TA TEACHERS
CONFERENCE 2014

**Creativity and Thinking Skills
in Learning, Teaching and Management**
Riga, 19-20 September 2014

Conference Programme
Abstracts and Extended Summaries

TA TEACHERS CONFERENCE 2014

www.ta-teachers.eu

Table of Contents

Welcome from the Organising Committee

I am pleased to welcome you to the second international TA Teachers conference, and to welcome you to Riga and Latvia.

This year the conference brings together over 120 participants from more than 25 countries. You will be able to choose from over 40 talks and workshops offered through the three conference strands: innovations in the classroom, innovations in educational management and innovations in family learning. I would like to thank all the speakers who have sent their proposals and all the delegates who have come to attend this conference – you have made it a truly international event.

As well as two years ago, we have done our best to attract representatives of different countries and approaches in the field of teaching thinking. We believe that it will be useful not only for the delegates having an opportunity to decide what suits their context best, but also for the presenters who will be able to listen to each other and, hopefully, establish areas of common interest.

Many of you know that this conference is also the place where you can meet teachers working with the Thinking Approach (TA) to teaching and learning. I am happy to let you know that there will be 14 TA related talks and workshops this year. If you are interested in the topic of teacher education for thinking, I would like to invite you to the open reflection session at 16:00 on Saturday, where we will try to establish common patterns of effective professional development activities for teaching thinking.

The programme also has several social events, including welcome reception at the conference hotel on Friday, a guided walking tour of Riga Old Town on Saturday followed by a gala dinner in a cosy restaurant in one of the typical Riga streets, and a selection of guided tours on Sunday after the conference. More information about each of this can be obtained at the registration desk.

Finally, I would like to thank several organisations, whose support was essential for this conference: Nordic Council of Ministers, Riga Council's Education, Culture and Sports Department, British Council Latvia and European Parents' Association. My special thanks to all the members of the Organising Committee for the invaluable contribution to this event.

Once again, welcome to Riga and I wish you a very fruitful conference.

Dr. Alexander Sokol
Head of the Organising Committee

Conference Programme

Friday, 19 September

09:00 – 12:00   Pre-Conference Tutorials *(separate registration required)*

Tutorial 1. Tools for a Systemic Approach to Educational Management
Dr. Alexander Sokol, TA Group, Latvia.

Tutorial 2. Let's Think. Cognitive Acceleration
Alan Edmiston & Stuart Twist, Let's Think Forum, UK.

Tutorial 3. Efektīvās domāšanas attīstības iespējas un pāreja uz starpdisciplināru mācīšanos *(in Latvian)*
Dr. Ingrīda Muraškovska, Latvia

10:00 – 12:30   **Registration for Delegates**

12:30 – 13:30   **LUNCH BREAK**

13:30 – 16:00   **Plenary Sessions** *(room Lielupe)*

16:00 – 16:30   **COFFEE BREAK**

16:30 – 18:45   **Plenary Sessions** *(room Lielupe)*

19:00   **Welcome Reception**

Saturday, 20 September

09:00 – 10:30   **Breakout Sessions**

Strand A. Innovations in the Classroom *(rooms Amata, Abava)*
Strand B. Innovations in Educational Management *(room Venta)*
Strand C. Innovations in Family Learning *(room Gauja)*

10:30 – 11:00   **COFFEE BREAK**
Coffee break discussion *(in Latvian)*: Kāds atbalsts nepieciešams skolai radošuma ieviešanai?

11:00 – 12:30   **Breakout Sessions**

Strand A. Innovations in the Classroom *(rooms Amata, Abava)*
Strand B. Innovations in Educational Management *(rooms Venta)*
Strand C. Innovations in Family Learning *(room Gauja)*

Conference Programme

Saturday, 20 September

12:30 – 13:30   **LUNCH BREAK**
Lunch break discussion: Potential Collaboration in Educational Projects
(see page 68 for details)

13:30 – 15:30   **Breakout Sessions**

Strand A. Innovations in the Classroom *(rooms Amata, Abava)*
Strand B. Innovations in Educational Management *(rooms Venta, Gauja)*

15:30 – 16:00   **COFFEE BREAK**

16:00 – 17:00   **Breakout Sessions**

Strand A. Innovations in the Classroom *(rooms Amata, Abava)*
Strand B. Innovations in Educational Management *(rooms Venta, Gauja)*

18:00   **Old Riga. Walking Tour** *(free for the delegates)*

20:00   **Conference Dinner**
Conference Dinner, Restaurant Neiburgs, Jauniela 25/27
(separate registration)

Sunday, 21 September

Excursions *(separate registration)*

Pre-Conference Tutorials

08:30 – 09:00   **Registration for Pre-Conference Tutorials**

09:00 – 12:00   **Pre-Conference Tutorials**

Tutorial 1. *Room "Amata".*
Tools for a Systemic Approach to Educational Management.
Dr. Alexander Sokol, TA Group, Latvia.

A successful modern educational establishment must be effective both in terms of the learning model it proposes and the way it is managed.
A systemic approach to educational management is one of the requirements for an effective 21st century school. A clear vision of the role of all elements of the organisation, understanding trends in the field and the requirements they set, an ability to identify and apply resources for solving problems an organisation is facing are some of the features of this approach. Its successful application allows the management team to identify the cause of problems, foresee potential challenges and work out specific solutions.
In this workshop you will be introduced to some tools for building a systemic picture of your organisation development and mechanisms for identifying priority areas for the coming years.
The workshop will have a strong practical focus. It is advised that at least two members of the management team take part.

Tutorial 2. *Room "Venta".*
Let's Think. Cognitive Acceleration.
Alan Edmiston & Stuart Twiss, Let's Think Forum, UK.

We will introduce you to the Let's Think approach and how it developed from evidence based Cognitive Acceleration through Science Education to become an intervention for children from age 4 to 14 across maths, science and English. We will show you how children are challenged and supported in Let's Think through collaboration with their peers to construct new reasoning and reflect on their learning.
We will describe the model of support used in the training for schools, which is aimed at sustaining and continuing Let's Think practice beyond the training.
We will justify why this type of intervention is necessary and the evidence of its impact over many years. You will be challenged yourself and see first hand the challenges students face.

Pre-Conference Tutorials

Friday, 19 September

Tutorial 3. *Room "Abava".*
Efektīvās domāšanas attīstības iespējas un pāreja uz starpdisciplināru mācīšanos, (in Latvian).
Dr. Ingrīda Muraškovska, Latvia

Pasaule ap mums kļūst arvien sarežģītāka un arvien mazāk iekļaujas standartizētu zināšanu rāmjos. Pieaug nepieciešamība patstāvīgi pieņemt lēmumus jaunās situācijās bez ilgstošas variantu pārcilāšanas. To var izdarīt ar efektīvās domāšanas palīdzību, kuras pamatā ir noteiktu domāšanas instrumentu un starpdisciplināru zināšanu izmantošana. Efektīvās domāšanas attīstību sekmē OTSM-TRIZ teorijā balstīts mācību process. Vienkāršs un atraktīvs veids OTSM-TRIZ pamatu apguves uzsākšanai ir jā-nē spēle, kuru pēc vienotiem noteikumiem var organizēt katrā mācību priekšmetā, starppriekšmetu turnīros, dažāda vecuma un sagatavotības dalībniekiem. Spēlei ir universāls raksturs. Tā nodrošina skolēnu zināšanu saistību ar reālo dzīvi, starppriekšmetu saikņu izmantošanu, veicina augstāko domāšanas prasmju attīstību, stimulē mācību motivāciju, māca efektīvi risināt problēmas.
Veidus, kā organizēt jā-nē spēli efektīvās domāšanas attīstības veicināšanai, dalībnieki varēs apgūt praktiskā darbībā. Prasmes var būt noderīgas skolotājiem, izglītības vadītājiem un arī vecākiem.

12:30 – 13:30   **LUNCH BREAK**

Plenary Sessions

Friday, 19 September
Room "Lielupe"

13:30 – 13:45 **Official Opening.** Welcome from the Ministry of Education & Culture, Riga City Council and Nordic Council of Ministers

13:45 – 14:30 **Dr. Alexander Sokol, TA Group, Latvia.**
Competences for Teaching Thinking

Despite overall concern with learning, many researchers agree that teachers matter. As people present here are concerned with thinking, one can assume that we believe that a thinking teacher matters. Do we agree, however, who we are speaking about? To what extent are our approaches complimentary? Where can we collaborate and where do we fundamentally disagree? There are many paths one might take to answer these questions. In this talk, I will speak of a thinking teacher and try to draw a portrait of this teacher as understood within the Thinking Approach to teaching and learning.

14:30 – 15:15 **Susan Granlund, Kirkonkylä Primary School, Finland & Kirsi Urmson, Rauman Normaalikoulu, Finland.**
A Step Towards Implementing the Thinking Approach

The aim of this presentation is to describe the Nordplus-funded STEP course, aimed at helping teachers to introduce the thinking element into their teaching. We organized this in Finland for Finnish teachers. As relative novices ourselves we were working on the basis of our own experiences of the Thinking Approach (TA), both theoretical and practical, and our aim was to help the teachers as much as possible to actually to start using TA in the classroom. We will describe the kind of working methods we used, the response of our participants and the outcomes, as well as the problems which we, as trainers, and our participants, as beginners, had along the way. We will present feedback and ideas for the future, with an aim to finding ways of making the process of implementing TA a more genuinely practical alternative for teachers in the classroom.

