TEPE 2013
Abstracts

1. Birgy Lorenz, Estonia, Tallinn University: Educational Technologists Role in Implementing New Technologies at School

Abstract: Over eight years ago Estonian schools were introduced to the need of new position “educational technologist”. First the idea was confusing because it was not clear how much there was overlapping with the work that ICT support or managers were already doing. Some people see the role as substitute teaching in the ICT field where ordinary teacher no longer had to implement e-learning or prepare interactive materials as they could just delegate them. This position is filled less than 7% of all Estonian schools. I have collected case studies from 13 different schools where educational technologists had been employed. Study gives good overview of situation and work that they have done so far. I also introduce tips and tricks how they explain need for new position to the school leaders; difficulties to start implementing technologies; methods and principles that are used to train teachers. Troubles come from assessing skills of the teachers and motivating them to learn new tools, because it takes time and effort from their side. Some also work as teacher, head teacher, ICT-, extra-curricular- or project manager, so I point out issues with mixed expectations, priorities and time. There is job description available but less are using that as intended. This study helps to clear the understanding that educational technologist is not somebody that is there to “solve all problems itself”, be a competent on all ICT and educational fields or do work for others, but the one who directs solving problems and pushes teachers to achieve more and support them. I also point out overlapping areas with other positions and propose a solution to solve it.

2. Carlos Vasconcelos-Lopes, Macao, University of Saint Joseph: Keeping meaning alive: the role of a new integrative medium

Abstract: Our paper presents a qualitative study conducted within a two-year graduate teaching assistant professional development program aiming at preparing five talented graduates of an international university of Macau, China, to become effective 21st century teachers. Our research aimed primarily at identifying in what ways, how and why these teaching assistant's self-descriptions, or personal theories of self, have evolved during their participation in the program. Additionally, we aimed at testing a virtual mechanism, operated through the Internet, conceived to autonomously keep both communication and reflection alive within the space of the project. Most theoretical references were extracted from the works of Niklas Luhmann, a system's theorist known by having imported the concept of “autopoiesis” from biology to social sciences to characterize the organization of communicative and reflective processes. Other authors have nevertheless also earned their way into our study. The TA development program started from the assumption that the realization of the assistants’ growth potential could radically be self-determined. Primary empirical data was extracted from open and non-structured interviews conducted during the activities of the project, with the teaching assistants involved. "Grounded Theory" was the methodology selected to conduct the data collection and analysis. Suggestions extracted from literature sources were also used in comparisons with the empirical data. Empirical evidence shows that our initial expectations were relatively well founded; that the participants in the program have primarily been concerned with the meaning of their actions and only secondarily, if at all, with external criteria of appropriateness of behaviour. Additionally the study also confirms the effectiveness of the above-mentioned social artefact. As far as we know, this study represents one of the first empirically based corroborations of the worth of the “Luhmannian” hypothesis concerning the autopoietic nature of communication and consciousness. The study also brings forth the notion that significant structural changes in a system can occur without interrupting its organization, i.e., its self-identification. Perceptive applications of that idea can, in our view,

trigger far-reaching consequences, both for teacher education and to education in general. New technologies are opening new possibilities for organizing learning through nonlinear, borderless, eventually web-based, active networks, as opposed to the rigid, centrally determined, passive configurations employed by hierarchical structures. Active learning encapsulated sub-cultures can nowadays be smoothly set going even within highly politicized, passive, educational systems.

3. Erika Löfström, Finland, University of Helsinki & Katrin Poom-Valickis, Estonia, Tallinn University: Graduating student teachers' reflections on their education and preparedness for teaching

Abstract: We have investigated the outcomes of Estonian teacher preparation in terms of professional development and preparedness for the future profession. The reflections and evaluations of twelve student teachers constitute the focus of this paper. We applied a multi-method approach with data collection taking place in the first, third, and fifth year of university studies. In the first and third year we collected data using surveys (total N=310); in the fifth year we made interviews with twelve student teachers who retrospectively evaluated their development and the most significant contributing factors during their five years of studies.
The Master's level teaching practice provided for most a steep learning curve and gave them assurance that they had chosen the right field. Subject didactics was the most influential module for the elementary student teachers, whereas the subject student teachers found educational subjects (e.g. educational psychology) to be the most influential suggesting that exposure to what might not be perceived of as the core areas of study provides opportunities for significant conceptual changes in the student teachers' thinking.
The students discussed learning environments in terms of their activating features, but they did not reflect on the teacher role as facilitator of pupils' learning lacking a focus on pupils' learning, individual differences, and means of supporting learning. While the teacher education programme emphasises child-centeredness and the well-being of pupils, there appears to be less focus on how to support learning. The students' beliefs about teacher role, which we investigated using metaphors, reflected the view that the teacher is primarily seen as a care-taker and provided less evidence for beliefs that the teacher is a subject expert and a creator of a learning environment. We identify the need for strengthening the educational studies component, especially with focus on didactics and creating learning environments conducive for learning.

4. Sarah Cousins & Ulrike Dunne, United Kingdom, University of Bedfordshire: E-Portfolios on a Teacher Training Course: a Peer Support scheme to develop effective digital pedagogies

Abstract: The landscape of Higher Education is changing, and within it, the technologies that are to hand. University lecturers are required to navigate new online platforms and learn new systems in accordance with institutional directives. Technical skills need to be swiftly learned and applied to existing courses and aligned to match diverse pedagogical approaches. Some colleagues appear to adapt with reluctance to the digital age, or adopt new technologies more because it is a top-down requirement than through any conviction.
This paper is about a Peer Support scheme developed at a university in England to encourage colleagues on a teacher training degree to adapt their pedagogical approaches to the digital age. Adapting to the digital age involves much more than technical proficiency. It involves change. Lecturers need to change their pedagogical approach and expectations of trainees. This paper suggests that, in the midst of change, colleagues benefit from opportunities to collaborate and support each other in human, face-to-face form. The aim of this project is to establish opportunities for peer support, creating spaces for colleagues to meet, explore possibilities, evaluate practice, share uncertainties, discuss new approaches and offer mutual encouragement. The project is about structured help given in human, not digital form. The focus of this project is on the use of e-portfolios as spaces for trainee teachers to communicate, learn, reflect and develop. The trainees in this project used e-portfolios to make links between theory, policy and practice in schools. E-portfolios enable trainees to learn in multi-situated, mobile contexts, evidencing their

professional competences and skills for teaching at university, school, home and other learning sites, and building on feedback from tutors. The two university tutors involved in this project met regularly for peer support to evaluate their online pedagogies, lead departmental events and suggest how to improve their approach.

6. Tiina Korhonen, Finland, Learning Center Innokas and University of Helsinki & Jari Lavonen, Finland, Department of Teacher Education, University of Helsinki: Crossing school – family boundaries through the use of technology

Abstract: The aim of this study is to find out how the ICT facilities already available in the home and in the school can be utilized in the collaboration between home and school. Novel ideas and innovations for using this existing technology to aid collaboration between home and school are created by students, parents and teachers. The theoretical framework of the study is based on the models of collaboration between home and school by Joyce L. Epstein and the Rogers theory of diffusion of Innovations. Collaboration between home and school is studied from the viewpoint of partnership and shared responsibility. In this study, individual innovations may include the use of equipment available in classroom or home such as computers, digital cameras, interactive whiteboards, document cameras as well as the Opit-service, an internet-based learning environment with access for students, teachers and parents. As a methodological framework for designing the innovation and use of it, I use the design-based research approach (DBR). DBR is comprised of the combination of theory development, the prescriptions of successful design processes, and the prescriptions of successful design solutions. It is a general framework for design, development, implementation and evaluation of learning or educational activities and it uses a pragmatic frame. (Juuti & Lavonen, 2006) This paper examines the preliminary results of ideas how to use ICT tools in home and school collaboration and how the use of ICT influences teachers' work, home and class practices and the collaboration between homes and school. This study will find new innovative ways for using ICT in supporting home and school collaboration. The premise of the study is that the results can be achieved with an innovation which is a modification of available ICT tools and when the nature of ICT tools and the needs and ideas of the users of the innovation are taken into consideration.

7. Blair Stevenson, Finland, University of Oulu: Student-generated video for stimulated recall: bridging digital competences and global education practice in a teacher education context

Abstract: The aim of this paper is to summarize results from a recently completed teacher education course in which student-generated videos of teaching practice are used as stimulated recall for reflecting on practice under the theme of global education. An over-arching objective of this work is to renew evaluation techniques of global education competences in teacher education by combining student teachers' practice experiences teaching global education lessons with the development of digital competences in video production. This work is theoretically based on the long-standing use of video for stimulated recall in teacher education and attempts to connect this practice with the need for building effective self-reflective practices as outlined in the current European-level policy conceptualizations for the practice of global education. This unique teacher education course involved the creation of a reflective learning space focusing on students taking video footage of their teaching practice and editing this footage into structured 7-minute videos for viewing by the instructor and peers. Significant class time was devoted to viewing the videos and building peer-assessment discussions around the practices and themes demonstrated in structured videos. Student responses from a post-course survey suggest that students' digital competence increased and the use of student-generated videos act as an effective reflection tool. Responses further suggest that the use of student-generated videos allows for a more robust level of reflection into the practice of global education. This investigation suggests that developing learning spaces that use student-generated videos of teaching practice and associated reflection through stimulated recall represents a promising teacher education methodology for building greater levels of competence in global education.

8. Jelena Radisic, Serbia, Institute for Educational Research & JasminkaCekic Markovic Centre for Education Policy: Teachers' Capacity to Change and ICT Environment: Insights From The ATEPIE Project

Abstract: Teachers' capacity to cope with and take forward change is increasingly recognized as an essential part of teachers' roles and competence. The agenda of increasing schools' inclusiveness and responsiveness to the rising diversity of students and changing learning environments implies that, in addition to utilizing scientifically grounded pedagogies, teachers must also address changing conditions affecting their teaching. One promising possibility in making teaching and learning environments more supportive is to enrich learning situations with technology, thus creating collaborative spaces for learning, sharing understanding and expanding our perceptions on how learning occurs. Regional project Advancing teacher professionalism and stakeholders' participation in education (ATEPIE) involves teachers from the International Teacher Leadership network (ITL) and defines learning environment, with the focus on information literacy, as one of the five most important areas in standards for teacher profession. The objective of this paper is to describe how teachers participated in the project perceive themselves and manifest skills in their practices. Through five focus groups organised in Croatia, Serbia, Montenegro, Macedonia and Bosnia and Herzegovina we explored teachers' perceptions of their practices as change agents. Following, all participants filled in a questionnaire exploring further their practices with information technologies in everyday lives, their perceptions on using technology in teaching and perceptions of own competence to use technologies. Among the perceived traits teachers acting as agents of change should posses are expertise, creativeness and innovativeness. Teachers believe readiness to learn and skilfulness in finding information is among the most important competences teachers today must adhere. Yet although teachers generally feel confident when using technologies they inform of rare practices for doing so in their teaching. Implications of the findings will be discussed.

9. Zuzanna Zbróg, Poland, The Jan Kochanowski University in Kielce: Digital literacy – conceptualizing the participation of children in analyzing digital texts using Actor-Network Theory by B. Latour (based on Polish schools and kindergartens)

Abstract: Changes in the learning environment in Polish schools and the ever-increasing computer access in educational institutions are beginning to affect teaching and learning methods. In Poland there is an ongoing debate whether students should be provided with a laptop computer. In some of the largest cities in Poland students have already been provided with the equipment and necessary software as part of an experiment. The experiment is still in progress and the outcomes are yet unknown. The article presents opinions of students, teachers and parents regarding the replacement of traditional textbooks with e-books. The author will suggest a research concept, which focuses on analyzing the interaction between a child and digital texts using the Actor-Network Theory of Latour. This theory presents a method of assessing daily school practices which undermine the existing research and teaching paradigms. The studies focusing on small children using digital technology in learning include several themes: technology as deliverer of literacy, technology as site for interaction around texts, technology as a medium of meaning-making. The article will include a detailed analysis of own research results (a case study) concerning the acquisition of reading skills using the computer in various educational spheres. The text shown on the computer screen may be seen as "a point of reference", a visual stimulus which children can focus on. Some aspects of ANT will be used in a discourse on the mutual interaction between technology and children as well as the role of a teacher in the independent acquisition of knowledge and skills by children. These types of studies seem necessary in a situation when the actual school practices are becoming increasingly anachronistic and gaining knowledge, acquiring skills and building relationships occur in digital environments.

10. Anita Backhouse & Ian Wilson & Daniel Mackley, United Kingdom, York St John University: Enhancing the formative assessment environment through the use of mobile technologies

Abstract: Aims and rationale: Feedback is essential for learners to help consolidate their learning and can have a significant impact on their achievement. In initial teacher education, the role of the educator is to facilitate the transformation from student to teacher by providing opportunities for the development of the skills associated with effective assessment and feedback. By adopting an enquiry-based learning approach learners can be encouraged to reflect on their own practice and that of others. The transfer of these skills, developed in a tutor-mediated and supported environment, has been shown through this research to impact on the students' reflections as emergent teachers. Technology has been recognised as providing effective support for both assessment and feedback. The research involved small groups of students discussing and providing written feedback on students' work by annotating images using iPads. Students then reflected on the feedback they had received. The value and effectiveness of this feedback was considered in a mediated discussion with tutors. Methodology Research questions: Can mobile technologies support the development of effective assessment and feedback? Can these assessment and feedback skills developed in a supported environment impact on students' reflections on their own classroom practice? Data was collected for a case study through: observation of students and in discussion with them during workshops focussing on peer feedback using an image annotation application using iPads; an online questionnaire. Qualitative analysis of student verbal and written reflections on-practice and in-practice provided an insight into social constructivist and cognitive apprenticeship models. Research findings: Students engaged confidently and enthusiastically with the technology; The quality of feedback to peers improved over the course of the enquiry; A significant degree of reflexivity was evident in the students' comments on the feedback they received.

