development not only in the name of possibilities of more extensive participation of the society in pre-school education management processes and freedom in decision-making but also in the name of forming a society consisting of active and responsible citizens.

Key words: sustainable development, teacher education, informing the society, pre-school education, educational support.

Learning environment for development of reading literacy in preschool: Evaluation in the context of constructivism

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In the present study a combination of qualitative and quantitative methods is used to evaluate the learning environment created for the development of reading literacy in preschool in the context of constructivism. Data are gathered by means of survey, observation and expert interviews. Survey data are analysed quantitatively whereas the data from observation and expert interviews are analysed qualitatively. The findings indicate that preschool teachers tend to use traditional learning environment with some elements of constructive learning environment integrated therein. However, some good practice examples are identified that testify to the use of a constructive learning environment for the development of reading literacy. The present situation is discussed and suggestions are proposed for providing a constructive learning environment for the development of reading literacy in preschool.

Key words: development of reading literacy, pre-school, constructivism, constructive learning environment.

Opinions of Latvia's piano teachers about the ideal study aid for the beginners in piano playing

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Currently in Latvia an adequate study aid that would meet the major requirements of the pupils when they begin their learning is not available. Consequently a question arises: what could an ideal study aid for the beginners in piano playing be? The opinion survey of 152 piano teachers from all regions of Latvia was carried out according to a three point scale, in which 30 parameters that would characterize the teaching aid were indicated. Quantitative and qualitative methods of data processing were applied in the research. The results of the survey show that an ideal study aid for the beginners should correspond to the pupils' age group and be multinational. The results of the empiric research were used for laying down the basic principles for further development of the study aid for the beginners in piano playing.

Key words: piano playing, study aid, content, teachers, basic principle.

VI. Education for Sustainable Development and Social Work

Is education for sustainable development consistent with prevention?

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Regional centre of expertise RCE Oldenburger Münsterland and The Regional Centre of Expertise (RCE) Oldenburger Münsterland bring together experts, educators and social workers from the formal and non-formal educational sector in order to develop or change educational programmes for schools and social institutions in the sense of education for sustainable development. The United Nations University acknowledged the RCE Oldenburger Münsterland emphasizing the excellence of our prevention project. At the same time, in Germany we discuss the problematic role of social work and prevention as an agent of social control. In this workshop we will discuss if education for sustainable development is consistent with prevention.

Key words: education for sustainable development, prevention, social work, social control, awareness, attitudes.

Lessons from Nature: Innovation towards teaching and learning for a sustainable economy and society

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The objective of the study was to determine how to develop innovative teaching and learning approaches to sustainable development that builds the capacity of schools and organisations in building the green economy and society. The research is focused on analysis of the current use of learning outside the classroom and current approaches and resources for education for sustainable development. The overview will base on focus groups discussion with teachers of formal and non-formal learning institutions in six partner countries. The collected data will be analysed and situation in each country will be identified. The obtained results indicate that teachers define their understanding of lessons from nature, use of outdoor learning, and the role of education for the future. They defined barriers and needs to development of effective outdoor learning. Thus, the article presents an overview of the existing situation in outdoor education and identifies how project activities can meet school needs for development of sustainable society.

Key words: nature, learning, teaching, sustainability, society

Pedagogical guidance and assistance to pupils who face parents' continuous absence

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In Latvia, class teachers have various responsibilities, and their aim is to promote pupils' formation into free, independent, all-round developed, purposeful, responsible citizens who observe and live in accordance with the basic values of a democratic society. Because of the economical crisis in Latvia, migration of pupils' parents has increased dramatically, which in its turn has scaled up the problems with pupils whose parents are continuously absent. In Latvia class teachers are the first persons who face these new problems, but they lack a uniform system and framework which would help them guide and assist these pupils in solving the consequences of parents' continuous absence. The article aims to evaluate a model of pedagogical assistance and guidance for an educational institution in a situation when the pupils' parents are continuously absent because of labour migration. In order to determine the spheres of pedagogical assistance, a survey and several interviews were conducted, which helped to assess the pupils' needs and problems in situations when their parents are continuously absent and act only as indirect participants in their upbringing process. The research data, which were analyzed qualitatively, reveal the necessity to actualize the problems that appear as a result of parents' continuous absence and highlight the need for creating a model of pedagogical guidance.