Plenary Sessions

Friday, 19 September
Room "Lielupe"

15:15 – 16:00 **Dmitry Kucharavy, Seecore Project, France.**
Getting Prescient Knowledge

The paper is focused on a question: What can be done for getting prescient knowledge? Another question: Why it is inevitable to use prescient knowledge for effective educational management? – is also partly addressed. The problem of effective management of education is suggested from a certain perspective. Some hypotheses, for predicting the future societal needs reliably, are suggested using systematic and intuitive methods. Practical evidence for suggested hypothesis and some interim results about getting prescient knowledge for socio-technological changes are presented.

16:00 – 16:30 **COFFEE BREAK**

16:30 – 17:15 Stuart Twiss and Lynda Maple, Let's Think Forum, UK.
Let's Think: Cognitive Acceleration

We will introduce you to the Let's Think approach and how it developed from evidence based Cognitive Acceleration through Science Education to become an intervention for children from age 4 to 14 across maths, science and English. We will show you how children are challenged and supported in Let's Think through collaboration with their peers to construct new reasoning and reflect on their learning. We will describe the model of support used in the training for schools, which is aimed at sustaining and continuing Let's Think practice beyond the training.

We will justify why this type of intervention is necessary and the evidence of its impact over many years. You will be challenged yourself and see first hand the challenges students face. The key note will be a guide into the other two Let's Think workshops that will also be presented at the conference.

Plenary Sessions

Friday, 19 September
Room "Lielupe"

17:15 – 18:00

Prof. Bengt Lennartsson, Linköping University, Sweden.
Thinking-Based Footprints in Scandinavia from the 13th ICOT

From 1st ICOT 1982, a community has emerged, influenced in particular by de *Bono's Lateral Thinking* [1], *Senge's Team Learning* [2], and *Gardner's & Perkins' experience from Project Zero* [3]. The concepts were spread by the ICOTs in USA, New Zeeland, Australia and UK, and from 2007 also in Scandinavia. Already before 2007 there were many connections from Sweden to the *portfolio assessment* used in New Zeeland, and project zero's *Visible Thinking* [4] established at Lemshaga Academy. *Bill Martin* and *James Nottingham*, both visiting Sweden for the first time, have later been heavily involved in school development efforts in Sweden, within the concept *OUR Education Network*, OUR [5], as well as in *Visible Learning plus*, VL+, developed from *John Hattie's Meta Studies* [6]. Both OUR and VL+ are multiyear school development packages. OUR is mainly focusing on the *change management* and VL+ on *relations between teachers and individual pupils*. The experience so far will be presented shortly.

18:00 – 18:45

Linda O'Toole, Universal Education Foundation, Learning for Well-Being, Belgium and USA.
Naturally Unique: Encouraging Creativity and Metacognitive Skills in Family Environments

As parents and educators we know that every child is naturally unique. Our challenge is to remember, and find ways to enhance the well-being and creativity of children within the web of relationships in which they live. This presentation explores a perspective for addressing these challenges within families.
The presentation aims to inspire new ways of looking at inner diversity and the context of the family as a mutual learning environment in which adults and children act as co- creative partners.

19:00

WELCOME RECEPTION

Strand A. Innovations in the Classroom I
Saturday, 20 September - Room "Amata"

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Chair persons: Irina Buchinska, Daugavpils Russian Lyceum (Latvia) and Susan Granlund, Kirkonkylä School (Finland)

09:00 – 09:40   Irina Buchinska, Daugavpils Russian Lyceum, Latvia.
Three Steps to Thinking

The workshop aims at sharing experience of implementing Thinking Approach to teaching English with learners of the age 12-15 years old. The workshop focuses on using the Thinking Task Framework (TTF) as a tool for organising a teaching process which integrates the English language skills and thinking skills development. During the workshop the participants will get materials for working with grammar and texts and will have an opportunity to work with the materials within the TTF, share their opinion and get answers to their questions.

09:45 – 10:05   Susan Granlund, Kirkonkylä School, Finland.
Integrating Thinking in 3rd Grade Beginners' English classes

The aim of this talk is to describe specifically how I have tried to integrate thinking activities into my third grade beginners' English classes, in such a way that they might lead to longer- term improvement in both thinking and language skills, leading also to more creativity in the classroom. I will describe what my aims in the classroom were, what I did, how the pupils responded, and where I felt the approach was successful or not. I will also consider what constraints there were, what changes I would make in the future and how I plan to continue.

10:10 – 10:30   Diana Bolgare, Latvia.
Thinking with very Young Learners. Playful Ways to the Thinking Approach with 4-6 Year Olds

This talk is for those who believe thinking can be taught to very young learners in the language classroom. The presenter will speak about playful ways and forms she implemented in her practice with 4-6 year old learners. The Thinking Approach, which the author has been practicing for more than one year, revealed that certain steps and techniques should be used to make learners think. During this talk, the presenter will share her experience of using the Thinking Task Framework with very young learners and reflect on measuring their results.

10:30 – 11:00   COFFEE BREAK

Strand A. Innovations in the Classroom I
Saturday, 20 September - Room "Amata"

11:00 – 11:20 Natalia Kovilina, Daugavpils Russian Lyceum and Marina Bagrova, Riga Herder School, Latvia.
Approaching Russian Grammar through the Thinking Approach Perspective

The presentation about applying the Thinking Approach (TA) at the lessons of Russian as native language. The authors will share their ideas about advantages and difficulties of an integrated development of language and thinking skills when learning syntax. They will demonstrate how using a system of tasks in Creative Grammar Technology helps a teacher change the content of the native language learning course into the direction of a functional approach and help a learner become the subject of learning. The authors will also discuss how learners acquire the ENV model as a major tool for dealing with tasks that are new for them.

11:25 – 11:45 Olga Šestakova, Daugavpils Russian Lyceum, Latvia.
Creating and Working with Writing Tasks Based on the Thinking Approach

The presentation will be devoted to creating and working with writing tasks in form 5 based on some TA principles. There will be presented one example of the systems of tasks tried out in forms 5 at Daugavpils Russian Lyceum. There will be mentioned several pieces of advice for those who would like to make a similar system of tasks on their own. The presentation will contain a number of graphs/charts used during the work with the two systems. There will be mentioned the comments from the "experts" as tips for creating a system of writing tasks.

11:50 – 12:30 Kirsi Urmson, Rauman normaalikoulu, Susan Granlund and Taina Pertola, Kirkonkylä School, Finland.
Games and Activities to Promote Thinking

The aim of this workshop is to demonstrate to participants some games and activities which can help teachers to understand and be able to implement some aspects of the Thinking Approach in their own classrooms. These have been used on the Finnish STEP course over the past two years. As a primary teacher, a language teacher and a special needs teacher we hope to be able to show how these same activities can be adapted to different levels and subjects. Throughout the workshop the audience will take part in games and activities and reflect on how they can lead to the use of thinking models such as ENV, and how they form a part of the Thinking Task Framework.

12:30 – 13:30 **LUNCH BREAK**

Strand A. Innovations in the Classroom I
Saturday, 20 September - Room "Amata"

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13:30 - 13:50   Kirsi Urmson, Rauman normaalikoulu, Juli Aerila and Anne Keskitalo, Turku University, Finland.
Integrating the Thinking Approach into Primary Visual Arts and Mother Tongue Studies

The presentation will explain how multisensory walk as a method and Thinking Approach were combined to create a learning environment where a joined plan of two subjects would give more time and room for learning thinking skills. Two class teacher trainees from the Teacher Training School of Turku University in Rauma used a multisensory walk in the Unesco World Heritage Site of Old Rauma as a learning environment for combining the teaching of thinking skills, visual art and mother tongue. Multisensory walk and pedagogical grammar were the methods that were brought in by the university teachers Anne Keskitalo and Juli Aerila and thinking skills by class teacher Kirsi Urmson. A different approach in the practice gave the tutors and the trainees tools for bringing thinking skills in the classroom and opened up their understanding about teacher's role in creating a skills based learning environment for the future needs of the pupils.

13:55 - 14:15   Russell Grigg and Ms Helen Lewis, University of Wales, UK.
Developing Positive Dispositions to Learn: A Problem-Based Learning Approach in Teacher Education

Costa and Kallick (2008) identify intelligent behaviours known as 'Habits of Mind'. These habits (or dispositions to learn) share many commonalities with the academic and personal qualities and thinking skills we seek to develop in our student teachers. There is research evidence regarding the use of Habits of Mind in primary and secondary schools around the world (eg Costa, Bishop and Kravits, 2008; Wiggins and McTighe, 2007). This suggests that promoting these intelligent behaviours is of benefit to learners. However, relatively little has been written about these habits of mind in higher education contexts. This presentation examines how Problem Based Learning (PBL) scenarios can help students reflect on and develop these habits of mind successfully.

Strand A. Innovations in the Classroom I
Saturday, 20 September - Room "Amata"

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14:20 – 15:00   Anita Backhouse and Stuart Twiss, Let's Think Forum, UK.
Our Approach to Teacher Development in Let's Think

We will describe the model of support used with schools who are taking up Let's Think. The approach has evolved over 20 years and is aimed at sustaining and continuing Let's Think practice beyond the training.