12. Olivera Todorovic, Serbia, Institute for Improvement of Education & Srdjan Ognjanovic, Serbia, Mathematical grammar school: Competences of teachers of mathematics - examples from class

Abstract: Aims: To understand the importance of competences in relation to the specific teaching of mathematics. Assessment of competence in the context of professional development for teachers of mathematics. Theoretical framework: In April 2011, the Serbian National Council of Education adopted The Standards of Competences for educators and their professional development. The Rules of Professional Development and acquisition of teachers, educators and professionals, provided the professional development of teachers in accordance with the competencies relating to: Educational field, subject and methodology of instructions; Teaching and learning; Support the development of students' personality; Communication and cooperation. Methodology: The presentation will discuss use of video material in teacher training. Experiences from using video materials will be discussed from three different school lessons of Polynomials and Pythagorean theorem in the context of the competence of teachers of mathematics. The training has been piloted analyzed to what extent such a way of teaching affects student the motivation. Findings: How and in what way to raise the competence of teachers of mathematics. Theoretical and educational significance of the research: The training programme is first of its kind in Serbia. It will be further developed strengthen teacher competencies and classroom observation skills. This experiment provides an significant input to the quality of trainings and also means in introducing and assessing teacher competencies. The method aims at sharing experiences and providing examples of good practice to empower teachers in their work when there are application possibilities and methods of work: pair work and group work.

13. Heljä Antola Crowe, United States, Bradley University & Laura Robinson, Finland, The English School: Collaboration across cultures as a teaching method

Abstract: An international, reflective, collaborative project between teachers teaching and learning in four countries created an empowering space where questions were asked and courage to learn from and with each other was promoted. Aims of the project were to prepare pre-service teachers to experience international collaboration in preparation for their profession, to give teacher candidates tools for developing reflective practice in global experiences through technology, and to create models for working together across cultures.

Theoretically this project is anchored in the work of Schön as teachers learned to become reflective practitioners while developing cross-cultural competencies. Embracing the 21st century skills, interactive tools were used to gain knowledge, facilitate interactions, and to learn about culture through the lenses of social studies areas. Methodologically this work was a pilot project in teacher action research where teacher candidates in a U.S Teacher education program, teachers in Finland and Ghana, professors in South Korea and United States sought to learn with and from each other. Colleagues worked on knowledge building and understanding cultures, collaborating with colleagues across the globe while sharing their own. Initial thinking questions guided investigation and research on cultures of countries involved for communications via emails and Skype. Collaborative reflections were analyzed and in-depth information shared. Findings show that even a one-semester experience can change the thinking of teachers about the possibilities in learning. The richness of teacher experience across cultural boundaries showed promising suggestions for the future of developing and widening professional self-knowledge and world-view. Teachers must be able to embrace global complexity and prepare children for a world, which is yet to emerge. Risk-taking is needed for teachers need to prepare themselves to embrace the collaborative options that international work offers.

14. Kati Sormunen & Jari Lavonen & Kalle Juuti, Finland, University of Helsinki: Crossing classroom boundaries in science teaching and learning through the use of smartphones

Abstract: Aims: This paper focuses on how pupils use smartphones in personalised science learning. Participating teachers and pupils design and implement together the use of smartphones effectively at individual learning during and after school day. Theoretical framework: Theoretical framework of the study is personalised learning and teaching, mobile learning and children as innovation designers and adopters. Personalisation of the learning is supported through the use of smartphones. This use is designed so that it happens in a social context and it is based on an activity and preferences of the learner. The smartphones are used for supporting individual learning, collection and analysis of information. Learning and sharing outcomes will be supported in an e-learning environment. The nature of processes how teachers and pupils adopt and use smartphones for educational purposes are key issues in this study. Another aim of the study is to design new innovations considering the use of smartphones so that they serve individual purposes of teaching and learning. Methodology: Study was conducted according to principles of design-based research. The data collecting situations were created through designing the use of smartphones in science education together with teachers. Information was collected through questionnaires, which were conducted by smartphones. The data will be analysed by quantitative methods. Findings: Pupils use smartphones mostly for making notes, practising and information gathering. Teachers' actions in classroom situations effect strongly to the quality of using devices. Theoretical and educational significance of the research: This study is a part of the Finnable 2020 sub-project School Partnership and Networks funded by the Finnish Funding Agency for Technology and Innovation. The project will generate new innovative ways for using smart phones in science education and for crossing the boundaries inside the classroom and out of classroom.

15. Minna Kukkonen & Jari Lavonen, Finland, University of Helsinki: Crossing classroom boundaries through the use of collaboration supporting technology: A case study on school - kindergarten - library - senior home partnership

Abstract: Aims: The aim of this study is to promote and research School-Community Collaboration (SCC) through the use of collaboration supporting technology. A special focus is on school-library, school-kindergarten and school-senior house collaboration. Theoretical framework: The theoretical framework of the study is based on Roger's theory of diffusion of innovations and Epstein's models of school - community - partnerships. Students as experts and agency are in the focus in this study by the means of inclusive learning. Through the sharing of activities and collaboration, the community could cross boundaries and form a caring circle around the shared activities. The crossing of boundaries is facilitated through the use of modern educational technologies and learning regardless of time, place and age. Consequently, the partnership focuses on the use of education technology, especially interactive

whiteboards, designed, implemented and assessed together. Methodology: The study follows the Design Based Research (DBR) methodology. Design research requires practitioners and researchers collaboration in real teaching and learning situations and creation of prototype solutions based on agreed design principles. Moreover, it requires the testing and refinement of the prototype. (Van Den Akker, Gravemeijer, McKenney and Nieveen, 2006) Through DBR activities which support the students to cross boundaries will be designed and then the students activities will be observed and, moreover, the students and partners will be interviewed. The analyses of data helps to learn more about the nature of SCC. Findings: In the presentation preliminary findings focusing to the use of educational technology in collaboration and crossing of boundaries will be examined. Moreover, it will be discussed what are the factors facilitating and preventing the crossing of boundaries. Theoretical and educational significance of the research:This study will generate new innovative ways for using ICT for crossing the boundaries in SCC.

16. Aslaug Grov Almås, Norway, Stord/Haugesund University College & Brita Bjørkelo, Norway, The Norwegian Police University College & Ingrid Helleve, Norway, University of Bergen: The role of teacher education in ethics in relation to negative experiences on social media

Abstract: Aims: This study examined the role of teacher education and specifically whether the ethics training is perceived as adequate in relation to how preservice teachers (n=475) evaluate negative experiences on social media. Theoretical framework: The “model of ethical dilemmas in teaching” by Shapiro and Stefkovich (2011). The model can be illustrated by six circles with the area of “Best interest of the student” in the middle, as were the best interest of the student the centre of a flower and the five other areas its leaves. The five areas that surround the best interest of the student are (1) Personal Codes of Ethics, (2) Individual Professional Codes, (3), Standards of the Profession, (4), Professional Code of Ethics and (5), Ethics of the Community. Other factors that play a part are such as (A) clashing codes, (B) professional judgement and (C) professional decision making (Shapiro & Stefkovich, 2011). The assumption of the model is that there are different areas of ethics. One of them is the professional arena. If teacher training in ethics is perceived by preservice teachers as having no impact, do these preservice teachers experience similar and evaluate their negative experiences similar to preservice teachers that experience that teachers training in ethics has been adequate? Methodology: Data from preservice secondary teachers in their third and fourth years of study and students enrolled in the program for Post Graduate Certificate in Education (PGCE) were collected from six teacher education institutions located in the north, middle and eastern parts of Norway during 2011 (Helleve et al., submitted). The presentation will present some preliminary findings and discuss theoretical and educational significance of these.

17. Dorcas Miriam, The Democratic Republic of the Congo, dorcasfoundation & Kat Mukoj, The Democratic Republic of the Congo, Fmm: HUMAN RIGHT SKILLS

Abstract: Objective. To incorporate cultural competency in a human right Skills and Application course series and assess the level of cultural competency in students who did and did not complete the courses. Design. The course series focused on cultural competency throughout the Human right curriculum and included such activities as self-reflection, lecture, diversity service-learning, case studies, and discussion. Assessment. The Inventory for Assessing the Process of Cultural Competence Among Social workers Professionals – Revised (IAPCC-R) was used to measure cultural competence in 2 cohorts: the last class preceding implementation of the new course series and the first class after its implementation. Overall scores between the 2 cohorts were not significantly different; however, 2 subscale scores were significantly higher among students who completed the course series: cultural skills ($p = 0.021$) and cultural encounters ($p = 0.048$). Conclusions. The Human right Skills and Application course series appears to improve some aspects of cultural competence in law students, but may not be sufficient to elicit change in all areas.

18. Pavel Zgaga, Slovenia, University of Ljubljana: Teacher Education and the Future: Which Tribe, Which Territory?

Abstract: The paper analyses the position of teacher education within developments of the contemporary higher education and challenges of tomorrow. During the last two to three decades, teacher education, an academically disregarded "outsider" for decades, has entered universities. Today, about 10% of students in higher education enroll the (statistical) field of teacher education and education sciences. In short, comparing to the past the position of teacher education looks like a success story. However, a closer look reveals many problems. A fast growth in this field makes it vulnerable, in particular in relation to other study fields. Both, "academic" and "market" competition in higher education have enormously increased and put teacher education – traditionally set within the framework of public education – in a difficult position. Within a competition for research funds – in particular in times of financial and economic crisis – teacher education often faces a disadvantaged position. Radical transformations of higher education systems – e.g. through the Bologna Process – require from teacher education institutions to invent new "formulas" for their further integration within higher education systems. There is enough evidence to expect turbulent times for teacher education in years to come. Almost fifteen years ago, B. Clarke, the 'father' of higher education studies in the US, discussed some dilemmas experienced by "schools of education" in American universities. His arguments are still valid today – and they are valid globally. Within higher education, teacher education is a specific field. On one hand, it is 'academic'; on the other hand it is 'professional'. It is positioned between the academic Scylla of sciences, social sciences and humanities and more pragmatic Harybda of professionalism. Clark was an optimist: society, including the university world, has been moving into frameworks favourable to what "schools of education" are capable of doing – towards essentially transdisciplinary knowledge ("Mode 2"). In our article, we lean on the rich literature, and especially devote ourselves to the question of what effects profound changes in the universities and in the whole sphere of higher education had in TED. We analyse what has changed within this perspective during the last ten years, with a particular focus to the European developments and with an intention to discuss possible future trends.

19. Kelvin Ke, Singapore, Nanyang Academy of Fine Arts: Reflection from an Artist-Teacher in Singapore; exploring new media technologies in the media arts practicum

Abstract: Aims:The paper is an empirical study that discussed the influences of new media technologies on pedagogical practices in the media arts practicum. It examines a class of film and video students in their second-year of their tertiary education studies, as they engage in the use of iPads as a learning tool for experimental film media. Theoretical framework: This paper draws on the theories of reflective thinking (Schon, 1983) problem-based learning (Tan, 2003) and pedagogical practices in design-based learning. (Logan, 2006) Methodology: The research employs a qualitative case-study approach using descriptive field notes based on observations of classroom participation. Analysis of data include examining recorded field notes as well as personal reflections on actions and interventions in the course of teacher-student interactions. Findings: Early findings suggested that while new media technologies have an influence in democratizing learning and empowering students in accessing, evaluating and synthesizing information, interventions by the teacher are still required to mediate tensions in design-based learning conditions that are often complex, ill structured and uncertain. Theoretical and educational significance of the research: The educational significance of the research suggest that while new media technologies provided students with tools to engage in self-directed learning, conditions are not sufficient enough to improve critical inquiry and student performances. Rather there is value-add in improving the capacity of the educator as both mediator and facilitator in the process of practice-based learning of the Arts. Through the intervention of pedagogical strategies and evidence-based data, it is hoped that this research presentation will open more ways to critically reflect upon existing educational paradigms, and consider how educators may engage with new media technologies as more than just tools in delivering content, but upsize interactive learning to foster experimentation and sense-making in the media arts practicum.

20. Bjorn Astrand, Sweden, Umeå University: An enduring conflict with renewed positions? Contemporary approaches to professional formation, critical thinking, autonomy and integrity in Swedish teacher education.

Abstract: Reports like the Sigma report (1995) and the Green paper on Teacher Education in Europe (2000) identified tensions between academic traditions and (more) professional oriented traditions. This tension appeared in discussions on disciplines, program design not to forget on organizational levels. In addition to historical roots the discourse related to the contemporary emphasis on professionalization and merge of teacher education institutions into universities. Those tensions are still palpable and we may ask how that dichotomy, false or not, is perceived today and how those tensions currently are negotiated. A core aspect of the Swedish schools system is to "communicate and anchor the respect for human rights and fundamental democratic values that the Swedish society rests upon" (Education Act). The present study is based upon 36 interviews with teacher educators and academic leaders at 12 teacher education institutions on the preparation of teacher students in this respect. Teacher education has been depicted since 1950s as a problem of training, learning and policy (M Cochran-Smith & K Fries, Researching Teacher Education in Changing Times: Politics and Paradigms, 2005). Regardless choice of perspective different higher education traditions impacts teacher preparation. Academic higher education institutions have by tradition aimed at developing academic integrity, autonomy and critical thinking among its graduates. What is the current response in that tradition when it comes to teacher's studies of values and democracy? And what is the approach in the other tradition, a tradition with roots in older teacher seminars, claiming to be more professionally focused? To understand contemporary structure on this enduring tension between traditions and approaches this paper departs from the raised requirements in Higher Education Act on teachers candidates ability to work towards the demands in the Education Act on democracy and values education. What are the strategies in use? How do teacher educators and institutional leaders perceive what this objective requires? What is their approach when it comes to prepare teachers to be able to develop democratic values among pupils? This paper revisits a classic issue searching for change and renewed positions toward progress.