Key words: guidance model, assistance, teamwork.

Policy of school network reorganization in Lithuania: Socio-cultural context and financial economical priorities

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It is noted in documents shaping national education policy that reorganization of the school network is based on two principles: material and human resources in a rational management. It is believed that the reorganization would guarantee each student lifelong learning opportunities to the socially just and reasonable. The aim is to qualitative education services to promote the emergence of civil society. However, all the strategic assumptions of school network reorganization are only declared in the documents but the other priorities are dominated in public political discourse, in particular - the financial, economic. The content analysis of strategic documents has revealed that the reorganization of school network was focused on the rational exploitation of school facilities, formation of necessary financial resources for schools, and the required number of students' basket and so on. Therefore, the reorganization was not based on an analysis of threats and consequences of social mobility for rural children.

Key words: education policy, reorganization of the school network, cultural context, economical priorities.

Work opportunities for mentally handicapped youth

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The paper provides a theoretical insight for young people with mental disabilities and their integration into the labour market. Laws and rules pertaining to Latvian Labour law Section 7 are analysed. The Principle of Equal Rights provides that „Everyone has an equal right to work, to fair, safe and healthy working conditions, as well as to fair work remuneration." The research aims to analyse inclusion options in labour market for mentally handicapped youth. The following methods of research were used – the research of normative documentation and situation analysis in labour market (statistical data analysis NVA). There is no separate section in legislation of the Republic of Latvia about the rights of mentally handicapped youth establishing legal employment relationships. Mentally handicapped youth want to be full-fledged members of society, to make themselves useful with work that they can do. All they need is understanding and help form government and society.

Keywords: young people with special needs, integration, labour market, young people with mental disabilities.

The image of blind people in fine art

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This article depicts the image of the disabled individuals in the fine arts. The works of artists reflect the society's attitude towards disabled people. Social rehabilitation and the success of integrated education are subject to the society's attitudes towards the disabled. The object of the research: image of blind people in the fine arts. The author's personal collection was used for the research purposes. The collection consists of more than 1000 works.

The collection is divided into a thematic division and a distribution of works of art according to the manner of completion. 1. Thematic division and interpretations of the image of the blind in fine art: Image of a blind musician; Blind beggars; Personalities; The blind in myths and stories; The blind as a symbol; The blind as war victims; Blind females; Craft of the blind; Miscellaneous topics. 2. Distribution of works of art according to the manner of completion: The idealized blind; Stylized works; Adequately imaged blind in the realistic genre.

Methods applied in the research: historical, sociological, cultural-historical analysis of literature and works of art. The author concludes that most often society's negative attitude towards the blind is created due to the fact that people are misled about the potential abilities of the blind. In order to minimize this negative attitude, it is necessary to involve the media means so they could educate the society about the potential abilities of the blind and create more favourable conditions for their social integration.

Keywords: Blind people, art, attitude.

VII. EDUCATION FOR SUSTAINABLE DEVELOPMENT AND E-LEARNING

The impact of a holistic implementation of Moodle at secondary school Gimnazija Bezigrad (GIMB) in didactic and pedagogical attitudes

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The goals of ICT implementation in Slovenia, directed by the Ministry of Education, consider equipping schools with infrastructure and e-educating teachers. Secondary school GIMB approached the challenge holistically, using the snowball method based on peer teaching. The project was regularly followed by SWAT analyses, steady motivation and workshops for different stages of teachers' interests. Our goal is to actively involve senior management, lessen the digital differences among teachers and educate every member of the teaching staff. GIMB is in the phase where coordinated ICT is emphasised with active implementation of didactic novelties and pedagogical changes. The article describes the process of regular evaluation and final assessment of the project by means of an electronic survey answered by 70% of the teaching staff. The result presents active and passive involvement of the teachers in correlation with subject specific area, the years of teaching experience and the age of the teachers. A considerable percentage of teachers become motivated learners and advanced users, building e-teaching material and teaching students to use ICT formally.