Over time our approach has shifted from notions of specialist coaching and senior management feedback. Instead the teachers adopt Let's Think pedagogy through joint lesson planning, observing lessons through visits and video recordings and reflecting on the experience of students. Teachers study the psychological basis for the approach and engage in reflective intersession tasks. Teachers are expected to experiment together with the approach, reflect on those experiments and then and refine and repeat the experience to own the change in their practice. To that end some training instruction is reduced to encourage ownership.

Support is also offered to the school and its senior leaders to help them organise this peer to peer activity and to monitor progress in teacher development.

The workshop will explore the components of the approach, the tools used in training. The process of helping teachers develop from 'novice' towards 'expert' will be illustrated through the experience of teachers, described by the presenters, who are tutors and teachers, and through video recordings of training sessions.

15:00 – 15:30   **COFFEE BREAK**

15:30 – 15:55   Renata Jonina, TA Group, Latvia.
Developing Competence in Teaching for Thinking. What do Expert Teachers Do Differently?

The study addresses the problem of fostering school teachers' competence in the integrated development of learners' subject-matter skills and inventive thinking skills.

A group of school teachers has been learning to integrate the thinking skills development into their classrooms by following a specifically designed pedagogical framework - the Thinking Task Framework (TTF). Even though teachers have been eager to bring the change into their classrooms, the empirical experience shows that there are many essential differences in how teachers who are experts in the approach and those who are new to it transform the steps of the framework into their classroom instruction.

During my paper presentation, I will present the identified essential dimensions of instructional and interaction patterns of expert teachers who follow the TTF and will contrast them to those of non-expert teachers.

The presented patterns will be supported by video fragments from the lessons.

Strand A. Innovations in the Classroom I
Saturday, 20 September - Room "Amata"

16:00 – 17:00   Open Reflection
                          Teaching Thinking: Impossible, Challenging, Easy (Towards Effective Models of Teacher Education for Thinking)

Two years ago a group of professionals from the Baltic-Nordic region started an international project 'STEP to thinking' aimed at helping teachers incorporate the development of thinking skills and dispositions into their everyday practice. During this session we would like to reflect on our experience of working with teachers and add new understanding to the vision of the successful process of developing a teacher who is a true facilitator of thinking. To achieve this, we would like to invite everyone who is interested in teacher education for thinking, benefit from your knowledge and experience and share some of the lessons we have learned. As a result, we hope to identify areas of common interest for further collaboration in the field of teaching for thinking among the representatives of different countries and approaches.

Strand A. Innovations in the Classroom II
Saturday, 20 September - Room "Abava"

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Chair persons: Audrone Allan (Lithuania) and Gillian Boniface, Bergen International School (Norway)

09:00 – 09:20   Shoshi Reiter, SR-TOC4HD, Israel.
Fostering Self-Regulated Students at Junior High School in Science Learning

In the current world characterized by information explosion, independent, lifelong self-regulated learning is becoming a necessity. However, opportunities in schools to experience such learning mode are relatively rare. This long-term explorative field study examined students' autonomous self- regulated learning of science. Changes in students' self-reported and enacted Self-Regulation of Science learning (SRL) in two ninth-grade science classrooms were measured along a full academic year. The Self-Regulating (SR) class (n=25) studied genetics autonomously while applying self- regulated learning mode. The Teacher-Controlled (TC) class (n=27) studied the same content in a teacher-regulated mode. Data were collected at several time points along the year by SRL questionnaires (LASSI), science knowledge tests, and, in the SR group only, protocols for measuring enacted SRL. Findings showed that enacted SRL correlated with self-reported SRL, validating measurements. The Self-Regulating students outperformed their Teacher-Controlled peers in science learning. Significant changes over time in both self-reported and enacted SRL emerged only for the Self-Regulating students, suggesting that long-term SRL practices promote awareness of learning processes and ability to apply SRL.

09:25 – 09:45   Clifton Chadwick, United Arab Emirates.
Teaching Critical Thinking in a Public School in the UAE

There is evidence, both from research and considerable anecdotal suggestion that teachers in public schools in the MENA region and India do not effectively teach children how to think critically, how to ask questions, how to search for answers on their own rather than to simply memorize what they are told or what is in their textbook. Critical thinking, viewed as rational and analytic thinking is crucial for participation in a knowledge economy and society. This presentation first provides results from a case study of teaching critical thinking. In a highly regarded public school teachers were asked their opinions about teaching critical thinking. Systematic classroom observation with a validated checklist showed that almost no efforts to teach thinking existed. The research is generalized to the MENA region and it is suggested that the results may have applicability in some areas of Europe.
The second part of the presentation suggests a new systematic conceptual model for teaching thinking based on structured content, cognitive and affective learning strategies and dispositions, metacognition and problem-solving skills which could and should be adopted by teachers to improve their effectiveness in teaching critical thinking the classroom.

Strand A. Innovations in the Classroom II
Saturday, 20 September - Room "Abava"

09:50 – 10:30   Alan Edmiston & Lynda Maple, Let's Think Forum. UK.
Let's Think: The Materials and Pedagogy

We will introduce you to a range of Let's Think activities that span mathematics and science from age 6 to 13. This session will involve a practical exploration of the materials and we will highlight how the materials use a Piagetian framework of reasoning to challenge children's thinking. We will describe the pedagogy that underpins the Let's Think approach and share some stories from classrooms in the UK.

10:30 – 11:00   **COFFEE BREAK**

11:00 – 11:20   Victor Abashev, Vladimir Kravtsov, Alexandra Belik, Saint-Peterburg
School No. 156, Russia.
Learning Environment that Promotes Cultural Thinking

One of the only things that matter in the 21st century world is whether we can live with each other. Language is the only way we can negotiate our differences. In the task of managing our resources, we need to speak to each other persuasively, innovatively and charmingly. Since 2012 in Saint-Petersburg a new course for 9-10 years old pupils has been included in school curriculum to form cultural competence. Cultural competence is an ability to interact effectively with people of different cultures and socio-economic backgrounds. According to Federal State Educational Standard aim of the course is developing cultural thinking skills such as understanding cultural history, different cultural pattern, giving respect to people with different cultural background and worldview.

11:25 – 11:40   Bodil Kleve and Sylvi Penne, Oslo and Akershus University College of Applied Sciences, Norway.
Developing Thinking Skills and Learning in Mathematics and Mother Tongue

Taking a cross-disciplinary approach (mathematics and Norwegian / mother tongue) we discuss how meta thinking develop thinking skills / literacy for learners. Taking a phenomenological perspective, we draw on Bruner's 'two modes of thought'; on the distinction between syntagmatic and paradigmatic thinking. We discuss similarities and differences in teaching and learning the two subjects in order to show how awareness of this can enhance students' creativity and thinking skills. Our study is based on data from classroom research in the two subjects with a focus on socio- cultural aspects of discourse in the classroom, and on data from research based on interviews with pupils in secondary school.

Strand A. Innovations in the Classroom II
Saturday, 20 September - Room "Abava"

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11:45 – 12:05   Audrone Allan, Lithuania.
                          Measurement of Thinking Changes in the Programme by Edward de Bono CoRT1 "Breadth"

Thinking change has been initiated and measured within the project „Development of Thinking Competence". The aim of the project was to introduce New Thinking into school curricula and organisational culture of educational institutions.
Edward de Bono's CoRT Thinking Programme has been implemented in Lithuania with 221 teachers and ten groups of students in year 2012-2013. CoRT 1 „Breadth", is designed to broaden perception. The target of the programme determines learning outcomes and five assessment criteria:
      1. Breath of thinking.
      2. Decision making.
      3. Bias in argumentation.
      4. Originality.
      5. Speed of thinking.
Pre-post testing methodology has been employed for measuring change in thinking.
Thinking changes have been detected in the samples of teachers and students. Differences in age of students, implementation context, objectives and experience of teachers made student results not comparable. The key conclusion is that changes in thinking can be achieved and successfully measured.

12:10 – 12:30   Elena Kuznetsova, Voronezh State Agricultural University, Russia.
                          Developing Intellectual Skills of Professionals by Teaching Field-Specific Vocabulary

Efficiency of a professional's performance is closely connected with intellectual skills. By intellectual skills the way of thinking conceptually, critically, and creatively is understood. It is proved that the brain of the person acts on the basis of associations. "Association" is the associative correlation of the word to any phenomenon of the objective world. The paper shows different types of associations of the word. Doing numerous manipulative speech target tasks using field-specific vocabulary in ESP course helps to form different kinds of associations of the words. This leads both to vocabulary acquisition and intellectual skills development of future professionals.

12:30 – 13:30   **LUNCH BREAK**

Strand A. Innovations in the Classroom II
Saturday, 20 September - Room "Abava"

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13:30 – 13:50   Gillian Boniface, Bergen International School, Norway.
Using Sorting Tasks in the Classroom to Encourage Critical Thinking

In the International Baccalaureate Middle Years Programme there is a strong focus on Approaches to Learning (teaching students how to learn) in all units of work that students undertake. The specific skills to be acquired, practiced, and developed are prescribed by the International Baccalaureate, but it is left up to individual teachers or schools to find the best approach and tasks to do this. Although this session has a focus on Visual Art, the tasks and learning experiences described are relevant to a wide variety of subjects and programmes. This session would be suitable for educators looking at how to develop sorting tasks that encourage students to develop critical thinking skills.