21. Riikka Kuusisto & Merike Kesler & Tiina Rytkölä & Tiina Karhuvirta, Finland, Kerhokeskus: Creative problem solving and future skills in teacher education

Abstract: According to the Council of state decree creativity should be written strongly to the new national core curriculum. It is impossible to learn creative problem solving methods without practice. Teacher student feedback shows experiences where theory doesn´t support enough their skills development and growth to become a teacher. A volitional course of creative problem solving methods in praxis was organized as a partnership with Kerhokeskus and University of Turku, department of Rauma. The aim of the course was teacher students to find key skills and methods to support the pupil in developing balanced and equal citizenship. The focus was to recognize and develop creative problem solving with student oriented methods. The basis consisted of cyclic learning model by Mentkowski (2003). The study model highlighted process based learning and reflection; each student had a self-made problem to solve. Versatile assessment was connected strongly to contact teaching. New technology offers such as cloud services were utilized to bring out the learning process. Empiric research material was produced with student interviews, observing, photographing and students´ textual outcomes. Learning methods were based on creative problem solving, research based and cooperative learning as well as experiential learning. This article is an outgrowth of first observations on this courses empiric data. Outcomes will help us first find out students´ skills about creative problem solving and readiness to determine crucial concepts of the theme. Secondly, we focus on illustrating the change of students thinking along the course. We also point out experiences and valuable information about cooperation between third sector and university –a rear partnership in Finnish teacher education that still seeks its form.

22. Laura Sundqvist & Lena Siikaniemi, Finland, Lahti Region Educational Consortium: Change We Need - Reshaping Learning and Talent Development in New Learning Landscapes

Abstract: The increased use of new learning landscapes challenges the way we view learning and development. To address this change, a new learning and talent development platform (LTDP) was developed in an educational organization in Southern Finland, which provides vocational and higher education. This action research follows design developmental action learning (DAL) research design (Raelin & Raelin 2006). Key concepts are learning landscapes, learner-centered planning and knowledge building community. The goal of the learning landscapes is to acknowledge the richness of encounters among people, places and ideas. Learner-centered planning recognizes the importance of supporting multiple ways of learning, including social learning and virtual discourse. (Dugdale 2009.) New learning also requires a shift from treating students as learners and inquirers to treating them as members of a knowledge building community (Scardamalia & Bereiter 2006). The LTDP comprises of two main components. First, a seminar series designed to promote discussion of the changing world of learning and teaching and to build understanding of the possibilities of new learning landscapes. Second, a series of workshops aimed at developing concrete skills and tools for future learning. Participants come from both teaching staff and support personnel. Finding common understanding and new concepts for new activities are in the core to accomplish change. Essential has also been using specialists from own personnel in planning and implementation of the learning interventions. Common knowledge creation thus fosters the renewal of the organization. Educational and learning transformations touch every staff member, not only teachers. This paper introduces a tested LTDP for ensuring the competencies needed in new learning landscapes. Moreover, the DAL-approach is not yet widely used; this paper introduces one useful approach to researchers and practitioners.

24. Terry Haydn, United Kingdom, University of East Anglia: What does it mean 'to be good at ICT' as a teacher educator? A view from the UK

Abstract: The paper reports the outcomes of the UK strand of an OECD comparative study, ICT in Initial Teacher Training, which aimed to develop insights into how courses of initial teacher training in the UK prepare student teachers to use ICT effectively in their teaching. Using a combination of survey and case study approaches, the research elicited the views of higher education tutors, school based mentors, and student teachers themselves, about what strategies, interventions and application are most helpful in developing teachers who are able to use ICT to enhance learning in their subject teaching. This paper pays particular attention the views of expert practitioners in ICT (both school based and university based), about what it means 'to be good at ICT'. Although some findings match the official descriptors of good practice which have been defined by the UK Training and Development Agency for teachers and the officially defined competences which students are required to have developed before they are granted qualified teacher status, other aspects of the research outcomes question some of the assumptions which have been made about what constitutes good practice in using ICT in subject teaching. In particular, many expert practitioners were less enthusiastic about investment expensive ICT applications such as interactive whiteboards, voting technology, and e-portfolio software, and more enthusiastic about the potential of Web 2.0 applications to enhance teaching and learning. There were also some interesting differences between the UK findings, and those of the other Scandinavian countries which were involved in the project. Although the paper focuses mainly on the UK context, the findings may have implications for the ways in which student teachers learn to use new technologies in their subject teaching in other countries.

25. Terry Haydn, United Kingdom, University of East Anglia: 'Building learning packages': one of the more significant benefits of using ICT in teacher education? Learning to manage pupil behaviour – a case study

Abstract: In spite of the influence of Mishra and Kohler's TPACK Framework (Mishra and Kohler, 2006), in many countries, the ability of student teachers to use ICT in their subject teaching continues to be framed predominantly in terms of students' ability to learn to use a range of ICT applications in their teaching. A fairly recent ICT competence framework used in the UK - 'Characteristics for the provision and use of ICT that all teacher training providers should

be aiming to attain' - includes the recommendations that providers should try to ensure that student teachers have access to, and learn to use subject specific hardware and software, VLEs, relevant web based applications, and what have been termed 'cutting edge' ICT applications, such as, e-portfolio software and interactive whiteboards (TDA, 2009).

However, other commentators have suggested that such lists of technological capability misrepresent or ignore the most influential ways in which new technologies can help teachers and student teachers to improve teaching and learning in their subject. In a book chapter published in 2003, Walsh argued that the most significant benefit of ICT was the facility it provided for collecting and sharing high quality resources on particular topics. Walsh termed this process, using ICT to 'build learning packages', arguing that the most useful ICT applications were not 'cutting edge' (and expensive) applications such as interactive whiteboards, voting/response technology and e-portfolio software, but the facility to cut and paste, to collect and share files using the internet and the humble memory stick, and the use of social networking sites to paste URLs to particularly useful resources. The 'collections' which are developed can be accessed and used outside formal teaching time, and can enable student teachers to use the resources on their teaching placement, to test out against their own experience, and to at least some extent, work out for themselves 'what works and what doesn't work', using 'reflection on action' to improve their teaching (Stenhouse, 1975, Elliott, 2006). The paper presents a case study of the use of an electronic 'learning package' about classroom climate and the management of pupil behaviour which is currently being trialled in a teacher education partnership in the UK. Based around a 10 point scale which encourages student teachers to reflect on the factors influencing the working atmosphere in the classroom, and a range of supporting materials, the 'learning package' shows some of the ways that new technology can contribute to the development of pedagogical expertise beyond simply learning to use particular ICT applications. References:Elliott, J. (2006) Reflecting where the action is, London, Routledge.Mishra, P. And Koehler, M. (2006) Technological pedagogical content knowledge: a framework for teacher knowledge, Teachers College Record, Vol. 106, No. 6: 1017-54, online at http://punya.educ.msu.edu/publications/journal_articles/mishra-koehler-tcr2006.pdf, accessed 18 November 2011. Stenhouse, L. (1975) An introduction to curriculum development, London, Heinemann.Training and Development Agency (2009) Characteristics for the provision and use of ICT that all teacher training providers should be aiming to attain London, TDA. Online at http://www.itte.org.uk/system/files/ictforproviders%5B1%5D.pdf, accessed 26 February 2013.Walsh, B. (2003) Building learning packages: integrating virtual resources with the real world of teaching and learning, in T. Haydn and C. Counsell (eds) History, ICT and learning in the secondary school, London, Routledge: 109-33.

27. Dragana Bjekić, Serbia, Faculty of technical sciences Cacak - University of Kragujevac & Svetlana Obradović, Greece, Ministry of Education, Lifelong Learning and Religious Affairs, Center for differential diagnosis and support, Katerini & Milica Vučetić, Serbia, Faculty of technical sciences Cacak - University of Kragujevac: E-Technology in Teacher Education and Professional Activities in Inclusive Education Context

Abstract: In the paper we considered possibilities to use e-learning technology in teacher education to work with students with disabilities and in teacher active work with students with disabilities. We would like to emphasize positive effects of using e-courses for preparation teachers to inclusive educational practice and to develop the schema of using e-learning and assistive technology in the inclusive context. E-learning technology can promote the inclusion of students with various disabilities. At the same time, complexity of SwD e-environment (assistive technology and e-learning technology) demands teacher' position as e-learner role in the process of preparation for inclusive education (according to principles of cognitive constructivism). There are three parts of the research: Metaanalysis of 10 researches of teachers attitudes to the e-courses of inclusive education. Analysis of the syllabi in HEIs for teacher education (3 HEIs) consists of the selection e-courses for specialized teacher education for teaching of SwD and comparison structure and effects of these e-courses and traditional teaching of inclusive education. Analysis of the programmes of teacher in-service education consists of the selection of e-courses for specialized teacher education for teaching of SwD and comparison with traditional programmes of inclusive education. Teachers' attitudes to the contributions of e-learning/teaching technology and assistive technology to improvement inclusive

education are ambivalent. E-courses both in teacher pre-service education and in-service education for work with students with disabilities are realised very rarely. This paper suggests to the teacher HEIs to integrate e-courses about inclusive education and using e-technology in inclusive education and in the teacher education. The structure of the e-courses for teachers about inclusive education supported by e-technology and assistive technology is the part of this paper.

28. Kati Keski-Mäenpää, Finland, Jyväskylä University: Rural Schools of Ethiopia and Working Conditions of Them

Abstract: The purpose of this doctoral dissertation is to bring in the voices, feelings and experiences of Ethiopian rural school teachers about their work. My research questions are: What are the biggest challenges in rural schools of Ethiopia? How do teachers describe their situation and feelings? In the view of previous theories (eg. Hargreaves, Day, Hoy & Woolfolk) I examine the structure of teacherhood in Ethiopia rural context. In which kind of place or existence does learning happen in Ethiopian rural context? Research has been conducted in rural school with 1400 students and 38 teachers. The data has been collected by observation, group interviews and diaries. It has been analyzed thematically. Common themes found from data are: Lack of material; textbooks, paper, tables, suitable class rooms etc. Physical challenges; distances, lack of transportation, lack of electricity and water. Salary and status; salary is not enough for basic needs. Inadequate teaching methods; teachers feel they need some other methods instead of lecturing and copying. The primary and most acute challenge for teachers is to develop their teaching skills. Ministry of Education (MoE) has asked teachers to change their teaching style to be more activating and student centered. Until now only teaching tools used by teachers have been lecturing, writing to black board and copying to note books. Teachers are highly motivated to develop their skills, but according to data there are challenges and even obstacles. These kinds of obstacles are for example strict curriculum and annual tests which forces teacher to use quick, knowledge-based teaching tools. One obstacle is a culture, which hinder the use of various methods like debate or critical thinking. According to Ethiopian culture teacher has the role as an authority. Teacher centered teaching methods guarantee that role. Both, the government and individual teachers are willing to take a step towards student centered teaching methods, even when teachers feel it very ambivalent. Ethiopian government is sticking in old models like system of supervisors, annual tests and strict and detailed curriculum. The purpose of this research is to examine teacherhood of Ethiopian rural school teachers in this very paradoxical situation.

29. Anne Huhtala, Finland, University of Helsinki: Teachers-to-be and new technologies

Abstract: In this paper I report on a pilot study conducted at the beginning of 2013. The aim is to examine how university students, teachers-to-be, relate to the use of new technologies in teaching. The use of technology in all areas of our lives is increasing rapidly, which affects the society in a profound way. It is taken for granted that also teaching is affected by this change. However, changing traditional ways of teaching is a long and complicated process that requires new ways of looking at the relationship between teacher and student, as well as between people and technology. For this pilot study, I collected data from 44 language students (all of them teachers-to-be) at the University of Helsinki, using a questionnaire containing 10 open questions about different aspects of using new technologies in teaching. One half of the students did not have any experience of teaching yet, whereas the other half had at least some teaching experience. The study revealed some interesting differences between these two groups. For example, the students with teaching experience were more uncertain of whether their skills in using new technologies in teaching were adequate. Besides, even if they were mostly positive towards using new technologies in their own teaching, they seemed to be even more aware of the risks and hazards of the increasing use of technology. Many of the informants in both groups commented on the problems faced by schools and teachers in keeping pace with technological development. As these university students plan to become language teachers in the future, this study can give new and valuable information (also for teacher education) on why teachers either favour new technologies in their own teaching, or alternatively, are critical towards using learning technology.

30. Mikael Kivelä, Finland, University of Helsinki & Kari Kantasalmi, Finland, University of Helsinki, Faculty of Behavioural Sciences & Anne Nevgi, Finland, University of Helsinki, Centre for Research and Development of Higher Education: Material territorialization of learner engagement

Abstract: This paper examines the controversies observed in establishing a new learning space as a statement of what contemporary learning and teacher education could be like. We focus on Minerva Plaza, a space designed to be an Engaging Learning Environment referring to both the pedagogical model behind the overall design and the various technical means available within. As the design claims to take into account the widespread involvement of ICT in the everyday life of the Plaza's users, our theoretical approach is based on the work of Michel Serres and Michael B. Schiffer and considers all material things (e.g. people, furniture, laptops, software programs) as potential actors and message-bearers. We employ Actor-Network Theory and especially the concept of translation to investigate the formation and lifespans of interconnections with the inherent quality of creating also unwarranted effects. Our data consists of memos and recordings of design meetings, focus group video recordings of the intended use of the Plaza as well as time-lapse recordings of the first four months of the use of the Plaza. Based on our tentative analysis the new interrelations of established and so far functional policies and a variety of technically functional devices and services can together produce unexpected results which render a convincing design impractical to use. An example of this is the Bring Your Own Device policy of the Plaza which is crippled by a 32 character password and a quirky wireless network router. This with e.g. room acoustics and temperature fluctuations contribute to a somewhat more topologically complex learning space than could be imagined from the design documents. As Thomas Gieryn noted in What Buildings Do? “design continues forever”. To us this is not a sign of flawed design but of engagement.