Key words: holistic ICT implementation, snowball method, Moodle, teacher education, e-learning.

Art school website as an open ecosystem: Sustainably involving all stakeholders in online learning on a public level

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The present study explores how a school website, besides standard one-way information provision, can become an inclusive node for multi-media-based academic discourse, production and creation. Using direct user-based as well as observation-based secondary data, a case shall be analysed of a an arts school working online with a radically inclusive, networking-oriented website concept, offering open access to blogging and social bookmarking tools, forums and portfolios. The results confirm that an overall inclusive model of multi-level communication within a school website, conceived and managed as a dynamic ecosystem, is technically feasible and strategically relevant. Being one of the first such environments tested in real-life, the presented case reveals important points for future improvement, opening up further questions on student and teacher e-motivation, as well as discussing public access to academic processes and results.

Key words: social web, networking, social media, sustainability, ecosystem.

E-learning as a method of environmental education in Polish schools

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Marta Tarabuła-Fiertak**
Jagiellonian University, Poland

Currently, the system of education in Polish schools is regulated by a new Basis of General Education Programme, in force since 2009. This document assumes that the students of primary and secondary schools, during the training, should acquire an ability to use modern information and communication technologies efficiently and the ability to search, filter and analyze critical information. An excellent method for improving these skills is e-learning – a method of distance learning. E-learning is different from existing traditional forms of teaching, mainly due to the large spatial and temporal flexibility in the implementation of the processed material, which in turn allows the assimilation of new messages in a relatively attractive way, individually tailored to the recipient, as well as studying from any places where Internet access is available. Distance learning is not just another teaching tool but also a method acceptable among students and binding to this is the high efficiency of the educational process. In Poland, e-learning as a tool for education, especially concerning the content of environment, is still not very widespread. Basis of General Education Programme also includes the content of the environmental issues related to sustainable development. Among them, at the stage of early childhood education, appears the content directed at issues concerning municipal waste. Analysis of the Basic Programme demonstrates the need for using non-traditional teaching methods also during the implementation of environmental content (including municipal solid waste). Until now, e-learning method has developed few curricula. One of them was an e-learning portal "Osobiscie Segreguje" – launched by the League of Conservation – pointing to the problem of municipal waste (http://www.osobiscie-segreguje.org.pl/polski.htm). The programme has a hybrid nature combining a traditional form of teaching in which respondents met directly with students together with online education carried out through computers. The programme consisted of two courses: one developed in the form of competition for all portal users and the other aimed at teachers from three regions (Lesser Poland, Silesia and Podkarpackie), who, based on teaching materials taken from the website, conducted eight teaching units (thematic packages) on the latest news

of municipal waste. The course was joined by 43 teachers who were obliged to fill out a questionnaire which contains a set of questions about the methodology used during the courses and the motivation to participate in an online form of education. Following the completion of the website lessons, the teachers were asked to evaluate the course, in particular the covered material, the method of e-learning and their willingness to participate again in a similar course. On the other hand, the students wrote the so-called pre-test aimed to test their initial knowledge of waste. Responses from the pre-test were compared with responses in the tests after each individual lesson. According to the teachers who participated in the described course, there are good conditions at school for a regular use of e-learning methods to work with students, and students have sufficient access to computers and the Internet to use the materials from e-learning independently. Evaluation of this course is very promising. Teachers who responded to the questions in the evaluation questionnaire rated highly the merits of the course, recognized the use of e-learning as a more efficient teaching method and expressed a wish to pursue other courses related to environmental education using e-learning.