13:55 – 14:15   Elina Maslo, Aarhus University, Denmark.
Developing Communicative Competence through Thinking Tasks – Experimenting with Thinking Approach in Danish as Second Language Classroom

The goal of this presentation is to present some of the experiences with thinking tasks in the Danish language classroom, conducted in the Nordplus Nordic Language Project "Problem solving tasks for learning of Danish as second and foreign language in transformative learning spaces". Two teachers have developed and tried out some thinking tasks in their classrooms, with the aim to foster the development of students communicative competence. The learning processes from two classrooms will be analysed in the presentation.

14:20 – 15:00   Lyudmila Kuznetsova, Saint-Petersburg University, Russia.
Use of Metaphor in Teaching and Learning

The aim of the workshop is to demonstrate to an audience of educators how the use of metaphors can facilitate the teaching of complex concepts, enabling teachers to develop their learners' ability to identify the significant characteristics of the concept taught and to reflect on the assumptions they hold about the subject. When a group of learners is given the task to suggest a metaphor for the subject under discussion, the differences that transpire from the comparison of the metaphors produced in the group can sensitize the learners to the existence of a variety of other dimensions of the subject, which they have not been aware of. The task for the participants of the workshop will be to use this technique in the discussion of what teaching at the tertiary level involves, with the subsequent analysis of the results.

Strand B. Innovations in Educational Management I

Saturday, 20 September - Room "Venta"

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Chair persons: Dmitry Kucharavy, SeeCore Project (France) and Adela Vitkovska, Eurofortis (Latvia)

09:00 – 09:40   Dmitry Kucharavy, SeeCore Project, France.
                    System Thinking for Decision Making

This workshop is focused on a question: How to perform systems thinking in practice? It is well known that systems thinking has a lot of advantages, but it is seldom applied in decision making. System Operator (SO) facilitates systems thinking. In the last few decades, this technique has proved its effectiveness in the areas of inventive problem solving and long-term forecasting. The focus of the workshop will be on the practical applications of SO. Some examples of using SO in practice will be presented and discussed.

09:45 – 10:30   Shoshi Reiter, SR-TOC4HD, Israel
                    How to unlock schools' resources potential

How do we get more from what we have? Changes in the administration of school resources management in Israel (based on the Theory of Constraints), has produced a marked improvement in the high school graduation rate of underprivileged students. That has been achieved without the need for additional manpower or other resources and without changing the pedagogical methods of teaching. The field research at an Israeli school, adopting of the Theory of Constraints (TOC) has led to a continuous increase in the number of students eligible for high school diplomas. The current workshop will focus on changing school resources management in order to achieve more within the resources schools already have. Participants will be introduced to the thinking tools and processes of the TOC and practice them. They will explore beliefs and limiting assumptions. This self-exploration may lead to new teaching focus and unlock students' learning potential.

10:30 – 11:00   **COFFEE BREAK**

Strand B. Innovations in Educational Management I
Saturday, 20 September - Room "Venta"

11:00 – 11:25   Audrone Allan, Lithuania.
Thinking as a key competence in Lithuanian secondary education:
Experience and lessons for future from the National Project

The discussion is about the latest experience of a two year European Structural Fund Project „Development of Thinking Competence". The primary aim of the project was to introduce 'New Thinking' into school curricula and organisational culture of educational institutions in Lithuania. The project can be characterised as a systematic process, involving:

- Working with curricula at three levels: national, school and individual teachers.
- Working with wide range of people; trainers, teachers, school administration, students, parents and other educational stakeholders.
- Three stages in the work with teachers:
    Introduction to the new thinking tools.
    Training in principles of teaching thinking.
    Support for classroom experimentation.
- Designing wide ranges of practical materials to support the change; for classwork, tools for assessment, evaluation of progress and methodological guidelines for teachers.
- The rich experience of this systematic approach let us learn more about dynamics of the interrelated change in curriculum, school culture and classroom.

11:30 – 11:55   Ingrīda Muraškovska, Latvia.
Creative thinking as the organizational principle of educational content

Creative thinking traditionally is one of the components of education content as well as other important skills. However it is getting more difficult to implement it, according to the basic contradiction of education: the amount of knowledge is increasing, but the time for acquirement is limited. How to achieve that time for development of creative thinking would not intensify this contradiction, but would let to solve it?

This could be achieved, if the creative thinking becomes a principle of organisation of content. Approach like this could be implemented by using OTSM-TRIZ theory. It is universal – based on the systematic properties of object and constructive – contains tools for effective solution of the problems. In the framework of this theory creative thinking have been understood as manageable, effective thinking, which allows to achieve preferable result in optimal way and ensures acquire of new knowledge by connecting in common world scene. The model of OTSM-TRIZ: element-indication-value of indication is a base for organising nonlinear training process according to the concrete interests of the pupil. Implementation of the content in this way ensures motivation of pupil, connection between knowledge and real life and development of problem solving and independent inquiring skills.

Strand B. Innovations in Educational Management I
Saturday, 20 September - Room "Venta"

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12:00 – 12:25   Cornelia Knoch, Zurich University of Teacher Education, Switzerland.
Conditions of creativity and thinking for professional staff development

The development of creativity and thinking in the context of professional staff development in schools requires specific conditions. This presentation focuses on 4 dimensions within a school's organization: leadership style, personality aspects, working place / work organization and organizational culture. Based on theoretical knowledge and empirical data, these dimensions must follow specific principles or include certain characteristics, so that they can build at least the basis for creativity-oriented staff development within a school.

12:30 – 13:30   **LUNCH BREAK**

13:30 – 14:25   Richard Cummins and Ged Murphy, Thinking Schools International, UK.
Creating a thinking school

The workshop will focus on a whole-school approach to the teaching of thinking. The model is one that is being used in schools across the world. Headteachers report that the whole-school approach has literally transformed their schools. In all schools which have gained accreditation from the University of Exeter attainment has risen and there has been a considerable improvement in students' ability to manage their own learning.

Opportunities will be provided for discussion about the rationale behind the whole-school approach. Participants will leave having considered how to produce a school action plan; the six starting points, the phases towards becoming a thinking school; teaching FOR thinking, teaching OF thinking and teaching ABOUT thinking.

Participants will be introduced to, and have the opportunity to use, various thinking tools which are included in three key pathways: Visual Tools; Dispositions, Attitudes and Behaviours; Questioning for Enquiry.

Strand B. Innovations in Educational Management I
Saturday, 20 September - Room "Venta"

14:30 – 14:55 Adela Vitkovska, Eurofortis, Latvia and Inese Didže, Dobele State Gymnasium, Latvia.

The implementation of Total Quality Management into the daily life of inside schools

For 25 years, leading European organisations have been using the 'EFQM Excellence' model, which is one of three worldwide Total Quality Management (TQM) instruments widely adopted today.

The 'EFQM Excellence' model, when used as a philosophical background in combination with organisational self-assessment and continuous improvement, creates the foundation that leads to organisational excellence, sustainability and future success.

Sustainable and continuous growth of educational organisations - as well as their daily improvements - can be further ensured by following the 'Excellence' principles in all EFQM criteria: Strategy; Leadership; People; Processes and Resources that are linked and developed by all people involved. With this presentation, we will demonstrate how usage of this 'Quality Excellence' approach can be beneficial for every type and size of educational organisation and also how the simplicity of its implementation, makes it easy to use.

15:00 – 15:30 **COFFEE BREAK**

15:30 – 15:50 Ann Pihlgren, Ignite Research Institute, Sweden.

Complementary education in classrooms and after school activities

This paper analyzes how teachers meet the demands for cognitive and creative development of students. Observations of lessons and sessions in afterschool activities ('fritidshem') for grade K-3 and teacher interviews were used. The questions guiding the analysis concern what criteria are important when teaching thinking and creativity to students, how these are planned by the teacher and represented in the activities, and how co-planning between school and afterschool affects the cognitive outcome.

Teaching thinking and creativity presupposes that the teacher plans, assesses, chooses activities and tools, and arranges the setting carefully, with focus on fostering students' habits of mind. The contextual and communicational interactions play a vital part of support. Evidence of the anticipated criteria was difficult to ascertain in the observed classrooms and after school activities. However, a few teachers present successful models, with some of which school and after school activities interact to improve students' thinking and creativity.

Key words: thinking, creativity, cognitive development, lesson planning, after school activities (fritidshem)

Strand B. Innovations in Educational Management I
Saturday, 20 September - Room "Venta"

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15:55 – 16:35   Eva Leffler, Åsa Falk Lundqvist, Umeå University Sweden.
The Entrepreneurial Learning promotes creativity and thinking in learning situations

Entrepreneurial learning is described as an attitude to teaching and learning and is incorporated into school practice under current policy documents. This applies in Sweden as well as in other European countries and is based on policy and political manifestations rather than on school research. Important keywords in developing an entrepreneurial attitude to teaching and learning are creativity, responsibility, courage, cooperation and beware of possibilities instead of focus on problems.
Is there a theoretical and pedagogical basis for this or is that foundation now under construction? At the work shop we are going to discuss how theories of learning can help us to understand the entrepreneurial practice and vice versa - how practice and the theories can help us to understand entrepreneurial learning in a school context. Finally, a theoretical model is developed on how "tools for thinking", which include reflection, creativity, improvisation and participation, can be communicated to practitioners.