31. Pia Humisto, Finland, University of Helsinki: Exergames In School’s Time-Space Path

Abstract: Aims This study is part of a larger research project (2012-2013). The ExerGames in question have been designed at Tampere University of Technology and University Consortium of Pori in Finland. The aim of the study is to analyze how educational ExerGames can be used in school contexts and how ExerGames fit the school´s time-space – path. Students’ and teachers’ experiences about students’ physical self-efficacy and motivation are also analysed. The intervention took place in one 4th grade class of 23 students over a six-week period. Study questions: What kinds of experiences students and teachers have on ExerGames? a) How do they see physical self-efficacy, internal motivation and external motivation in relation to ExerGames? b) What are their views on how ExerGamer can be used at schools? Theoretical framework: Nowadays children´s obesity and physical inactivity are major problems in developed countries. However, virtual games, also called Exergames motivate children to play. ExerGames can be used in school contexts, and this can increase, students’ daily physical activity. The theoretical framework of this study is based on the concepts of physical efficacy consisting persistency, motivation, help seeking, expectations of success, internal - and external motivation. School´s everyday life is analyzed with the help of the time-space -path concept. Methodology:The data was collected using beginning and end surveys, observing play situations at school, student focus –groups’ and teachers’ interviews. The data will be analyzed using qualitative content analysis and quantitative methods. Findings:Tentative results show that students are very interested in playing ExerGames. ExerGames can be used in many ways in a school’s time-space path. Students also played ExerGames together with their parents during a family play evening, recess, mathematics lessons and even during a mathematics exam. Students seemed excited and motivated to play ExerGames. There could also be some health benefit because students seemed to get out of breath while playing the games. ExerGames motivated inactive students to move more than ordinary physical activities. ExerGames offer easy way to be active and teach team working skills. Students and teacher designed many possible ways how ExerGames could be used during class without distracting other students working on assignments. For example turning desks, using hearing protectors playing on recess, in physical education class or virtual game club. Theoretical and educational significance of the research: In the school context, there are many factors, which affect

school´s time-space path. The challenges of the intervention have included teacher's change and insufficient Web connections. All of these factors could have had an effect on pupils' play experiences. Because class teacher changed, she had to get to know the new class during the intervention and had difficulties to make time, from the important content of subjects, to paly ExerGames. For intervention's success, significant was teachers´ organizing capability, enthusiasm and that the class teacher had to see physical activity and games worth playing and using time for. The short intervention time and the timing right after Christmas could have had an effect on the study´s reliability and validity. There are many factors in the school context, which have to be solved before ExerGames can be used fluently. It seems that ExerGames need to be designed to fit the time-space path of the school more flexibly. Both active and inactive students saw ExerGames as very inspiring and useful and this encourages to find out how games could be better integrated with schools' everyday life.

32. Tarja Römer-Paakkanen & Auli Pekkala & Päivi Rajaorko, Finland, HAAGA-HELIA University of Applied Sciences: E-Portfolio As A Tool For Guiding Students' Learning And Professional Development

Abstract: As European knowledge-based societies are committed to developing individuals through lifelong learning, citizens require information, guidance and counselling more than ever before to make proper education and career choices and acquire the right skills for successful adjustment to their environments. (Cedefop 2008.) This paper is based on a project that aims to examine how an e-portfolio system can be used when promoting higher education entrepreneurship students' learning and professional growth. As a guiding tool we are using an e-portfolio service that is based on the open source portfolio system Mahara. The theoretical foundation lies on constructive and lifelong learning and guiding theories. In e-portfolios the emphasis is placed on the learner who actively interacts with content and events and thereby gains an understanding of the ideas. The role of the teacher is to encourage and give feedback to the students. Successful lifelong learning and guiding implies that learners are provided with learning opportunities at all ages and in numerous contexts e.g. at work and through leisure activities. (Stefani, Mason & Pegler, 2007.) This is an action research where teachers and entrepreneurship students test e-portfolio during entrepreneurship courses. Students collect different materials e.g. documents, videos, blogs into their e-portfolio. They also reflect their learning and business ideas with peer students and teachers. Both students and teachers take part to the workshops and focus-group interviews. The preliminary results are that students are interested to use e-portfolio as it helps them to manage their multidimensional learning processes and personalize their learning outputs. Teachers feel that e-portfolio 'relieves them from teaching' and helps them to orient, motivate, guide and challenge students' learning practices. Theoretical and educational significance of this research is to demonstrate the benefits of e-portfolios in guiding students' lifelong learning processes towards professionalism.

33. Lisa Öberg, Sweden, Södertörn University: The internationalisation in Teacher education: a survey of targets, achievement and pedagogical innovation among 20 Swedish universities

Abstract: Statistics show that international student exchange in Teacher education is low compared to other student categories. There is also a strong concern amongst academics and managers in Teacher education that international perspectives are underdeveloped in course content and academic environment, a situation that might be disadvantageous for future teachers in an era of globalisation. However, in order to promote change many universities have introduced goals for internationalisation. This study explores various forms of internationalisation in contemporary Teacher education in Sweden. The data was derived from the responses of 20 Swedish universities who replied to a survey concerning internationalisation in Teacher education, this being 74% of the universities contacted. The survey was initiated and processed in 2012 by Lärarutbildningskonventet, a network for Teacher education managers. The survey covered (1) the local organization of internationalization, (2) internationalisation of course content and curricula, (3) other forms of local academic internationalisation, (4) contacts and cooperation with Teacher education abroad, (5) out-flow of students taking courses or doing in-service training abroad (6) in-flow of

foreign students taking courses or doing in-service training locally in Sweden, (7) international exchange of academic or administrative staff and (8) targets regarding course literature in English. The results show considerable variation in the scope and organisation of internationalisation, although full-range universities (Universitet) generally allocate more resources than small universities (Högskolor). There are however examples of small universities (Högskolor) with excellent results in internationalisation, apparently due to long-term partnership with foreign universities. The results of the survey display an array of innovative pedagogical means to develop internationalisation, e.g. methods to make a large number of students benefit from the international experience gained by a small number of exchange students.

34. Marianna Vivitsou & Jennifer Saari & Vilhelmiina Harju & Jari Multisilta & Anna Siewiorek & Jari Honkala, Finland, CICERO Learning Network, University of Helsinki & Hannele Niemi, Finland, Institute of Behavioral Sciences, University of Helsinki: Teacher Narratives in Digital Storytelling: Crossing Boundaries in Transformative Learning Spaces

Abstract: Teachers seek new ways to integrate technologies in pedagogical practice and create opportunities for students to make multidimensional, meaningful use of digital tools. One such use is through digital storytelling projects. Digital storytelling is a convivial tool that can enrich the learning environment through the projection of the storyteller's lived experience, and through the process of transforming ideas into tightly composed video narratives. Digital storytelling has the potential to take advantage of unconventional learning locations and modes, opening up new ways of working for students and teachers, both individually and through collaboration. Drawing from ongoing research into mobile digital storytelling, in this paper we will discuss the ways teachers from California, Finland and Greece dealt with the challenges of designing and implementing pedagogical activities in order to enhance student creation of digital stories together. Student artefacts were uploaded on a collaborative, web-based environment to activate sharing, communication and exchange between and among participating schools. This study connects teacher experiences with the pedagogical use of digital technologies. As the preliminary analysis of data resulting from semi-structured interviews indicates, during the Boundless Classroom project teachers crossed boundaries at both the technological and the pedagogical level. To do so, they stretched their leadership and shifted their perspective of the instrumental and expressive aspects of web-based tools and digital technology. The analysis and discussion of teacher narratives enables an understanding of where 21st century education is heading. Importantly, it also seeks to offer insights into what constitutes a transformative learning space and significant aspects of crossing boundaries beyond the conventional classroom and school environment. This includes the consideration of both the human and the technological element and extends the focus to the creation of an ecosystem enhanced by the use of technology.

35. Anne Katrine Kamstrup, Denmark, Department of Education, Aarhus Universitet, Campus Emdrup: The wow-effect in teacher education

Abstract: Aims: This abstract is part of a Ph.D.-project that aims to examine the categories of theory and practice as they are lived, enunciated and practiced in teacher education. Part of my research has focused on how theory and practice are enunciated as discursive categories in relation to technological objects such as whiteboards, objects to perform experiments in science education and other objects. Theoretical framework: I'm inspired by sociomaterialism combined with theories about enunciation. As I study how theory and practice are enunciated among a group of students, I focus on how this enunciation happens both linguistically but also physically in relation to objects. Methodology: The project is based on an anthropological fieldwork where I have followed a group of students at a teacher education in Denmark. These students are in the process of becoming science teachers, and I have followed them by doing participant observation among them for five months and followed them during classes, lunch breaks, group work, during one month internship at a public school and in any other context that has been possible and relevant. Findings:The fieldwork has brought my attention to a concept I call the wow-effect. This should be understood as the sound you say, "wow!", when something amazes you. There seems to be a tendency among the

students to expect to be wowed by technology in their own education but also that a good teacher is able to wow the pupils in the schools where they later will practice their professionalism. The wow-effect appears to be in opposition to more stagnant activities such as listening to lectures and reading books which is also what these students find difficult. Theoretical and educational significance of the research: The project addresses the problems and possibilities of how technologies and the following wow-effect influence the learning processes of the theoretical and practical parts of the teacher education.

36. Sara Sintonen, Finland, University of Helsinki: Small screens, big thoughts. Finnish children as digital media content creators.

Abstract: LATU – 'Lapset tuottavat' is a research project focusing on children producing digital content with smart devices. The project is funded by the Ministry of Education and Culture (Finland) and is operated together with the Save the Children organization. The first phase of LATU will last until the end of 2013 and it concentrates on Finnish children (aged 8–12) as mobile and smart device users and content creators. In this seminar the findings from our online survey and child interviews conducted between October – December 2012 will be reported. During that time, over 300 school children (aged 8 to 11) answered questions about their mobile use and digital content production. Also, some of the content children has been produced by their own mobile devices has been analyzed. The findings in our survey suggest that mobile digital content creation is spontaneous and done by children's own volition. Mobile devices are important for children, and part of their everyday life. Children are skillful and creative producers in their everyday actions. Children use their mobile phone cameras for multiple reasons, shooting things and issues being valuable for them. Digital content creation has also many meanings from self-expression to remembering for children. On the basis of our research Finnish children seem to be very technology oriented users. In this age group, the digital landscape of their everyday life is just about to widen - they are at the doorstep of online participation and sharing. Our findings also show that some equality is lacking among young children. The digital divide is relevant phenomena among them meaning 'digital natives' is an illusion. These findings suggest heavily more productive, creative, sharable approach for future media education.

39. Norbert Pachler, United Kingdom, Institute of Education, London & A Redondo, United Kingdom, University of Bedfordshire: A critical exploration of the impact of technology on pedagogy and teacher effectiveness

Abstract: This paper starts with a discussion of discourses in teacher effectiveness in relation to available evidence of the impact of technology on teaching and learning. This will be followed by a brief exploration of the characteristics and affordances of technology in relation to teaching and learning in compulsory schooling with a particular focus on digital technologies, social and mobile media. Implications for practice will be discussed with a particular focus on technological pedagogical content knowledge and other conceptualisations of the role of technology in pedagogy. Finally, the paper will delineate attendant issues for the initial training and professional development of teachers. Throughout reference will be made to recent and relevant conceptual, theoretical and empirical work in these fields.

40. Tina Vrsnik Perse, Slovenia, University of Maribor, Faculty of Education, Ljubljana & Miro Puhek, Slovenia, Sinergise d.o.o.: THE IMPORTANCE OF REAL AND VIRTUAL FIELD WORK FOR STUDENTS, PROSPECTIVE TEACHERS AND TEACHERS

Abstract: Field work has been recognised as one of the methods for achieving the basic competences in science and technology. In the research the results of 386 ISCED 2 teachers, 192 prospective teachers and 211 lower secondary school students from Slovenia were analysed regarding the importance of the field work and the information and communication technology (ICT) as a solution to support or replace the field work itself. The main aim of the analysis was to compare the points of view in all stages: from students to teachers. Also the comparisons with international

data from TIMSS and TALIS studies will be presented. Students are generally exposed to the natural environment through the active participation and the practical work, what usually helps them to better connect the theory with practice. However, the analysis shows that students, prospective teachers and teachers tend to acknowledge a very positive effect to this kind of learning, despite the obstacles that are connected with it. In the first part of the research, as teacher educators, we were interested in the comparison of the experiences with the perspective of overcoming those obstacles, where the statistical significant difference was noticed between the prospective and experienced teachers ($p < 0.00$). Also, the possibilities to overcome those obstacles with the help of ICT were researched, since the ICT was in other studies recognised as one of possible solutions. The non-parametric analyses showed that teachers are less willing to replace the real field work with the virtual one than students ($p < 0.00$). Finally, the comparison of the usage of ICT at home and in the school environment was made, where, as predicted, students tend to be more digitally competent as their teachers. Also, the statistical significant difference pointed out that older teachers are less favourable to the new technologies than their younger colleagues ($p < 0.00$). When analysing the international TIMSS 2011 data it is evident that internationally almost half of students have teachers that report of computer technology being available for teaching science. Interestingly science achievements in TIMSS show no significant differences between students who have access to ICT and those who don't. Again TALIS 2009 data shows that 25 % of ISCED 2 teachers in Slovenia and internationally expresses a need for further development in the ICT area. Clearly ICT is penetrating almost every part of our lives and therefore also teaching and teaching education, but we must not forget about the nature – that is the only optimal perspective for a synergized together of both of them.