Key words: e-learning, environmental education, evaluation of the course, municipal waste.

Using web 2.0 for teaching: Practice what you teach!

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Social software and web 2.0 tools have become more and more a part of our day to day life. Acquiring appropriate skills to use web 2.0 for learning is part of the key competencies for lifelong learning recommended by the European Parliament (http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11090_en.htm). Whereas learners may already be quite accomplished in the use of web 2.0 tools for their own benefit, many teachers feel increasingly that much of what they are reading and hear about is a way beyond 'ordinary' trainers and managers like themselves. They feel they should know more about e-learning and have no idea how to introduce these new technologies into their own classrooms or workplace. Good news: you don't have to be an ICT - guru to use web 2.0 tools for teaching! Many web 2.0 tools are widely available and free to use and provide a myriad of new ways to enrich your teaching practice and to motivate and empower your learners. Our aim for this workshop is to take away some of the invisible and above all unnecessary boundaries between talking about web 2.0 and using web 2.0.

Key words: Web 2.0, E-Learning, Social Software, Lifelong Learning

The information communication technology competence of a university lecturer: the premise for blended learning

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The study aims to answer the following research questions: what are coherences of blended learning and the ICT competence of a university lecturer? How is it resounded in study programmes? The article analyses the construct of blended learning; in the article the ICT competence of a lecturer is defined as well as its levels are modelled in the context of blended learning; coherences of the ICT competence of a lecturer and blended learning are disclosed in study programmes and study subjects of different fields. Methods of scientific literature analysis, theoretical modelling, document analysis were applied. The data obtained from the analysis of study programmes and study subjects were processed by the method of content analysis. As a result, it is determined that blended learning requires the first-the third level of the ICT competence of a lecturer. The analysis of the study programme revealed the relevance of the first – the second level of the ICT competence in cases of blended learning. Conclusions: the expression of lecturer's ICT competence is determined by the conception of the study programme, but at the same time it can influence the change of the study programme as well; in the case of blended learning, the ICT competence of a lecturer (its level) depends on the pedagogical system of blended learning; yet the lecturer with higher ICT competence can correct the pedagogical system. The pedagogical system of blended learning and the ICT competence of a lecturer are important in making the study process more effective and proceeding to the learning paradigm.

Key words: blended learning, ICT competence, ICT application levels, higher education, university lecturer.

Global classroom and the Internet generation values

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An important feature of the 21st century is to be open and share knowledge. The research aimed to answer three questions: how to provide and support values in open global classroom, do the values of the generations living in the first decade of this century differ, what directions dominate future? Content analysis was used as a research method. Various studies of global classroom suggest that net generation values time, appreciates visualised and quality learning materials, is social, and seeks interactivity in information technology, i.e. learners' ability to contribute to learning process or computer program. These values are perceived through learner-centred approach, and should comply with the rules of netiquette. Values of different generations have positive and negative tendencies. To ensure the satisfaction of all parties, more should be contributed to further cooperation and understanding. Comparison of the studies indicates that older generations should consider that today's youth value time and its proper use. The latter, however, would mean a new pedagogical approach in socialization and purposeful use of ICT.

Key words: global classroom, net generation, generation values, ICT.

E-inclusion process and digital skill development of society

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The European Commission progress report indicates that the targets of the e-inclusion declaration have been delayed. Nowadays the focus shifts from information and communication technology access to skills and knowledge. Moreover, lack of digital skills is an obstacle in the process of learning new digital competences using technologies and e-learning. The study seeks to identify the most significant factors related to student previous experience and values that promote effective acquiring of digital skills in e-inclusion process. The research employs student-centred learning theory where learning process is based on students' active action, experience and values. The research is based on literature review and knowledge management approach by Enterprise Development Method.