16:40 – 17:00   Sylvie Studente, Nina Seppala & Noemi Sadowska, Regent University, UK.
Facilitating Creative Thinking in the Classroom: Investigating the Effects of Plants on Visual Creativity

We report upon a pilot study concerned with the effect of exposure to live plants upon visual creativity. This study was undertaken with 36 business students who were randomly allocated to one of two conditions. The control group completed a visual creativity task in a classroom with no plants present and blinds drawn to block views to natural settings. The experimental group were placed in the same room but were surrounded by live plants. The room had large windows with a view to a green area. The level of creative thinking in the participant's work was assessed by three independent experts using a modified version of Amabile's Consensual Assessment Technique (Amabile, 1982). Findings indicate that participants in the experimental group achieved higher creativity scores than those in the control group. This suggests that live plants and views to natural settings have a positive effect on the ability to think creatively.

Strand B. Innovations in Educational Management II
Saturday, 20 September - Room "Gauja"

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Chair persons: Dmitrijs Semjonovs and Aleksejs Bogdanecs, Novikontas Training Centre and Maritime College (Latvia)

13:30 – 14:00   Dmitrijs Semjonovs, Aleksejs Bogdanecs and Manuels Fernandezs, Novikontas Training Centre and Maritime College, Latvia.
Educators' attitudes and skills for enhancing quality of seafarers' in- house training (IHT)

Professional of maritime industry are clear about the necessity of improving In-house training (IHT) quality, but not so clear about what exactly has to be improved and how to do it. A way of understanding better the problematic of IHT is to approach it from the "competent IHT educator" perspective.
In this study we explored the opinions of professional of maritime industry about IHT, with a focus on educators' competence. For this, we addressed two groups of people: 1) managers and ship owners; and 2) officers and seafarers. We asked them which problems they perceive in IHT, and which solutions they propose. Then, using a questionnaire, we asked them to evaluate the necessary skill and attitudes of competent IHT teacher. Finally, we compared the answers of both groups of respondents and we came back to them with our results, to contrast our conclusions with their practical knowledge of the field.

14:00 – 15:00   Dmitrijs Semjonovs, Aleksejs Bogdanecs, Novikontas Training Centre and Maritime College, Latvia.
Rethinking IHT contents and methods in shifting contexts

Contents and methods of IHT should be rethought to respond better to the changing socio-economical context. Current IHT covers a range of topics tied to safety and management. Experienced IHT practitioners esteem that they possess already the necessary knowledge for their work. However, work situations are in continuous evolution and it is necessary to refresh and actualize IHT contents and methods.
During the round table, introduced by a short paper presentation, the following questions will be addressed: Which are the most important current topics for IHT? What are the good novel practices in IHT? Which are the problems linked to a low-quality IHT? The possibilities for implementing in-house training through webinar and other modern pedagogical tools will be also discussed.
As a result of this round table, participants will share innovative solutions in educational management and class room activities arrangement during in-house training will appear.

15:00 – 15:30   **COFFEE BREAK**

Strand B. Innovations is Educational Management II
Saturday, 20 September - Room "Gauja"

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15:30 – 17:00   Dmitrijs Semjonovs, Aleksejs Bogdanecs, Novikontas Training Centre and
Maritime College, Latvia
**Rebuilding efficient, useful and cost effective in-house training for
seafarers (workshop)**

In-house training (IHT) is an increasingly important part of seafarers' education. In this last session of our section we wish to situate the contents of the two previous sessions (IHT educators' competence and the changes of IHT methods and contents) in a wider perspective. We will discuss about the sense of IHT and about the problems of IHT organization and cost: seafarers' lack of time for attending IHT, institutions' difficulties for organizing IHT, high costs of the IHT formation for both attendees and institutions, pressure of rating companies on ship-owners for obtaining good IHT reports etc.
We will adopt the problem-solving approach based on the analysis of possible contradictions and building solutions: what makes IHT useful? What is the optimal way of organising IHT? How to make it cost effective? The presence of professional auditor, ship owners and other professional will enhance the interest of the discussion.

Strand C. Innovations in Family Learning
Saturday, 20 September - Room "Gauja"

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Chair persons: Eszter Salamon European Parents'Association (Belgium-Hungary) and Andrea Gruber, Pressley Ridge (Hungary)

09:00 – 09:25   Ingrīda Muraškovska, Latvia.
OTSM-TRIZ – the planner of a successful life path

Parents always care for safe future of their children, however it cannot be ensured by the very best school anymore, because world is changing too fast and the knowledge is ageing. Nowadays high value is not for diplomas and certificates, but for ability to achieve success in indefinite and complicated situations. This ability is based on creative thinking, which fixes current situation and preferable final result, determines obstacles and methodically finds ways for overcoming them by solving contradictions. For development of this thinking OTSM-TRIZ theory have been created. It does not rely on occasional luck on the way of mistakes and experiments, but offers tools for overcoming psychological inertia and purposeful solving of contradictions. Children who participated in activities of OTSM-TRIZ presented high sensitivity on issues, readiness to accept challenges, as well as stable results in solving problem tasks. Those qualities could be also promoted in family by practising OTSM-TRIZ tools in games and everyday situations.

09:30 – 10:30   Andrea Gruber, Pressley Ridge, Hungary.
School Holidays: Finally Time to Learn? Creative Use of Long Out-of School Periods to Foster Creativity

Education systems in most European countries still fail to recognize school holidays as an invaluable opportunity to foster informal learning and foster students' creative thinking skills. In these vacation periods parents often face the challenge to provide meaningful yet affordable activities for their children.
This workshop will discuss how the theory of 'learning by doing' can turn regular life events of vacation time into a low-cost yet immense learning opportunity. After reviewing the Experiential Learning Cycle and the PIE (Plan-Implement-Evaluate) **model**, it will collect some of the best practices with the active participation of the audience. In addition the workshop facilitator will provide practical ideas and tips on the types and organization of activities that serve the age-appropriate developmental needs of students, which not only teach skills and foster development, but are also **fun** for the kids. Here is a great website for activities in advance: http://www.buzzfeed.com/mikespohr/activities-that-will-keep-your-kids-busy-all-sum

10:30 – 11:00   **COFFEE BREAK**

Strand C. Innovations in Family Learning
Saturday, 20 September - Room "Gauja"

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11:00 – 11:55   Linda O'Toole, Universal Education Foundation, Learning for Well-being, Belgium and USA.
Learning for Well-being Core Capacities/Practices in Family Environments

Fundamental differences in how children interact with their environments can be noticed in infancy. In early childhood these ways of functioning are sometimes viewed as problems to be resolved rather than as natural patterns of expression to be supported. When labeling occurs, children are often thwarted in expressing their creativity and enhancing the metacognitive skills that will aid in developing personal resources for lifelong and life-wide learning.
With awareness and simple guidelines, parents and educators can nurture the diverse perspectives and multiple expressions that occur in children and set a course for children to understand and express their own particular learning processes and thinking patterns.
In this interactive workshop, participants become aware of some basic aspects of their core processes of learning. Through increased awareness of their own patterns, they can practice strategies for addressing patterns of children with whom they interact.

12:00 – 12:25   Edgar Lasevich & Alexander Sokol, TA Group, Latvia.
PASS materials as a tool for the development of thinking skills of pre-school children: how can we help parents to get started?

The international project Parents As Successful teacherS (PASS) developed support materials for parents to help them facilitate the development of their children's language and thinking skills. The materials proved successful in many European countries and many parents expressed an interest in using them with children. We have learned, however, that the impact is higher when parents have a chance to attend a face-to-face training and later exchange the experience with fellow parents. This works best when organised in local communities and facilitated by local organisations. During this session, I would like to invite the participants to consider launching such small scale communities in their contexts, share some of the ideas on how they could be organised and also suggest possibilities for external support if it is necessary. You would be able to benefit more if you could familiarise yourself with the PASS materials before the session. They are freely available on the project website (www.ta-parents.eu).

12:30 – 13:30   **LUNCH BREAK**

Extended Summaries of the Presentations
Plenary Sessions

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Dr. Alexander Sokol, TA Group, Latvia.
Competences for Teaching Thinking.
Friday, September 19, 13:45 – 14:30, Room "Lielupe".

In this talk I would like to speak about the competences required for organising the learning process that develops one's thinking. Although ideally it is the learner him/herself that is responsible for this, in most contexts these are teachers or parents that play the role of the facilitators of learning. What are the competences required from these facilitators in order to systematically contribute to the development of learners' thinking skills and dispositions? To what extent are we unanimous regarding the teacher we would like to see in a thinking school and the parent we would like to have in a thinking family? Are we really in agreement when using the modern educational jargon and happily nodding when speaking about the 21st century skills, leadership, entrepreneurship, creativity, thinking, problem-solving, etc.?
Without aiming at being comprehensive, I will try to propose a big picture for competences required of the person choosing to facilitate the process of developing thinking skills and dispositions. I would like this to be a basis for a constructive exchange of ideas among the professionals in the field. The exchange leading to collaboration and benefits to the learning community that would be able to adopt the best from the knowledge and experience of different approaches in the field of teaching thinking.

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Susan Granlund, Kirkonkylä Primary School, Finland & Kirsi Urmson, Rauman Normaalikoulu, Finland.
A Step Towards Implementing the Thinking Approach.
Friday, September 19, 14:30 – 15:15, Room "Lielupe".

Through taking part in Thinking Approach (TA) courses and projects we have seen the value of the systematic approach which TA offers to teachers and students for increasing thinking and creativity in the classroom. As an innovation it is new, driven by changing needs, and as such it takes time to start using it. It puts fresh demands on teachers, requiring them to discover new procedures for approaching, planning and implementing lessons.