42. Martina Paatela-Nieminen, Finland, University of Helsinki: Creating subjective rhizomes with social media in Internet 2.0 virtual art space

Abstract: Internet 2.0 offers different ways of studying, learning and sharing intercultural knowledge besides a huge amount of information. Internet thus offers many unexplored opportunities for art education practice and research. As information is scattered on the Internet one needs to know how to "navigate", learn and create knowledge and meanings from the rhizomes of different kinds of information. I am interested in how one can use new technologies in teaching, learning and teacher education. In this paper I ask how one can study arts meaningfully and create meanings from the different kinds of information on the Internet in art and media education. My viewpoint is intertextual, intercultural and intermedial as I designed, in my doctoral dissertation, an intertextual method for use in art education research with which one can study visual, verbal and auditory texts in relation to other texts. In this paper I study different media texts on the Internet. This intertextual method offers a means to study and create meanings open-endedly and rhizomatically in a virtual art space of the Internet. This can also be called a cultural memory, a space of layered significances or plateaus where different meanings exist and multiples can be created. The intertextual method was applied in two different Media Education courses for teachers (PALMENIA) and teacher students (STEP), which were held in Autumn 2012 and in spring 2013 in the University of Helsinki. The students applied the intertextual method for studying media texts with different kinds of social media (mostly Prezi). The focus of the study was new media in open-ended learning. Subjective rhizomes were created intertextually through local and global relations in the virtual art space. Intertextual reading is challenging because in the interpretative process one moves broadly within the text's culture and interculturally at all its different levels. One explores texts through a plurality of readings. Understanding plurality is the outcome of this intertextual approach.

43. Kairit Tammets & Mart Laanpere, Estonia, Tallinn University: The role of e-portfolio in transition from initial teacher education to working life

Abstract: This paper explores the potential of the professional development e-portfolio as a mediating artifact and activity space that smoothens the transition from the initial teacher education to the working life of novice teachers.

Today such transition is often perceived as disruption, because the academic studies in the university have a little in common with everyday professional practice of novice teachers. While teachers' accreditation requirements and certification process are undergoing a radical change in Estonia, the competence-based professional development becomes more relevant and the role of e-portfolio is gaining importance. E-portfolio may become the shared technological space for diffusing the academic knowledge with professional practice. Our research shows that e-portfolio could strengthen the sense of continuity and address the gap between academic teacher education and professional practice of teachers, if certain preconditions are followed. First, it is important that e-portfolios are created already in the early stage of initial teacher education in order to nurture the habits of documenting, reflecting and sharing one's learning experiences. Second, the same e-portfolios should be eligible as evaluation tools in the induction year, qualification and accreditation. Third, e-portfolio should be acknowledged by the professional community of teachers as representation of one's digital identity. Fourth, e-portfolio should follow technical standards to guarantee its interoperability, scalability and durability. Our study is a follow-up to two previous R&D projects addressing the design and implementation of professional development e-portfolios in the context of teacher education in Estonia: OPAH and IntelLEO. In the first phase of our design-based research, empirical data was collected online survey involving teachers from 102 Estonian schools, followed by focus group interviews with the teachers. Analysis of this data led us to proposing the conceptual model and design of e-portfolio.

44. Mart Laanpere & Eve Eisenschmidt, Estonia, Tallinn University & Kairit Tammets, Estonia, Tallinna Ülikool: Defining the teachers' digital competencies in the new professional qualification standard for Estonian teachers

Abstract: In 2012, Estonian Qualification Agency initiated the process of developing the new professional qualification standard for teachers (PQST), in line with European Qualification Framework. The initial draft of the new PQST included several references to teachers' digital competencies. Yet, these references were considered as controversial and it caused heated discussions among the teacher educators and Estonian e-learning community. The controversy lies in the proposal to include two different digital competence frameworks in PQST: European Computer Driving License (ECDL) for defining basic ICT-skills of teachers, and National Educational Technology Standard for Teachers created by the International Society of Technology in Education (ISTE). We have addressed the issues of specifying and evaluating of teachers' digital competencies in two recent studies: one from FP7 ICT project Intelleo, another dealt with designing of Web-based tool Digimina for self- and peer-assessment of teachers' digital competencies. The results of these studies and also the proposals made by the DigiComp study of IPTS suggest the need for reconsidering the use of generic ECDL in the context of teacher education. This paper aims to analyse the differences (strengths and weaknesses) and incompatibility of ECDL and ISTE frameworks in the context of PQST. We are going to argue that only ISTE framework is suitable for defining the requirements for teachers' digital competence, as it represents new evaluation culture, is compliant with the current situation and future needs of digital-age schools, and is taking account the specificity and the context of teachers' work. Our theoretical analysis is validated by an empirical study, involving focus group interviews with the representatives of initial teacher education programme, Estonian Teachers' Association and teacher trainers from Tiger Leap Foundation and Estonian IT Foundation.

45. Joanna Kosowska-Pikos, Poland, Education Inspectorate in Cracow (Kuratorium Oświaty w Krakowie): School evaluation as a tool to ensure raising standards of Polish education

Abstract: School evaluation as a tool to ensure raising standards of Polish education". Joanna Kosowska – Pikos, senior inspector, Kuratorium Oświaty w Krakowie (Education Inspectorate in Cracow). The aims of this research is to investigate the possible effects on the quality of Polish education which may have resulted from the educational reform (2009) which reorganised the system of school inspections. Since 2009 the core of the inspection models is external school evaluation conducted by independent inspectors. Four main areas of school

activities have been outline: the effects (inc. learning outcomes); the teaching and learning processes; the interactions within the local community and the school management. The paper has been developed during the process of assessing the effectiveness of the approach. Being an experienced inspector gives the author the practical perspective. The results of this study may also contribute to the formulation of recommendations focused on: improving the system of inspections; making the criteria of school assessment and evaluation more universal and objective; supporting the improvement of school as far as the quality of education is concerned. The model of documenting the outcomes of school evaluation is based on the interactive database, which among others enables to compare the results of different schools.

46. Jarkko Mylläri, Finland, University of Helsinki, Department of Teacher Education & Mikael Kivelä, Finland, University of Helsinki, Institute of Behavioural Sciences: Where is Edmodo?

Abstract: This working paper aims to map out the topology of Edmodo, a learning management system designed for a “increasingly connected world”. For us connectedness refers to both closeness and the possibility of access from one point to another in a number of dimensions. Drawing on de Landa’s work on the philosophy of Deleuze and Guattari we approach learning spaces as assemblages, historically contingent collections of heterogeneous components. Hence our cartographic method is to annotate and visualize the connections and relations of these components over time without a presupposed structure. So 'where' is in-between some Informed by Taina Buchers recent work on programmed sociality we focused mainly on the expressive and territorializing aspects of Edmodo like user roles and the content and structure of communication within. Is it approached as the school’s Facebook? How do the practices and policies of the institutionalized education from classroom routines to national curriculum design relate to and change because of the use of Edmodo? To address these issues, we analyzed the use of Edmodo during the first year of its deployment on elementary school grades 4, 5 and 6. The selected six groups, two from each grade, total at 100 students. In addition to illustrating the different roles and their uptake and modification by the students and teachers, we also depicted the intensities of interaction on the platform. For the latter, we made a distinction between the communication related to formal curriculum, i.e. school assignments and the informal discussions taking place in the "free-form-chat-walls." Our preliminary findings suggest that the social-media-like platform activates a particular mode of communication, which in turn does not fully comply with the teacher-student role of the participant or the formal-informal style of expression.

48. Jari Laru, Finland, University of Oulu: Scaffolding mobile computer supported collaborative learning with collaborative scripts

Abstract: The use of mobile devices, including mobile phones and tablets, is a growing trend in education. The practice has been widely technology-driven and often justified simply by the importance of using new technology in a classroom and by claiming them to be important to reach something called, not that well defined, 21st century skills. This paper is one answer to that challenge, while it brings together theoretical ideas of scaffolding learning with collaborative scripts and use of mobile devices as cognitive tools in a real life educational settings. This paper is based on my recent doctoral thesis and is theoretically grounded outlook to how important instructional design actually is when collaborative learning is supported with emergent technologies. Study has constructivist grounds and aims at exploring how to support collaborative learning when students have ill-structured problems and their activities are supported with mobile technologies. This study consists of the three case studies which together form an example of how important is to design, develop and deliver lightweight digital tools and activities for learners to construct knowledge. Overall, results of three case studies in my doctoral thesis confirms that it’s a dubious assumptation that learners will automatically take appropriate and measured advantage of the affordances of mobile devices and other emergent technologies involved in cognitive activities with them, instead these cognitive tools require deliberate attention and effort from learners to make use of the affordances of the tools. Furthermore, results from the case

studies revealed that personal factors such as students' prior knowledge, metacognitive and collaborative skills, as well as contextual cues such as cultural compatibility and instructional methods influenced student engagement.

49. Heikki Kontturi, Finland, University of Oulu: Supporting self-regulated learning in the UBIKO learning environment: cases from teachers' and pupils.

Abstract: Aims: This study aims to find out how primary school pupils (n=111) self-regulate their learning in the UBIKO learning environment and how the teachers (n=6) describe their experiences while supporting pupils' self-regulated learning. The study is part of large pedagogical development project, UBIKO (2011-2013), which has a holistic approach (pedagogy, infrastructure, culture) to modify school life to the 21st century learning needs.. Theoretical framework: Learners can be taught to study more effectively by supporting their own abilities to self-regulate their learning. (Boekaerts et al., 2000; Winne &Jamieson- Noel, 2002). In addition of strong understanding of SRL – contextually linked research is needed to analyse the nature of effective classroom management strategies. Methodology: Study implemented during school year 2012-2013, which consisted 4 working session (5-6weeks). Pupils reported weekly their experiences. In addition pupils took part to stimulated recall interview conducted by the researcher after every work session. Teachers and teacher students also reported what has actually happened in learning environment and the researcher will conduct a thematic interview to teachers in May 2013. Findings: Preliminary results show the development in pupils' awareness of their learning. Changes in learning environment seems to inspire both teachers and pupils. Data examples will be presented in the conference in order to illustrate the contribution of the UBIKO pedagogical principles and pupils' self-regulation. Further analysis is needed find detailed development profiles of pupils and compare development to work done in learning environment during school year. Theoretical and educational significance of the research: This study is a long term intervention where data is collected in real school context as part of normal school life. The purpose is to find new information for future school development and teacher training.

50. Pasi Mattila & Leena Arhippainen & Tanja Ryymin, Finland, Center for Internet Excellence: Towards innovative and user friendly future learning spaces

Abstract: Learning is at the core of the society and its renewal. There is a need to develop a socio-technical engaging learning environment. In this kind of innovative future learning spaces, individuals and teams in different contexts, learning environments, exploiting new technologies, can develop their skills and competences in the best possible way. Innovative physical learning environment and immersive 3D virtual worlds create spaces enabling new educational methods and pedagogical models. Development of future innovative learning environments involves stakeholders from a range of education environments using a Living Lab approach focusing on key innovation, research and impact measures. The aim of this paper is to encourage creating a new knowledge in new learning spaces through collaboration and social interaction instead of transmitting existing information on the traditional classroom. We have designed, developed and researched a range of extensible learning solutions based on the combination of ´smart active classroom´ physical world components, immersive activities and learning solutions. Components are integrated into innovative physical learning spaces and virtual immersive learning environments in order to facilitate structuring and supporting collaborative learning activities. This paper presents the findings of the study and outlines basic ideas about development of an innovative physical learning environment and a future learning space which support user's needs. Findings are based on empirical case studies and the research material is analyzed using qualitative and quantitative methods. This information will help to develop teacher training and physical learning environments from a traditional classroom towards future learning spaces taking into account immersive environments and utilizing digital learning materials and ubiquitous technology solutions. Based on this case study, we also explore opportunities for new products, content, solutions and applications across this domain.

51. Katsuhiro Yamazumi, Japan, Kansai University: From closed autonomy to networked hybridity: An activity-theoretical study of teachers' learning

Abstract: Aims: This paper addresses the development of new forms of teachers' learning and professional growth. In this development, the institutional logic of teacher education would be transformed from 'closed autonomy' to 'networked hybridity.' In other words, we should break away from the closed, isolated expertise of a teacher upward to the linear and vertical dimension and move into horizontally expanded, collaborative learning of teachers taking place in a professional community across institutional boundaries. Methodology: In the paper, I describe the results of our intervention research project in teachers' lesson study meetings at municipal schools in Osaka; the project was based on the framework of cultural-historical activity theory. A current 'third generation activity theory' expands the limits of a single activity system and adopts as its unit of analysis multiple different activity systems with a partially shared object that mutually interact. Findings: With the help of the third generation framework of activity theory, the analysis of the project leads to the findings that the process and cycle of teachers' learning in lesson study meetings at the school sites involved boundary-crossing actions to try to break deep constraints and built-in obstacles to collaborative self-organizing in schools. Theoretical and educational significance of the research: The paper contributes to empirical intervention research to facilitate teachers' boundary-crossing and networked learning as collaborative, self-organizing processes for transforming the activity of school learning itself from within. This paper also suggests the potential offered by activity theory for analyzing and creating new, expanded forms of teachers' learning, giving rise to a new concept and design of teacher development as 'collaborative and networked expertise.'