Key words: E-inclusion, digital skills, Enterprise Development Method, e-learning, ESD**.**

E-learning environment for sustainability in educational action research

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Innovation in the knowledge acquisition becomes a vital sustainability factor, where modern information technologies become a substantial part for learning support. The article analyses the results of the research obtained using new method of the creation and acquisition of knowledge - educational action research in the e-learning group. The method was implemented in Business planning course for the bachelor level students at Riga Technical University. The objective of the research is creation of the concept of the main principles for the teamwork in e-learning environment for educational action research. During research some tendencies for collaboration in the e-learning environment were discovered. The research disclosed the influence of the educational action research on the learners' interests, values and beliefs. Inconvenience of user's interface was identified as one of the most important shortcomings of the implementation of the method. The article proposes basic principles for enhancing comfort, ability and motivation of the e-learning environment, its user's interface. Adequate technological solutions are proposed as well. The principles are formulated in accordance with users' learning preferences. Some of the most important solutions providing user friendly interaction with computer and mobile devices are proposed in the article. User friendly working environment for e-learning consultant is proposed. It liberates him/her from exhausting routine job manipulations. It releases his/her intellectual resources for better collaboration with learners – analysis of discussions, corrections and motivation. Conclusions of the article for the basis for the development of the software for e-learning environment and implementation for the improvement of educational action research method.

Key words: e-learning, action research, learning environment, user's interface, collaborative learning.

3D information presentation language for 2D data integration and process visualization in e-learning

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3D hardware and software has witnessed a big leap during the last year as web browsers and consumer hardware have been continuously evolving towards 3D. Unfortunately, user friendly ways for data presentation in 3D context is still scarce, as we do not have easy to use information oriented data presentation frameworks. In this article we would like to highlight the main problems for 2D data extension into more expressive 3D space, viewing 2D data as a building blocks for extended 3D information universe, and ways of augmenting common day-to-day data with 3D models and processes, which can be used to offer new strategies for e-learning. We will analyze and view examples of how processes and information can be presented in an environment where data and models are used side-by-side for better content visualization, and how this approach allows us to highlight new data and process dimensions that are hard to emphasize in plain 2D data presentation framework.

Key words: information, content visualization, 3D, e-learning.

VIII. Earth Charter as a Framework for Education for Sustainable Development

Earth Charter and pedagogical systems theory as a framework for education for sustainable development

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The aim of this presentation will be to propose the new pedagogical systems theory and the models of it, both created and planned by Härkönen (e.g. 2008; 2009; 2010; 2011) for purposes of early childhood education and care, for pre-school education and also for school education, and to study their capability to offer the theoretical basis for reading and understanding the educational foundation and its in-constructed core value contexts. Another starting point will be the content of the Earth Charter, which offer appreciated worldwide values for education practice and for teacher education for sustainable development. In contact with the pedagogical systems theory and sustainable development the researcher has studied, in addition to other problems, also the question about democratic society, cultural contexts originated from different educational theories, diversity of theories in education, human development and gender differences and gender equity. The Earth Charter is a widely recognized and global statement on ethics and values for a sustainable future that recognizes that environmental protection and human rights, equitable human development and peace are interdependent and indivisible. Promotion of a sustainable way of life in educating society based on respect and care for the community, ecological integrity, universal human rights, respect for diversity, economic justice, democracy, and a culture of peace are the issues suggested for a dialogue. The main theoretical starting theories in this study will be the general systems theory, systems thinking, hermeneutic and objective-hermeneutic ways of thinking. The main question in this study will ask which kind of value charter will be revealed when the pedagogical systems theory and main values presented in the Earth Charter are discussed together. The methods for studying this kind