As part of the Nordplus STEP project, we organized a course consisting of four workshops, over two years, in Finland for teachers interested in getting to know about and using TA in their teaching. This was the first TA course carried out in Finnish. We ourselves, as a primary school class teacher/trainer and English teacher, were novice trainers, still learning ourselves how to implement TA. Our aim for this course was therefore to motivate participants to want to find out more and to be able to actually start applying the approach to their own teaching, even in small ways.
Our participants came from all levels of educational institutions in Finland, from kindergarten to university, and represented many different subject areas.

The main theoretical input in the workshops was the introduction of the Thinking Task Framework (TTF) as a model which can help teachers to plan lessons promoting thinking. We are familiar with this ourselves as we have put it into use at some level, after taking part in the Nordplus project 'Bringing Creativity and Thinking Skills into the Educational Process' (2010 – 2012), contributing also to the www.ta-teachers.eu website. The main 'thinking' model we worked on was ENV, one which is basic to the understanding of the Thinking Approach.

In this presentation our aim will be to describe how we tried to help our participants to see the uses of the TTF as a tool for planning thinking lessons, and of ENV as a thinking tool, and to show how they could be put into practice through as much active participation as possible in tasks and games illustrating the approach. We

worked on the participants' motivation, 'selling' the approach, through discussions on the teachers' role in the classroom, on the aims of teaching and changes needed, and also on the demands of the new 2016 Finnish curriculum. There was consensus on the need for change, as teachers in Finland are generally not aware of ways in which they can systemically integrate thinking skills into their teaching, even though the curriculum asks them to do so. During the course participants also had time to prepare thinking tasks for their own use and to share them with each other.

We will present our own and our participants' feedback on the course, on what was most and least helpful, and what factors we found which seem to encourage teachers to stick at TA, or to shelve it meantime, despite agreeing on its value in implementing thinking skills and preparing teachers and pupils for future needs. We will consider what we ourselves have learned from sharing TA with our participants, and will discuss possible ideas for the future.

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Dmitry Kucharavy, Seecore Project, France.
Getting Prescient Knowledge
Friday, September 19, 15:15 – 16:00, Room "Lielupe".

By definition, knowledge comes from our past experience. From this perspective, learning process can be defined as a knowledge transfer from past to future via present. By itself, educational process takes time to be completed. The process of getting valuable knowledge needs effort and time to be accomplished. Meanwhile, received knowledge has to be adequate and timely by the end of the learning process. Therefore, in order to be effective in education it is essential to know in advance what kind of knowledge will be required at the end of the learning process. For instance, a question relevant in current circumstances: What foreign language should be learned for future career opportunities: English, Spanish, Mandarin, or Hindi? Or probably, knowing foreign languages may not be as important in the near future as mastering programming languages? Searching among known directions for education is common practice. However, that kind of search does not satisfy requirements of education in fast-changing environments.

Problem: Decisions about educational programs have to be taken using prescient knowledge of societal needs, but they are done using existing knowledge and intuition. As a result, decisions based on intuition, are statistically successful only for 37% of the time (equivalent to random choice).
To make mends for consequences of weak educational decisions, retraining courses are used as a solution. Courses for reeducation take less time and can be settled without using long-term forecasts. However, any reeducation is based on prior education. For instance, when the first diploma is in engineering, medical knowledge and related skills cannot be imparted because of this prior condition. The situation involves a trial- and-error process with recurring adjustments for emergent changes. As a result, the education process is neither efficient nor effective for most of the learners.

Hypotheses: The main premise, used in the framework of conducted research [Kucharavy et al., 2007], is that *knowledge of a system of problems can be purposefully applied for getting prescient knowledge* instead of analysis of existing and emerging trends. The systemic knowledge of problem-contradictions from viewpoints of social, economic, environmental, and technological contexts allow for learning about traits of future societal needs. Network of contradictions when constructed properly, provides the understanding of non-obvious mechanisms of changes from past through present towards future. For unifying results of a forecast, it was suggested to use Element-NameOfFeature_ValueOfFeature (ENV) model from OTSM-TRIZ [Khomenko, 2010]. For measuring growth of knowledge, simple logistic models (S-curves) are applied [Kucharavy et al. 2009].

Extended Summaries of the Presentations
Plenary Sessions
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Validation: The suggested models and approaches have been tested, starting from 2004, in several forecasting projects involving the evolution of technologies and societal needs in Germany, France, Chile, and Italy. Several training courses and a symposium were performed in Germany, France, Chile, Turkey, and Italy. The authoring method, Researching Future, was adapted in a European project called FORMAT (www.format-project.eu/about).

Results: A forecast made in 2005 led to effective research programs and career growth of specialists involved in the project. A forecast reported in 2006 was less successful due to inadequate management of project. It is early to speculate about outputs from other forecasting projects due to their forecasting horizons. However, the results of the projects were received with much enthusiasm from decision makers.

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2010: N. Khomenko, "General Theory on Powerful Thinking (OTSM): digest of evolution, theoretical background, tools for practice and some domain of application," 6th TRIZ Symposium. Tokyo, Japan, 2010.
2009: D. Kucharavy, E. Schenk, R. De Guio, Long-Run Forecasting of Emerging Technologies with Logistic Models and Growth of Knowledge, in 18th CIRP Design Conference - Competitive Design, Cranfield, UK, 2009. p.8.

16:00 – 16:30 COFFEE BREAK

Stuart Twiss and Lynda Maple, Let's Think Forum, UK.
Let's Think: Cognitive Acceleration
Friday, September 19, 16:30 – 17:15, Room "Lielupe".

Let's Think, cognitive acceleration is an intervention that has over 20 years of evidence of its positive effect on children's reasoning.
It was originally developed to improve students' abilities to reason in a science curriculum for students aged 11 to 14 years where the reasoning required was beyond the majority of students. Students in the original study improved in their ability to reason in science, in their success in science national examinations and remarkably in both mathematics and English, subjects not part of the intervention.

This remarkable effect has been replicated for students in science in English secondary schools and in numerous other countries. The principles of the pedagogy and curriculum materials have now used been successfully with children as young as 4 and in mathematics, technology, art and more recently English.
The original theory of practice for Let's Think, cognitive acceleration was based on the work of the psychologists Piaget and Vygotsky and has since been developed to provide teachers with clarity about the nature of the teaching changes that they can make to accelerate children's development of reasoning. During the last 20 plus years the theory of practice has been added to with published curriculum materials that inspire teachers and engage children in the challenging activities that influence their powers of reasoning.

What we aim to do is help students reason at levels higher than they currently can and to struggle with their peers to be able to do this. This requires the teacher's careful management of the classroom environment, the development of collaborative work and often a change in their role. Our 25 years of experience has allowed us to develop successful approaches to teacher development where teacher collaboration, coaching and powerful approaches to reflection are used to bring about an effective change. Coupled with that are the changes in school management and the curriculum, which sustain the approach when key staff move on in their careers. Stuart Twiss and Lynda Maple represent the Let's Think Forum the charity which is responsible for maintaining Let's Think, cognitive acceleration and currently is undertaking further research into the approach on behalf of the national government of England and the government of London.

Extended Summaries of the Presentations
Plenary Sessions

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Prof. Bengt Lennartsson, Linköping University, Sweden.
Thinking-Based Footprints in Scandinavia from the 13th ICOT
Friday, September 19, 17:15 – 18:00, Room "Lielupe".

Almost everything has been changed in the Swedish school system recent decades and it is therefore very difficult to identify specific causes for any particular effect on the outcome. Sweden has fallen and lost positions in international comparisons such as PISA. Political parties are accusing each other of having caused the disaster. When public schools were made mandatory in Sweden in the 1840s the purpose was to foster loyal obedient citizens with the knowledge needed for life in the emerging industrial towns. The aims were redefined from the 1970s towards development of critical thinking, democratic minds and group work ability needed in the envisioned global and sustaining world. During recent decade a lot of this "modernisation" has been questioned.

One difficulty is that nobody really knows what kind of knowledge, understanding and skills will be needed in the future. We know that a lot of what is needed today, was not foreseen four decades ago, and many of the tasks and problems the pupils at that time were trained to handle, are not at all relevant today. So, how could anybody know what the pupils should learn at school today? There may be more influence from travelling, events and Internet, than from school. Do the concepts "thinking" and "learning" mean the same today as they did for previous generations? Despite this confusion about the contents, there is a rather general agreement, a Scandinavian tradition, about how to handle complex situation, and this is very much in line with the ideas in *OUR Education Network*, in turn much influenced by *Senge's Team Learning*. The steps in OUR:

- Develop consensus about a shared vision, the desired position in say five years
- Develop a plan on how to move towards the vision and identify the current procedures and mental models that have to be replaced
- Adapt the models, systems, and the infra structure, to support the conversion and convert

This OUR approach is a rather general procedure for change management regardless of process and contents. It has successfully been used at about 25 Swedish schools and pre-schools.

About 60 schools [7] in Sweden have started or signed up for *Visible Learning*plus, VL+, programs. The focus in VL+ is on the classroom processes. Close interaction between teachers, between pupils, and between teacher and end each pupil: challenging but reachable goals, curiosity, making progress visible, supportive feedback, relational trust. The headmaster at first one, Gustav Vasa Skola in Stockholm, has described their situation [8].