53. Hannu Salmi & Veera Kallunki, Finland, University of Helsinki: New Educational Model or Paradigm

Abstract: Computer and communication technologies have profoundly altered our every-day lives. Since more than a decade, great promises for improving education aroused, too. However, clear qualitative or quantitative results are still missing. Recently, the thematic issue of the Science under the headline Making a Science of Education demanded a great deal of high-quality research by focussing on the utilisation and effects of the new technologies in both, school and informal learning environments as well. Only by careful monitoring students' learning outcomes we may narrow the numerous variable spectrum in order to specifically determine the effectiveness of different technologies and new learning methods. (Alberts, 2009, 15). Augmented Reality (AR) technology has become more widely known only recently, during the 2010s´, in science education. While this technology up to now mainly was used by very special users such as the military and high-tech companies it gradually converts into wider educational use. Specific research programmes have applied this technology with a specific focus on selected learning scenarios by a close co-operation of formal education and informal learning. Empirical effects related to intrinsic motivation and cognitive learning of students have been found encouraging. (Salmi, Sotiriou & Bogner 2010). Learning was administrated in this survey both in practical, experimental level and as a research project. The miniature hands-on exhibits (Doppler-effect; Bolztmann - molecule movement; Young experiment - quantum mechanics; Double-cone – classic mechanics; Bernoulli – wing dynamics) have been evaluated thoroughly. The learning effect seems to be clear. It is essential to create "Pre-material – Science centre visit – Post-material" –model to receive permanent motivational and knowledge learning results. The content has to be integrated into the school curriculum. Both aspects have been received in the Science Center to Go and the on-going NÄKYVÄ - research project (N: 210).

54. Päivi Virtanen & Hannele Niemi & Anne Nevgi, Finland, University of Helsinki: Self-Regulated Learning and Activating Learning Promoting Student Teachers' Professional Competences

Abstract: In educational practice, the importance to promote students' self-regulated learning (SRL) is increasingly being recognised by policy makers throughout Europe (Vrieling, Bastiaens & Stijnen, 2010). In addition, in Finland and in some other European countries, teachers are expected to work as independent professionals at schools and more broadly in the surrounding society, and as developers of their own work. There is evidence that students more

effective in SRL achieve the highest (e.g. Pintrich, 2000; Pintrich & Zusho, 2007; Zimmerman, 2008). However, findings suggest that SRL is difficult to attain by student teachers (e.g., Kramarski & Michalsky, 2010; Perry et al., 2007; Randi, 2004). Thus, it is crucial for student teachers to learn to recognise and develop their SRL skills in order to become professionals and to be able to guide their students towards SRL. This study focuses on how the activating learning methods promote student teachers' SRL and how SRL is related to the development of professional competences. The data were collected by a web questionnaire from student teachers (N=422) in two Finnish universities. Correlation and regression analyses revealed that the use of activating learning methods in teacher education program was highly related to student teachers' skills in SRL (Pintrich, 2000), e.g. activated metacognition significantly predicted student teachers' scores on self-efficacy, motivation, self-management, and persistency. In addition, student teachers' SRL correlated strongly with their development in professional competences such as: designing own instruction, co-operation with others, ethical commitments in teaching profession, taking into account pupil diversity and preparing them for the future, and teacher's own professional growth (Niemi, 2012). This study evidenced that when student teachers' development, particularly in SRL, is enhanced with the use of activating learning methods it is possible for them to become professionals who can take into account the requirements the modern society sets for teachers themselves and for the students, the becoming future citizens.

55. Jüri Kurvits, Estonia, Tallinn University / University of Helsinki & Marina Kurvits, Estonia, Tallinn Technical Secondary School: Enhancing knowledge and skill acquisition through the use of student-centered models: the flipped classroom and collaborative learning

Abstract: We may realize that we live in a constantly and rapidly changing world and understand that the impact of technology on our lives is increasing dramatically; we may be abreast of the 21st-century competencies; we may have the 21st-century technology in the classroom and various web-based instruments at our disposal; yet that alone does not make us into 21st-century teachers. We will only be 21st-century teachers if our teaching methods follow suit. In our presentation we will discuss different approaches to teaching mathematics and models of teaching: "Direct", "Radical", "Social". Especially we will focus on the blend of "Radical" and "Social" models of teaching: the flipped classroom and collaborative learning. We will present different cases of how we already changed teaching and learning mathematics in grades 10 – 12 and at university level, how technology and web-based instruments helped us to realize our approach of teaching mathematics in practise. According to our approach mathematics is certainly not just a set of algorithms and facts. In the first place it is creative, exciting co-operation which results in discovery different exciting relationships and properties. The teacher's goal is to create the most productive study environment and to act as a flexible tutor for a student. Different test measuring students' beliefs and understandings about mathematics teaching and learning were conducted before and after the courses. The results show the change in students' beliefs about teaching and learning mathematics. Based on this experience we are developing teacher training program at our university. Also we are planning to conduct new innovative course next year and integrate this course with other courses (didactics of mathematics and teaching practise).

56. Olga Agapova & Alex Ushakov, United States, Vostok LLC: Design Principles of Teaching and Learning Spaces

Abstract: Key Words: design principles, teaching/learning spaces, new pedagogy, cognitive processes, innovations, learning tools, learning styles, personalized instructional materials, level difficulty, evaluation. This paper will introduce design principles, structure, pedagogy, cognitive processes, and practices for augmented virtual learning environment, which can help teachers to create learning spaces for science disciplines with the assistant of new technology.
The ChemDiscovery multidimensional, interactive, virtual space is a workable example of educationally integrated collection of a rich assortment of instructional materials for teaching and learning science. Their structure, learning tools, and highly flexible configuration were designed to accommodate students with differing abilities, interests, and

backgrounds.
The paper will describe findings and differences of ChemDiscovery from traditional curricula; will show innovative way to represent and interrelated scientific concepts; and will in detail explain the purpose of learning tools such as Overview and Topic Planner, Student's Activities, Knowledge Resources, Design Studios, Interactive Databases, Laboratories (hand-on and virtual investigations), Computational Laboratory, and Virtual Trips.
New pedagogy that is required by new technology will be described as well. There are individualized paths through learning space, step-by-step knowledge discovery, capability to choose personalized learning style, design of virtual world, and many others. Independent program evaluation of ChemQuest (the original name of ChemDiscovery) by classroom observations, individual student/teacher journals, notes, interviews, and pre-posttest results in control and experimental classes conducted in 20 U.S. beta and field test classrooms.

57. Niina Impiö, Finland, University of Oulu: Development of teachers' understanding of collaborative learning

Abstract: The teachers' way of working has changed from independent trade to knowledge sharing (Alexander, 2003). Findings so far indicate that teachers do collaborate in their work but collaborative practices and working skills are not established yet, and need to be further developed. Aim of this study is to understand teachers' development of collaborative learning both in the context of working life and master's programme studies. The research questions are: 1) How teachers reflect their development of collaborative learning?, and 2) How teachers' development of collaborative learning can be re-contextualized to work life practices?
The data was collected by teachers' (n=12) interviews (n=36) and reflections (n=72) during years 2009-2013. Participants were teachers from different educational fields (university, polytechnic, and secondary education). The data were analyzed using data-driven content analysis methods (Chi, 1997). The findings reveal that teachers' attitude toward collaborative learning has changed during the master's programme studies. Teachers are more willing and feel more capable to use collaborative teaching methods in their work after they have had own experiences from collaborative learning, and after they have studied theories of collaborative learning. Teachers feel that due to being familiar with collaborative learning both in theory and practice, they are more confident to suggest using collaborative working methods while working together with colleagues. The results show changes in teacher students experiences in collaborative learning, both in content and behavioural level; they started to act as agents to bring forth changes in their teaching practices and work place collaborative practices.
The findings have implications for practices in teacher education. There is need to develop new methods for teacher training in order to enhance teachers' collaborative working skills. This study shows what is essential in teachers' collaboration in everyday working practices.

58. Olga Agapova & Agapova Ushakov, United States, Vostok LLC: CYCLES: Collaborative Youth-Centered Learning Environment for the Sciences

Abstract: CYCLES is a prototype of innovative web-based teaching/learning space with social platform and mixed-reality environment. It merges three educationally successful technologies available on-line: Video streaming (T1) - to act as a "hook", which will points to a problem and attracts social learner's attention; Videoconferencing (T2) – to gather people together and support dialogue in a virtual community; and Games/simulations (T3) – to help learners understand better key chemistry/ biochemistry concepts and hold their interest of in food/water/household chemistry in a sustainable way. In the CYCLES portal, the modules are represented by virtual switchable rooms such as, (A) The Cinema Room (T1) with hot topics of the week; (B) Virtual Cafe (T2), where participants may login in to the CYCLES portal and be virtually presented for conversations and discussions. into a Cinema Room; (C) Virtual NanoKitchen (T1, T3), here learners have the capability to apply food chemistry via virtual cooking through the development of healthful 'molecular recipes"; (D) A Science Fun Room (T3) with on strategic games featuring a cartoon-like character named Cyclic who symbolizes the wholeness of one human body; and finally (E) An Online

Library that links to various databases and academic resources. On a need-to-know basis, CYCLES participants will be self-led on a quest of their choosing that will promote useful scientific information, culminating in a direct impact on their lifestyle. Also, in unique fashion, users will have a real voice in the online community and they will be inspired to initiate societal activities to limit use and production of unhealthy “chemicals” products, which they consume through eating or drinking, or exposed to through or skin.

59. Antoni Navarro & Felipe Segura & Jose Miquel Lillo, Spain, IES Isabel de Villena (Valencia) Secondary School & Paloma Silla, Spain, CEFIRE DE VALENCIA (Teachers Center of Valencia): A video storytelling: The skin of my neighbourhood

Abstract: Paint your town and paint the world. Tolstoi. The teachers of IES Isabel de Villena (our secondary school of Valencia 12-18 years) in collaboration whith the CEFIRE de Valencia (Teacher's Center) are conducting an initiation workshop documentary Minidocus at classroom. The purpose of this workshop about small documentaries in the classroom is to educate the attention and eyes to the world in which they move and train students to use the technique of digital and video narrative storytelling to implement with students. The main objective of this workshop is to be able to know as teachers tell stories through the camera.
The theme of the project work will be the skin of my neighborhood. That is, narrate, analyze and life stories will shoot from what we observe in the street life and everyday life in our neighborhood.

61. Hüseyin Özçınar & Sabahattin Yaşa & Tayfun Tanyeri & Hurşit Cem Salar, Turkey, Pamukkale Üniversitesi: The Role of Online Learning Environment in Increasing Effectiveness of Student Teaching Experience

Abstract: School practice is being accepted as the most important part of teacher training programs in teacher training literature. However, it is also suggested that problems in school practice period could damage the process and even it could be misleading for student teachers. Affordances of technology can help in supporting pre-service teachers in this period. This study aims to investigate effectiveness of online learning environment in supporting pre-service teachers in school practice period. In this study mixed method research design was used to investigate effectiveness of online learning environment on pre-service teachers’ school placement process. In order to investigate effect of intervention on pre-service teachers’ ability to analyse teaching practice, pre-service teachers’ discussion messages were used. Perceived effectiveness of online learning environment was explored using interview and questionnaire data. Content analysis of pre-service teachers’ interview data were revealed that pre-service teachers perceive online learning environment as a way of sharing experiences and relaxing. Pre-service teachers’ thinks that scaffolding online discussion environment with note starters is increasing argumentativeness of messages. In teacher education literature it is stated that one of the most mentioned problems in student teaching period is inadequate feedback from teacher training coach and school teacher. It is thought that findings of this study can be guiding for teacher educators in providing feedback. In discussions students tends to superficially agree with each other, this behavior decrease reflective and critical thinking level in online discussions. Scaffolding online discussions with note starters can help students in structuring their ideas and increasing reflective thinking level in online discussions. It is expected that, from this perspective, findings of this study can be guiding for educators and researchers.

62. Tayfun Tanyeri & Huseyin Ozcinar, Turkey, Pamukkale University: Determining the Effectiveness of Web 2.0 Tools in the Development of SCORM-compliant Learning Objects

Abstract: The purpose of this study is to determine the "Design and Use of Instructional Material" course how the interaction could be improved with the support of the wiki. In addition it is aimed to develop learning objects in SCORM format for "Computer I" course which is taught during the first year of teacher education programs. In this

study it is aimed to make pre-service teachers to use wiki in a planned manner and provide them a technologically rich learning and communication environment. In this study PbWorks which is a wiki page was used. With this application pre-service teachers provided a collaborative learning environment. In this process pre-service teachers became both content developers and visitors of learning environment. Instructional materials, which were developed in this study was developed after sharing ideas in this learning environment. In this study, descriptive survey method was used. In order to determine sample of the study, purposive sampling technique was used. A survey which was developed by researcher was used for gathering data. It is thought that, findings of the study could be guiding for both educator and researchers who use collaborative learning which is widely used in today's educational systems. Beside that, this study can be incentive for computer education and instructional technology education department's students, who will be instructional technology expert soon, to use emerging technologies in their professional life. Findings of the study showed that pre-service teachers perceive wikis as a productive way of collaboration.