of problem will be based on a content analysis. There are several former texts about pedagogical systems theory and its origins. The Earth Charter must be also read from the written texts. That is why the definitions, concepts, meanings and interpretations will be opened and their diverse meanings found. Models are also presented in this study in order to get help to understand data and the phenomena behind them. This study in which specifically values are in the focus has already a background in one power point presentation which was offered by the researcher in EECERA conference in Norway, Stavanger, in 2008 under the *title The core value contexts of the concept of early childhood education* (ECE). The challenge of creating the critical view on the pedagogical systems theory and models of it has turned the researching mind toward the Earth Charter. A preliminary result already shows that the Earth Charter gives a way to human development as it was thought and found also in the pedagogical systems theory. It seems that these approaches are not uncanny for each other. This study will emphasize the idea that we must understand that the concept sustainable development means all kind of development on the earth.

Key words: Earth Charter; pedagogical systems theory; education for sustainable development; early childhood education; values in sustainable education.

Conceptions on the Prime Times of the Day in Earöy Childhood Education Pedagogy

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One of the interests in early childhood education is an established practice and its theoretical background. Focus of this planned study is the concept of prime times. In English literature, usually the concepts of care and routines are sometimes used to negotiate for the mentioned phenomenon. In the Finnish language the following concepts are used: hoito (translated a word-for-word in English: care) or the concept of perushoito (translated a word-for-word in English: basic care) and also the concept of perustoiminnot (translated a word-for-word in English: basic activities) and sometimes even rutiinit or päivittäiset rutiinit (translated a word-for-word in English: routines or daily routines). In this English abstract the concept of prime times will be taken into account. Inside early childhood education, when for instance the activities in kindergartens are discussed, in many text books and in single texts, the concept of prime times includes the following children's activities: arrival times, leaving the kindergarten, putting clothes on, undressing, toileting, washing, mealtimes, outdoor activities, sleeping, rest times, moving from place to place and free times. The titles of prime times can be quantifiable more or less depending on the subtlety of the analysis. This study will follow the features of the Pedagogical Systems Theory (Härkönen, 2010), where the prime times is one part of the educational systems and at the same time linked with the whole systems in the systemic way. When focusing to improve the conceptions on prime times, at the same time the aim is to reach for understanding sustainable development of children. It is the fact that the prime times has not been in the focus of recent early childhood research. It is time to focus on this phenomenon now. The aim of the planned study is to define in a new light the kinds of activities the concept prime times has implied or could imply in early childhood education texts. The data, relating the prime times (in Finnish: hoito, perushoito, perustoiminnot, rutiinit, päivittäiset rutiinit), is going to be collected a) from the previous appropriate Finnish research, b) from curriculums of early childhood education and pre-school education and c) from the textbooks on early childhood education used in kindergarten teacher education in Finland. The material forms a qualitative data. Because the author is dealing with texts, concepts, definitions and meanings, and because the aim will be

to understand the meanings of the concept in focus, phenomenological and hermeneutic approach and content analysis methods are needed. The study is already planned and it has been presented and discussed two times in doctoral seminars and once abroad in the PhD course in Iceland.

IX. Earth Charter Youth Initiative and Multicultural Approach to Education for Sustainable Development (Students' section)

Cooperation – equal opportunities or leadership in the discourse in an English language classroom for sustainable development

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The mission of teachers (creative developers of human pedagogy) is to promote a transition to sustainable ways of living and a global society founded on a shared ethical framework that includes respect and care for the community of life, ecological integrity, universal human rights, respect for diversity, economic justice, democracy and a culture of peace. All this can be more successfully implemented if teachers at all levels focus on cooperation based on equal opportunities and help students develop leadership potential. The present study focuses on training students to use education for sustainable development (at all levels for entering lifelong learning), provides an insight into theoretical sources, analyses data from student questionnaires and uses analogies for qualitative approaches. Key results of the present study include training and the produced sustainable development material for dissemination. By reflecting on a self-produced video-project, students and teachers learn English for sustainable development: they cooperate and less depend on textbooks for teaching/learning English (http://vimeo.com/9600022).

Key words: cooperation, creative, discourse, sustainable development.

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