A conference in Gothenburg November 2014 has the theme: *Visible Learning*plus in Use [9].

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Extended Summaries of the Presentations
Plenary Sessions

Linda O'Toole, Universal Education Foundation, Learning for Well-Being, Belgium and USA.
Naturally Unique: Encouraging Creativity and Metacognitive Skills in Family Environments
Friday, September 19, 18:00 – 18:45, Room "Lielupe".

The talk focuses on three links between creativity and metacognition: addressing how children express creativity in different ways; offering a set of capacities and practices through which children can develop skills to support learning in general and their own unique processes in particular; and involving adults in using their own natural and unique patterns of creativity in order to engage fully with their children.

The presentation is based on over 30 years of working with young children and their families on engaging with multiple expressions of creativity in a variety of cultures and contexts. The topic will be explored through a lecture format with slides and a short video, followed by discussion with the audience.

The aim of the presentation is to raise awareness of the connection between creativity and metacognitive skills through attending to the diverse perspectives and multiple expressions of all members of the family environment.

19:00 WELCOME RECEPTION

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I
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Irina Buchinska, Daugavpils Russian Lyceum, Latvia.
Three Steps to Thinking
Saturday, September 20, 09:00 – 09:40. Strand A. Room "Amata".

A need for developing learner's thinking skills and creativity has been acknowledged as a necessary requirement in 21st century education. There are different theories, views, approaches aiming at learners' thinking and creativity development. The presentation during this workshop is based on a ten-year experience of working with Thinking Approach (TA). This approach enables the teachers to integrate and simultaneously develop language and thinking skills. With the TA thinking skills are developed by learning to apply models that originate from the General Theory of Powerful Thinking (OTSM) based on the Theory of Inventive Problem Solving (TRIZ).
The question teachers usually have is how to implement the theory into everyday practice. The workshop will focus on what, when, and how the teacher can do to encourage and sustain the learners' involvement and motivation to accept and work with challenging problem solving tasks, create their own tools and build up their thinking alongside with language competence.
The key point of the workshop will be the idea of The Thinking Task Framework, which is a tool for the teacher interested in integrating the thinking dimension into their lessons. The TTF summarises the steps to be made by the teacher and the learners while working on a task. These steps help the teacher to understand how to create tasks, how to organise work with the tasks and how to evaluate this work, which creates the context for developing thinking and creativity of the learners.

The participants will be offered samples of grammar tasks on various grammar topics and authentic texts tasks for different age groups (from 11 years old to 15 years old) and will have an opportunity to see how to apply the TTF when working with these tasks.

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Susan Granlund, Kirkonkylä School, Finland.
Integrating Thinking in 3rd Grade Beginners' English classes
Saturday, September 20, 09:45 – 10:05. Strand A. Room "Amata".

In this talk I will describe my attempts to integrate thinking into my third grade beginner English classes over the past six months, and I will describe how I, as a teacher, have gradually changed the ways in which I try to implement thinking in the classroom. At the same time I will describe what I find rewarding and what I find difficult about the process.
The Thinking Approach became familiar to me first in 2009 and since then I have attended courses and taken part in projects concerned with how the Thinking Approach can help to increase thinking and creativity in the classroom. In my own work as an English language teacher in two primary schools in Finland I have tried throughout this time to integrate thinking skills into my work in the classroom, particularly using thinking models, such as ENV, which I have learned about through the Thinking Approach. As a teacher I have tried to plan lessons with the Thinking Task Framework, and it has certainly helped me to create suitable challenges and to steer lessons in a direction which increases student activity and thinking.

However, I have not yet felt that I integrate thinking activities into my work enough for them to actually have an impact on how the learners work, think and learn, or to really improve their language skills. I therefore decided this year that I would concentrate on only one year level and really try to plan series of lessons which might make a difference and lead to my truly having a new approach to my own teaching.
I will describe how I went about defining my aims for myself and my pupils in such a way that I hope they might result in more long-term benefit for my learners, how I took into account the course books, the reality of time constraints and the school environment, and how the lessons turned out. I certainly can't say that I have a new way of teaching yet, but the little I did this year was rewarding and promising and I will describe how I plan to build on it in the future.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

Diana Bolgare, Latvia.
Thinking with very Young Learners. Playful Ways to the Thinking Approach with 4-6 Year Olds
Saturday, September 20, 10:10 – 10:30. Strand A. Room "Amata".

Having started to work with learners aged 4 I was puzzled of how and what I should teach them. Teaching words even in a playful way was not enough for me. I decided to try to implement the Thinking Approach (TA) to language teaching and learning when working with my very young learners.

The challenge for me was to combine the thinking aim and the language aim at the lesson. It didn't happen at once and a lot of self-reflection was needed. I realized that my own thinking skills should be developed. Seminars with TA experts and constructive feedback on the lesson descriptions at the Teacher Diaries section on the http://www.ta-teachers.eu structured my lessons. I also needed an example of how thinking skills can be taught to very young learners. "The Country of Riddles" by A.Nesterenko (http://www.trizminsk.org/e/23105. htm) and PASS materials (http://www.ta-parents.eu/index.php/downloads/192-phase-1) were at help. As a result, I got a picture of how I could share my experience with my learners and teach them basic thinking skills (ability to notice different features/ parameters of objects, ability to group elements/objects according to certain parameters, ability to ask strong questions) .

During last academic year, I was searching for the best form to introduce basic parameters and values of objects to my learners. It had to be simple, clear, motivating for my learners and I wanted it to be based on the Thinking Task Framework.

During my talk I will share my form of work with 4-6 year old learners (TA journey), will reflect on my one year experience as a novice TA teacher: my expectations, achievements and difficulties, as well as ways of measuring learners' progress. At the end of my talk, I will offer my portrait of a TA teacher and reflect on what I would do differently if I started anew now.

10:30 - 11:00   COFFEE BREAK

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I
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Natalia Kovilina, Daugavpils Russian Lyceum and Marina Bagrova, Riga Herder School, Latvia.
Approaching Russian Grammar through the Thinking Approach Perspective
Saturday, September 20, 11:00 – 11:20. Strand A. Room "Amata".

The main questions which the teacher of a native language (in our case Russian) finds difficult to answer are WHAT to teach and WHAT FOR this should be taught? These questions become particularly urgent for teachers who teach a native language to lower secondary schoolchildren (age 13-15). Normally, these students know already the basics of grammar (they have studied it for 7 years), can easily express their thoughts both orally and in a written form. When designing their course on syntax teachers usually rely on available course books. At the same time, they mention that learners' motivation is low as the course book gives a lot of rules for using punctuation marks and these rules are overcrowded with difficult for perception terminology. In addition, the texts or in most cases just separate sentences on certain rules which are given in the course books do not raise learners' interest.

It is possible to change the situation if the learners are given an opportunity to research the meaning of the punctuation marks in various texts and to formulate their own rules. A system of tasks in Creative Grammar Technology (CGT) of the Thinking Approach (TA) helps to organize such work. Learners go from defining the level of their personal knowledge in the area of learning (in our case in punctuation), do a diagnostic test not on the material learned but on the new material to be learned. This helps the teacher determine actual difficulties that the learners have; as for the learners it helps them realize to what extend the new material is important for them. Learners learn to define and describe the object of learning through parameters, learn to formulate the aim of learning. It is crucial that it is not the teacher who formulates the theme and aims of learning but these are learners who define their own aims, basing on the problems they had when doing certain tasks. At the initial stage this causes the major difficulty and challenge for learners. Next difficulty lies in the fact that the teacher should select such material and tasks which will help learners to achieve their aims. Originally, system of tasks in CGT gives the teacher a general direction of work and offers tasks for the English language so the tasks for the Russian language lessons should be developed by the teacher himself/herself. The function and the features of the punctuation marks are used as a basis for planning the sequence of lessons on syntax. This kind of planning helps to develop more logical lesson sequence.

Another important objective is connected with creating a model of a rule where on the basis of the tasks offered by the teacher every learner compares the meaning of punctuation marks according to certain parameters. It is important to mention that learners define the value of every parameter themselves and describe this value in their own words either using the terms or not. It is easy for learners to apply this model in practice as they understand the meaning they put in their words. The difficulty at this stage is in managing the learning process: on the one hand, the teacher gives such material on the basis of which the learner comes to parameters and their values, on the other hand these values are different with different learners. The amount of individual work with every learner increases both during the lesson and after it when the teacher looks through the learners' models and gives feedback on them: asks questions, indicates inconsistencies, thanks for interesting ideas. This work is time consuming but allows to have a clear focus in further lesson planning and to implement an individual approach to every learner.

The learners constantly work in the context of uncertainty, regularly use the ENV model as a main tool for dealing with tasks that are new for them. Mastering the skill of applying the ENV model is important for information description when working with any problem. Thus, while learning the Russian language, learners are involved in the process of acquiring one of the universal thinking tools which helps learners find a creative solution. A student is learning to set learning aims, reach these aims, and reflect not only on his/her own result of the lesson but also on the means which helped him/her to reach this result, which makes a student the real subject of the learning process.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

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Olga Šestakova, Daugavpils Russian Lyceum, Latvia.
Creating and Working with Writing Tasks Based on the Thinking Approach
Saturday, September 20, 11:25 – 11:45. Strand A. Room "Amata".