63. Hurşit Cem Salar, Turkey, Pamukkale University: Open and Distance Learning Readiness of students from Faculty of Education in Turkish Universities

Abstract: Aims: Turkey's Higher Education Strategy 2007 report prepared by the Council of Higher Education, revealed that expectations for higher education system, current problems and proposed solutions. Open and distance learning is considered as one of the solutions. According to report, in case of some of the courses delivered with open and distance learning, it will be possible to increase the capacity of the system and quality of learning with the use of ICT (Information and Communication Technologies). This research is aimed to determine readiness of Turkish university students to open and distance learning in terms of competencies. Competencies include ICT, time management skills and attitudes toward ODL. Theoretical framework: Diffusion of Innovations of Rogers (1962) seeks to explain how innovations are taken up in a population. An innovation is an idea, behaviour, or object that is perceived as new by its audience. According to Rogers, innovations diffuse by personal interests or managerial decisions. Open and distance learning can be considered as an innovation in educational systems. Methodology: The research has been designed as a case study. But quantitative data have been collected via an ODL readiness tool developed by researcher. 1013 surveys collected and analysed. Cases were four education faculties from four universities in Turkey. Findings: The results show that Turkish students in face to face programs from higher education are ready to participate open and distance courses according to readiness tool. There is no difference according to sex and faculty. Also there is a very little relationship between age and readiness. At least half of the students from each and all universities want to participate to open and distance courses. Students have enough ICT competencies. Also they have moderate time management skills. Theoretical and educational significance of the research: Some of the traditional universities in Turkey and the world deliver some courses with open and distance learning. Also the number of these universities increases rapidly. It is possible to say that open and distance learning diffuses as an innovation. But the structure of open and distance learning institutions has a different structure and mode of operation than traditional education system. For this reason, the successful operate of ODL requires institutional and individual competencies. So students' ODL readiness is one of the key factors for positive outcomes.

64. Hurşit Cem Salar & Hüseyin Kıran, Turkey, Pamukkale University: Open and Distance Learning Readiness of Instructors from Faculty of Education in Turkish Universities

Abstract: Aims: Higher education is at the centre of scientific research activities and educate people to acquire a profession. Technological developments, economical changes and other factors affect education systems. Turkey's Higher Education Strategy 2007 report prepared by the Council of Higher Education includes some courses to be offered via Open and Distance Learning (ODL). This research aims to determine ODL readiness of instructors in four faculties of education in the Turkish university context in terms of competencies. Competencies include ICT, time management skills and attitudes toward ODL. Theoretical framework: Diffusion of Innovations of Rogers (1962) seeks

to explain how innovations are taken up in a population. An innovation is an idea, behaviour, or object that is perceived as new by its audience. According to Rogers, innovations diffuse by personal interests or managerial decisions. Open and distance learning can be considered as an innovation in educational systems. Faculties, universities and instructors around the world deliver courses via e-learning or distance learning. Methodology: The research has been designed as a case study. Qualitative data have been collected and analysed. Cases were four universities in Turkey. Findings: The results show that instructors in Turkish universities in face to face programs from higher education are ready to participate in open and distance courses. At least half of the instructors from each and all universities want to participate in open and distance courses, if an ODL option is offered by faculty administration. Also they have no negative attitudes toward ODL. However they need to be informed about ODL and ODL applications. Instructors believe they have enough time management and ICT skills. Theoretical and educational significance of the research: Some of the traditional universities in Turkey and in the world deliver some courses via open and distance learning. Also the number of these universities increases rapidly. It is possible to say that ODL diffuses as an innovation, but the structure ODL institutions have a different structure and mode of operation from traditional education system. For this reason, the successful operation of open and distance learning requires institutional and individual competencies. This research also examines the validity of diffusion of ODL as an innovation through instructors.

65. Marianna Vivitsou & Jennifer Saari & Vilhelmiina Harju & Jari Multisilta & Anna Siewiorek & Jari Honkala, Finland, CICERO Learning Network, University of Helsinki & Hannele Niemi, Finland, Institute of Behavioral Sciences, University of Helsinki: Navigating the emerging ecosystem of digital learning: A teacher's toolkit for the 21st century.

Abstract: What challenges are faced by, and corresponding competencies required from, teachers and schools in order to navigate an educational landscape that is being transformed by rapidly advancing technologies? In this paper, a framework to address that question is presented. With this conceptualization, we contend that, rather than focus on the implementation and adoption of one particular technology or classroom practice, teachers and schools require a set of competencies that will support the continual, iterative adoption and evolution of technology use in the classroom to enhance learning. Just as the key skills highlighted for students for the 21st century focus on transferable, transversal skills, the teacher's toolkit does not comprise a tidy list of technologies and applications, but rather, we argue, a set of competencies for navigating the complexity created by the exponential growth of educational technology and digital content. This framework consists of four key areas of challenge and competence: 1. Sharing and privacy: The competencies involved with issues of copyright, sharing and privacy, and wellbeing that are made more complex in digital media; 2. Instrumental: The resources regarding access to technology and to the structures, competencies and self-efficacies needed to support the iterative, entrepreneurial adoption of new technologies; 3. Expressive: The capacity in teachers and schools to develop the pedagogical usability of a given tool, of teachers to use technology creatively, as well as to use it to foster creativity use by students; 4. Leadership: Finally, the characteristics of creating a school climate where community members are enabled to continually test and develop new ways of working with technology within and across school boundaries

67. Roman Shyyan, Ukraine, Lviv Regional In-service Teacher Training Institute: ENTERPRISE EDUCATION NETWORK DEVELOPMENT: RECENT ASPIRATIONS IN UKRAINE

Abstract: The aim of this research is to identify preliminary lessons learnt from recent experience in introducing entrepreneurial approach at school level in different regions all over Ukraine. Particular focus of the research is virtual enterprise education environment developing. Entrepreneurial competence is one of key competencies defined during world-wide education policy discourse. Teachers' capacity to facilitate students' self-driven activity focused on the developing relevant knowledge, skills and attitudes is key issue for successful implementation of entrepreneurial

approach in teaching and learning. For the purposes of this research relevant policy papers and other international and national sources were analysed comparatively; products and other materials of recently implemented international projects dedicated to enterprise education were collected and evaluated; opinion of the participants of projects mentioned above and other interested parties were studied using survey, interviews, focus-group discussions etc. During last decade several tries to introduce entrepreneurial approach at general education level were taken in Ukraine. There were mostly interventions done under bilateral projects locally piloted. Sustainability of those projects is usually not very high. So experience accumulated during and after previous projects is usually very helpful for new projects' implementing. Recently launched Polish-Ukrainian Project "School Academy of Entrepreneurship" financed by Ministry of Foreign Affairs of the Republic of Poland is disseminated in different regions of Ukraine. Extracurricular activities' support (SCE) is the main focus of the Project. Virtual communication platform is key tool for Project support, spreading and sustainability. During 2013 Project is going to be spread wider, including VET-sector involvement, e-learning course implementation, virtual education community strengthening etc. At the recent stage of research essential policy issues, such as participants' motivation, success stories, most effective teaching materials, instruction methods and Project's outcomes are defined in the context of sustainability.

68. Tuulikki Tuominen, Finland, University of Oulu, Department of Architecture & Pasi Kurttila & Markku Lang, Finland, University of Oulu, Teacher Training School: CREATING EDUCATIONAL SETTINGS FOR OPEN PEDAGOGY

Abstract: Current physical and virtual educational settings do not meet the demands of open pedagogy, ie. freedom in pedagogical decision making. In response to this challenge we are introducing two resources (projects MOM and iTEC) for developmental work in schools and a state-of-art solution (UBIKO demo) of teaching and learning facilities. MOM project is gathering data how mission statement of the school routes school design in Finland and how participatory design enables this process. iTEC project is developing a toolkit for the mission statement implementation process from future trends of the school to activities in a classroom in the EU. UBIKO demo serves as a Finnish example of mission statement implementation covering topics of team teaching and flexibility on both study methods and integration of curriculum content. In UBIKO demo a traditional configuration of interior space for five teachers, 20 student teachers and 100 pupils was converted to a flexible, modular and more pleasant teaching and learning facility.

69. Alison Hudson & Teresa Moran & Neil Taylor, United Kingdom, University of Dundee: A Cross European Project exploring the use of ICT to Support the Development of Learning to Learn Competencies and Transition into Higher Education

Abstract: This paper reports on research carried out by a network of European institutions and their associate partners (eLene2learn) into the use of ICT to support transition into higher education and the development of life-long learning to learn competencies. The aim of the eLene2learn project is to develop a multi-stakeholder network in order to explore and promote the contribution of ICT and digital media in supporting the development of learning to learn competencies in lifelong learning transitions. The framework used is modified from: Education Council (2006) Recommendation of the European Parliament and the Council of 18 December 2006 on key competencies for lifelong learning. Brussels: Official Journal of the European Union, 30.12.2006 annex, paragraph 5). A multi-stakeholder Case Study approach is used which involves project partners working with local partners in schools, higher education institutions, professional associations and other networks to implement and evaluate a variety of learning activities. While generic templates have been designed, and are being used for the planning and recording of each Case Study, multiple methods of research and evaluation are being used both within and across the case studies. The findings identify existing practices and ICT tools used to support the development of learning to learn competencies and transition into higher education. The findings also identify the perceived benefits and challenges encountered during the implementation of different approaches. The theoretical and educational significance of the research will be to develop and share understanding of how ICT can be used to support transition into higher education and the development of life-long learning to learn competencies.

70. Frank Thissen, Germany, Stuttgart Media University: The Use of Tablets in Primary Schools–Overview on Worldwide Research

Abstract: Since of introduction of the iPad in 2010 tablet computer are conquering schools all over the world. Departments of Education for example in Australia, Thailand, or Scotland support the introduction of those now devices into schools and classes. Actually there are some worldwide studies on the impact of tablets on pedagogy and the roles of teachers and students, showing that tablets promote self directed and project based learning, force a more open classroom situation, improve learning results and help handicaped students in their learning process. It seems that tablets are a very good tool for learning and for acquiring 21st century skills and competences. But how about primary schools? Can tablets also appropriately be used by young children? Does it make sense using tablets when students mainly starting to learn how to read, write and count? And how about internet access and dangers connected with the Internet and the media use? In the last year I did research on the worldwide status of the use of tablets in schools and accompanied three schools in Germany (two of them are primary schools), that used iPads in various classes with students of ages between 6 and 16. The presentation gives an overview on the research results on the use of tablet in primary schools and shows the actual status.

71. Susanne Dau, Denmark, Aalborg Universitet inst. communication: When creating new learning spaces, the affordance is a key study aspect.

Abstract: This research aims to highlight, how different places and spaces in undergraduate education afford students learning, and development of certain types of knowledge. The question, that this paper address is: What is the affordance of different learning spaces in flexible undergraduate education, and what are the actors prerequisite and explicated understanding of what drives their learning activities in these different spaces? The analysis draws on a conceptual frame of complex affordance of spaces in a socio-cultural perspective, but also the concepts of ba and cyper-ba as spaces for both social and individual knowledge development. Through analysis of empirical data, gained through a pragmatic mixed method approach, is the role of different face-to-face as well as online spaces investigated in the view of students, lectures and practitioners understanding. The major findings regards spaces contribution to sociality, identity, referential embodied experiences as having huge influence on students' preferences and learning activity. The results are addressed to learning and knowledge development. It´s concluded, that individual as well as social constructed learning make influence, and are influenced of the different learning spaces. The students' identity is both a prerequisite in the students interacting with spaces, but also the spaces borders, artifacts' and possibilities, contribute to students' development of identity. Development of identity cannot be separated from learning, and students interacting in learning spaces. The students embodied interaction is both in references to past experiences, as well as under development towards a fictive future, which is both a result of their preferences and of their engagement. On the basis of the concept of affordance, and the frame of social-cultural theory, questions are raised as a tool to take into account, when developing new learning spaces in educations.

72. Kristian Kiili & Pauliina Tuomi, Finland, Tampere University of Technology, Pori: What exergames can provide for future learning spaces?

Abstract: The potential use of games in educational settings is huge because a large and growing population is engaged with playing games. However, the popularity of games has also created problems. For example, obesity and sedentary life style has become a big problem in many countries recently. It has been argued that video games are one of the main reasons for physical inactivity. Furthermore, physical activity in schools has steadily declined since the 1970's. The growing obesity problem has reinforced policymakers and educators to devise strategies that encourage

introduction of novel and engaging physical activities in schools. At the same time, the gaming industry has introduced a game genre that requires the player to be physically involved in the game (e.g. Nintendo Wii, Kinect). In this paper we discuss the possibilities and limitations that exergames can provide for schools. We review exergaming practices that have been introduced to schools and discuss the usefulness of exerbraining games that combine both body and brain training. Exerbraining games provide new possibilities for schools to increase physical activities, because they can be used as an alternative learning solution that can be applied in schools without interfering with the objectives of the curriculum. The aims of the proposed approach are convergent with the EU strategy for "Europe on Nutrition, Overweight and Obesity related health issues". One of the four pillars defined to tackle obesity is a clear reduction in high-risk behaviors, including lack of physical exercise and poor nutrition. According to this, the EU stresses the importance of introducing good practices regarding the provision of regular physical activity in schools. The paper will present the results of the survey that was used to study the exergaming preferences of primary and junior high school students (N=471). The demands and preferences of students provide useful information for educators and exergame developers. Finally, we present a collaborative exerbraining game that we developed based on the results of the survey.

73. Hannele Niemi & Anna Maija Siljander, Finland, University of Helsinki: Towards Induction – Training Mentors for New Teachers

Abstract: Rationale Induction of new teachers is one of the key priorities of the European Commission for promoting teachers' career-long development. By reviewing the latest research evidence, and by comparing policies from a number of Member States, the European Commission has produced a Handbook for Policymakers wishing to introduce induction programs in all member countries. Newly qualified teachers often experience a 'praxis-shock' as they confront the daily school reality. They may feel stressed, especially in schools where they are expected to cope with complex new situations on their own. The conference presentation will introduce a pilot program of training mentors for supporting new teachers on Finland. It also summarizes what experiences mentors have in their work. The training is based on New Teacher Center's model developed in 20 years in Santa Cruz, California. This model has been modified earlier into Scottish Induction Program. The mentoring project in Finland has modified basic principles of this this model into the Finnish educational context. Aims: This conference paper has the following research questions: 1) What are new teachers' biggest concerns and needs in the Finnish context? 2) How do mentors see their role and work when supporting new teachers? Methodology: 13 experienced teachers from different part of Finland participated in the pilot program of mentoring in 2011-2013. They have been interviewed in 2013. The mentors have also interviewed their mentees in the program. The project also collected survey data from 45 new teachers who were active in Teacher Union's new teachers' group. Interviews have been analyzed using content analysis. The survey data is analyzed using descriptive, ANOVA and correlative methods. Findings: The most challenging situations of new teachers are difficult students and how to manage them in the classroom situations and how to help their learning. Another difficult task area is facing parents and how to cooperate with them. When analyzing mentors' experiences the following main categories could be found: (1) Building a new identity: Becoming a facilitator and building scaffolds; Learning to ask questions, not giving answers; Learning to listen, Seeing mentoring as a mutual learning process. (2) Facing Challenging contexts as mentors: Helping new teachers in challenging situations or crisis of difficult students or parents; Allowing to discuss about difficult topics, Being available, sometimes even 24 hours through e-mails and on-line; (3) Developing trusting relationships: Helping new teachers to join a school community; Helping new teachers' voice to be heard in a school community, (4) Accelerating teacher development: Supporting in surviving situations when a new teacher is tired; Helping to understand situations from students' perspectives and viewpoints; Helping new teachers to set their problems in a right scale and overcome difficult situations, and (5) Learning Leadership: Becoming aware of how much they have experiences and competences of teaching and school life; Becoming aware that they are leaders when mentoring. The mentors' major problem was how find time for mentoring and had opportunities to visit also new teachers' classrooms. So far there is no official system in Finland and all mentoring practices has be solved case by case. Educational significance: The findings give important knowledge for developing

induction programs for new teachers. The study provides also new knowledge how to support mentors and develop effective training for them. The study is in line of those European Commission's efforts provide all new teachers with systematic personal, social and professional support in the early years of their career. Induction and high quality mentors can improve school and teacher performance, and increase students' learning outcomes.

74. Jarmo Viteli & Heikki Sairanen & Mikko Vuorinen, Finland, Univ. of Tampere: Collecting and Using data to Develope Digital Learning Culture at School

Abstract: Collecting and Using data to Develop Digital Learning Culture at School. The use of ICT in schools is varied and can change quickly. In this paper we present a new way of measuring and doing research on ICT in schools that combines ICT research with ICT development in a mutually beneficial way. We have developed a web service that helps schools in their own ICT development. The tool has been widely adopted and now produces new information regularly. The information works on three levels: First, It gives immediate feedback to teacher about her/his use of ICT in education. Second it provides the principal and school community information how our school is doing in the use of ICT and provides comparative information "our school versus other schools and thirdly it is useful for developers, decision makers and politicians on town, province or nation level. The tool can become an integral part of the development cycle of various municipalities and schools. The system can also be seen as a help in finding and identifying the problems in ICT use of schools in the same way that learning analytics does but with a focus on teaching instead of learning. The system could even be seen as nudge analytics, where the idea is to create analytics that can nudge the users in a good direction, in our case to nudge teachers to use ICT in their teaching. In this paper we focus on a couple of fairly basic questions and answer them with the data gathered by the system. An overview of the system is also given. As data we use information gathered in the web service from autumn 2012 until spring 2013. The questionnaire has been answered by over 2500 teachers (n=over 2500). Keywords: learning analytics, ICT in schools, web service, ICT development, ICT practices, teaching analytics

75. Lawrence Aguele & Omorose Uwaifo, Nigeria, Ambrose Alli University, Ekpoma, Nigeria: CHALLENGES OF NEW TECHNOLOGIES IN TEACHING, LEARNING AND TEACHER EDUCATION IN SECONDARY SCHOOLS IN NIGERIA.

Abstract: The application of new technologies is already changing the organization and delivery of lessons in schools. The pedagogical and social economic forces that have led to the use of these new technologies in teaching, learning and teacher education include greater information access, greater communication, increased cooperation and collaboration, cost effectiveness and improvement in pedagogy. However, in the developing nations; these new technologies have not permeated to a great extent in many secondary schools, due to many socio-economic and technological circumstances. In Nigeria, computer studies have just been introduced into the curriculum of secondary schools. The paper therefore reviews the status of the new technologies in schools in terms of presence of facilities, students' readiness and teacher education for the deployment and implementation of these new technologies. The study looked at the challenges facing the integration of these new technologies into the teaching and learning process. Four questions were raised to guide the study which employed the survey research design. The stratified random sampling technique was used to draw the sample for the study. The population for the study consisted of students in the six geopolitical zones in Nigeria. The study found out that facilities were grossly inadequate and students lack the skills to implement the new technologies. It recommended mass provision of facilities and adequate development and preparation of teachers.

76. Sotiria Paltoglou, Greece, Independent Researcher: Create your own learning space for better performance

Abstract: Create your learning space for better performance: The role of informal learning in foreign language teachers' professional development. Aims: Aim of this study is to highlight the importance of everyday informal learning in professional efficiency and skills' development of foreign language teachers in Greece. Further on, is investigated the perception of these forms of learning by teachers themselves as well as their perception of the contribution of informal learning to their professional development. Theoretical framework: Several studies offer evidence that high percentage of teachers engage themselves in professional informal learning. Furthermore, in researches on the types of professional development undertaken, informal learning activities come at first places of teachers preferences. In overall, four main categories, have been identified namely reading, doing and experimenting, reflecting and collaboration. This research focuses on foreign language teachers, due to their special characteristics and explores the informal learning that they undertake. Methodology:- Literature review- Focus group interviews with 20 foreign language teachers Findings:- Informal learning is a key factor to teachers' professional development as it is self- directed and well structured in order to meet exactly the needs of the individual. - Foreign language teachers participate in high extend in informal learning activities most of the times to get update information about the country of which the language they teach. FL Teachers claim that (social) media, networks, conferences/workshops, travelling and literature are the most significant sources for enhancing better performance. Theoretical and educational significance of the research: Teachers' learning opportunities have been described as "mostly scattered, decontextualized events.." (Bobrowsky 2001). Formal training is disconnected from practice, aiming mostly to transmit theoretical knowledge. This study focuses on informal learning and maps most often used informal learning activities in order to promote to a more organised professional development system for teachers.

77. Kevin Burden, United Kingdom, The University of Hull: Developing a pedagogical framework for the use of iPads in schools.

Abstract: Mobile learning is relatively recent and the theoretical base is still under development. This paper uses a socio-cultural and situated theoretical perspective (Brown, Collins, & Duguid, 1989; Vygotsky, 1978) to identify the distinctive pedagogies of mobile devices (in this case iPads) to establish a framework which teachers can use to develop authentic learning scenarios and designs (Herrington, Mantei, Herrington, Olney, & Ferry, 2008).

78. Brian Hudson, United Kingdom, University of Sussex & Mart Laanpere, Estonia, University of Tallinn: Success factors and obstacles in supporting teachers' professional learning in the design of open learning environments using social media in an international learning community

Abstract: This paper reports on a research study conducted as part of a European Commission funded Multilateral Lifelong Learning Transversal ICT Project entitled e-Jump 2.0 "Implementing e-Learning 2.0 in everyday learning processes in higher and vocational education" (2007-09). The project focussed on the professional development needs of teachers in implementing the use of social media and social networking applications in their daily practices. The project involved over 120 participating teachers from East and West Europe, Central Asia, the Far East and China in courses, which focussed on the pedagogical aspects of new technologies of 2nd generation e-learning (e-Learning 2.0) as reported on in Hudson et al. (2009) and referred to as an exemplar in Hudson (2012). The aims of the project included raising the competence and confidence of teachers in the use of e-Learning 2.0, developing e-courses and at the same time identifying success factors for and obstacles to such implementation. A framework of action research was developed to support associated professional and educational development and the sharing of practice amongst the participants through the documentation of small-scale action research projects. The main goal of the project was to connect teacher professional learning communities across Europe through the implementation of 2nd generation e-learning in higher and vocational education. In particular the project aimed to promote e-Learning 2.0, raise the competence and confidence of teachers by developing e-courses for the teachers; develop a framework for action

research by the participants and identify the success factors and obstacles of the courses and e-Learning 2.0. References: Hudson, B. (2012) Aiming for e-Learning Sustainability: Transforming Conceptions of Teachers' Professional e-Learning, Educational Technology, 52, 2, 30-34. Hudson, B., Laanpere, M., Lõssenko, J., Michels, P. F., Nurmela, S. and Popov, O. (2009) Open and flexible global education for all: what role for social media and e-Learning 2.0?, M-2009 - the 23rd ICDE World Conference on Open Learning and Distance Education and the 2009 EADTU Annual Conference, 7-10 June 2009, Open Universiteit Nederland, Maastricht, the Netherlands.

79. Zita Lysaght, Ireland, St. Patrick's College, Drumcondra, Dublin 9: MOOCs, Flipped Classrooms and Adaptive Expertise: A Wake-Up Call for Teacher Educators

Abstract: According to Hammerness et al., (2005), helping prospective teachers become adaptive experts, i.e., professionals with the ability to balance efficiency with innovation in day-to-day teaching, is not something that can be achieved by engaging in a theoretical exploration of the concept. Rather, teachers must be given opportunities to: 1. Divest themselves of the preconceptions about teaching and learning developed during their 'apprenticeship of observation' years (Lortie, 1975); 2. Embrace the 'problem of enactment' (Kennedy, 1999) so that they begin not only to think like teachers but to put their intentions into action in the classroom; 3. Accept and respond creatively to the 'problem of complexity' by developing meta-cognitive knowledge and regulation (Flavell, 1979; Lampert, 2001). Focusing on teacher professional development, scholars emphasise that teacher education is frustrated or progressed by the context, processes and content of the programmes offered (Guskey & Sparkes, 1996), which reflect providers' underlying learning theories, concepts of lifelong learning and their appreciation of the critical importance of social-cognition and situated learning to develop teachers' knowledge in practice (Cochran-Smith & Lytle, 1999; Guskey, 2002, Putnam & Borko, 2000; Shepard, 2000). Against this backdrop, this paper teases out some of the key challenges to teacher educators of utilising emerging web-based teaching and learning strategies and resources (e.g., the flipped classroom and massive open online courses)in an effort to develop the adaptive expertise of prospective teachers.

80. Agnieszka Szplit, The Jan Kochanowski University, New Technologies As A Subject Of University Teacher Professional Development

Aims: The paper presents the research that aimed at finding out how modern technology influences the process of university teacher education. Theoretical framework: The changing educational situation with the need for high quality education, on one hand, and introduction of new technologies in all aspects of life, on the other, require highly competent and skilful university teachers. They are expected to use modern technology to improve their teaching as well as to prepare students to use it. Methodology: The paper describes the research conducted in 2012 and 2013 among 100 Pedagogy students and 30 academics with use of two kinds of questionnaires and additional interviews. Findings: The author compares students' expectation of their university teachers' skills and competence in using new technologies and their opinions about them, as well as the academics' reflection considering their own competences and possibilities of their development. The research covers such issues as using new technology for teacher-student communication, academics' own learning and professional development, and arrangement of the teaching process. It also shows how academics develop their competence in using new technology, through courses and workshops. Theoretical and educational significance of the research: The author gives recommendations related to academics' professional development in order to improve university teaching. Keywords: academics professional development, teacher education, new technology

81. Jacques Lundja, Matumona Roland, Aline, Nanege, Kavira, Yannick, RFChildren, Kinshasa, Congo Youth Refugee student and ICT

Purpose– The aim of this study is to expect the possible results of attempts to encourage social inclusion of youth student from refugee backgrounds by considering diverse research conducted on information and communication technologies (ICTs), social inclusion, and young people of refugee backgrounds. It is argued that, while social inclusion programs might be successful at the local level, it is unclear whether they might truly do more harm than good in other, transnational contexts. Design/methodology/approach. Literature reporting on projects that use ICTs to help social inclusion is critically examined, with specific attention to identifying the foundational assumptions underlying such projects. These foundational statements are considered in relation to findings of research that identifies the transnational character of the experiences, expectations and aspirations of young people of refugee backgrounds. Findings – The analysis highlights a conceptual disjuncture between the local aims of social inclusion and the transnational experiences of youth student with refugee backgrounds. This conceptual disjuncture enhances significant issues about the possible results of any program that aims to use ICTs to support young student from refugee backgrounds. While it is clear that a number of potentially positive outcomes are likely from using ICTs to promote social inclusion for refugee youth, several potentially negative outcomes are also apparent. It is argued that these possible harms tend to be overlooked because the initial concepts of social inclusion assume a "local" community. One means of avoiding the potential for such harms could be to adequately recognize the extent to which individuals and groups participate in intersecting local and transnational communities, networks and flows of ideas, resources, and people. Originality/value– This study exploits facts of the meaning of global social and cultural fields to propose an significant involvement in social inclusion programs, by pointing to the possible harms that might result from the success of programs that facilitate social inclusion at a local level without appropriate consciousness of its effects on non-local contexts in which participants might also be active