There are several drawbacks of the course book writing tasks: cultural biases in the readings, ad hoc grammar explanations poorly related to particular genres, vagueness about users' current proficiencies or backgrounds, lack of specificity about target needs, an over-reliance on personal experience themes, over- reliance on a single composing process, and invented and misleading text models. The key point, however, is that these tasks usually copy the texts that precede it, which means that students' thinking skills are not developed.

There are several parameters applying which any teacher can transform a course book writing task from non-thinking into thinking or create a new writing task that would develop thinking skills. Each writing task that is aimed at developing thinking skills should contain a challenge which means students cannot do the task at once because they do not know how to do it. The next thing is to anticipate possible formal replies with little or no content. This leads to the introduction of such limitations as number of words, number of arguments, number of sub-tasks, etc. A good thinking task should contain a problem and it should be connected with the students' real-life experience, which will raise students' motivation. A thinking task can be based on the thinking model called ENV that implies description of different objects by applying parameters they share. That is why a thinking task can begin with such verbs as divide, classify, sort out, select, compare and the like. It is also important to determine the potential of the task, i.e. possibilities for different outcome, possibilities for changing difficulty level, possible follow-ups, etc. Thus, the beginning of the presentation will be devoted to examining how several course book writing tasks were transformed. The audience will have a chance to transform some course book writing tasks from non-thinking to thinking applying the criteria mentioned previously.

However, it is not enough to formulate a good thinking task because it is usually the sequence of preceding tasks that develop thinking skills, not writing. There will be shown an example of a sequence of tasks including such principles of TA as creating a challenge and making students accept the challenge. This sequence of tasks was tried out in forms 5 at Daugavpils Russian Lyceum. To conclude there will be summed up some ideas/ tips for teachers who would like to try to create the sequence of "thinking" tasks that precede the writing. At the end of the presentation the audience will have a chance to create a draft of a thinking tasks system that precedes the writing task they have transformed.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I
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Kirsi Urmson, Rauman normaalikoulu, Susan Granlund and Taina Pertola, Kirkonkylä School, Finland.
Games and Activities to Promote Thinking
Saturday, September 20, 11:50 – 12:30. Strand A. Room "Amata".

The aim of the workshop is to show how various games and activities can be used for the purpose of helping teachers to see how some aspects of the Thinking Approach and of the Thinking Task Framework might work in practice.

This workshop is based on the experiences of three teachers who took part in the Nordplus STEP-project course in Finland, which aimed to introduce the Thinking Approach to a group of Finnish teachers and to help them to start to implement it in their work. The workshop will be held by the two STEP trainers, a primary school teacher/ teacher trainer, and an English teacher, and by a special needs teacher, who was a participant in the STEP course. The trainers themselves were new to introducing other teachers to the Thinking Approach, including the Thinking Task Framework as a means for planning thinking lessons. They therefore tried to find different ways of introducing the concepts and letting the participants see how they work. One of the ways which the participants were most satisfied with was that of letting them take part in thinking games and activities themselves, as if they were the learners, and then of reflecting afterwards on what was done. In addition to making the theory more concrete, these activities led to much discussion among the participants, so that they got to know each other better, leading to a positive and active atmosphere on the course.

Often such games and activities are handed out in A4 form as something extra to try, something you can try on your own. However, we found that for all teachers time is a constraint, and extra information isn't always read, however interesting and useful it may be. It therefore felt like time well spent to actually do some of the activities and after that the teachers could think about how something similar might work in their own settings.

In this workshop each of the facilitators will introduce an activity or game which demonstrates a way of using some aspect of the Thinking Approach to promote thinking and creativity in the classroom. The workshop participants will then try out each of the activities together and afterwards will discuss how they could adapt them to their own situations. The facilitators will be able to describe how they themselves have used them in very different settings – in the language classroom, with special needs pupils and in the general primary classroom for various subjects, as well as with trainee teachers. There will be an emphasis on how these can form part of a larger plan to introduce thinking and creativity in the classroom.

12:30 – 13:30   LUNCH BREAK

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

Kirsi Urmson, Rauman normaalikoulu, Juli Aerila and Anne Keskitalo, Turku University, Finland.
Integrating the Thinking Approach into Primary Visual Arts and Mother Tongue Studies
Saturday, September 20, 13:30 – 13:50. Strand A. Room "Amata".

What kinds of tools there are for a primary level teacher to use if the aim is to build a learning environment which would enable learning of systematic thinking skills? The presentation will explain how Thinking Task Framework was used in grade 6 by two teacher trainees in teaching Visual Arts and Mother Tongue. How could they plan a meaningful, challenging learning period combining two subjects? Which methods would support it?

The presentation will explain how multisensory walk as a method and Thinking Approach were combined to create a learning environment where a joined plan of two subjects would give more time and room for learning thinking skills. Two class teacher trainees from the Teacher Training School of Turku University in Rauma used a multisensory walk in the Unesco World Heritage Site of Old Rauma as a learning environment for combining the teaching of thinking skills, Visual Arts and Mother Tongue. What kind of strategies would the pupils create for collecting and using information from the trips for writing descriptions and making a piece of sculpture from the multisensory point of view?

The trainees were using Thinking Task Framework (TTF) as a starting point for planning. Very often the planning begins from the content aims and doesn't give the trainees the important understanding of how to implement skills, in particular thinking skills, which don't appear in lessons without systematic planning. They were guided through the process in using multisensory walk and pedagogical grammar by the university teachers and in Thinking Approach by the class teacher. The trainees gave the pupils a challenge to think what Old Rauma looks, sounds, smells and feels like. How could the pupils find this out and make it visible?

The focus was on creating a challenging task, planning stairs to solve it and to reflect on the process. Learning diaries were kept by the pupils to give them a tool to reflect and at the same time to give information about the process for the trainees. The practice period showed that even with fairly little information about TA the trainees managed to create a learning environment based on thinking skills. The teacher's role as a presenter of information is still strong among teacher trainees. They had to step out of their comfort zone. TTF acted as a good tool for building a systematic interactive process combining different learning objectives from the curriculum in the framework of learning thinking skills. It opened up the learning process from the thinking point of view. The whole process was based on learning about implementing thinking skills by creating a challenge and then activating pupils to plan and reflect. The focus on thinking skills opened up deeper understanding for the trainees about the role of a teacher in the classroom as preparing the pupils for the unknown future in skills wise. It was also important from the teacher education point of view that the tutors could bring in their special input and see in practice how teaching thinking skills can be brought into the classroom.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

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Russell Grigg and Ms Helen Lewis, University of Wales, UK.

Developing Positive Dispositions to Learn: A Problem-Based Learning Approach in Teacher Education

Saturday, September 20, 13:55 – 14:15. Strand A. Room "Amata".

We encourage our trainee teachers to become thoughtful, reflective, creative and empathetic practitioners. The skills that we look to develop mirror many qualities highlighted as dispositions or habits of mind. Focus has been placed upon these within the institution as we wished to develop student's critical thinking skills, personal responsibility for learning and the idea of 'mindful thinkers' (Costa and Kallick, 2008:xiii). This was in response to evidence suggesting that whilst our students are successful at many academic and professional skills, analytical and evaluative thinking remains a challenge for many.

One tool that we use to do this is PBL. It is acknowledged globally that the key ingredient of the world's best- performing education systems is the quality of its teachers (McKinsey Report, 2007). This is not to ignore the contribution of other factors, such as parental involvement, school values and the self-belief of learners themselves (Hattie, 2012). Nonetheless, the question of teacher quality has occupied politicians, educationalists and policy-makers for generations. Teacher education has become associated closely with the global debate on school reform. Countries such as Finland and Singapore lead the way in world education because they take teacher training seriously and are committed to preparing 'thinking teachers'.

PBL is not a new phenomenon. Its modern-day origins can be traced to Howard Barrows (1928-2011), professor of medicine at McMaster University in Ontario, Canada. During the 1960s, Barrows introduced an approach for teaching medical students where real-life, open-ended problems drove the learning. He was concerned that the traditional means of instruction and assessment were not enabling students to reason, apply their knowledge and work closely with fellow professionals. There are a number of prominent features to PBL, particularly the use of small group discussions guided by a tutor. Supporters of PBL highlight the advantages of enabling students to work with the kinds of complex, inter-related issues that they will face as teachers (Dean, 1999). For instance, a PBL scenario relating to provision for a child with special educational needs could include reference to working with support assistants, specialists such as child psychologists, parents as well as highlighting the need for detailed planning, resource preparation and classroom management.

This presentation will outline examples of PBL scenarios used to develop successful thinking skills and dispositions. Student discussion around the scenarios, and their reflection on the Habits of Mind will be examined. The presentation will use video clips, video diaries, photographs and digital examples of student's work. This will allow the audience to gain an understanding of the impact and relevance of Habits of Mind and PBL.

Student opinions regarding the perceived value of Habits of Mind and PBL, gained from questionnaires will be examined.

After attending this session, delegates should have:
- A clear understanding of the sixteen Habits of Mind.
- Examples of ways in which students have used Habits of Mind in their work. Practical ideas for links between Habits of Mind and PBL scenarios.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

Anita Backhouse and Stuart Twiss, Let's Think Forum, UK.
Our Approach to Teacher Development in Let's Think
Saturday, September 20, 14:20 – 15:00. Strand A. Room "Amata".

Let's Think, cognitive acceleration is an intervention that has over 20 years of evidence of its positive effect on children's reasoning.

It was originally developed to improve students' abilities to reason in science. Students in the original study improved in their ability to reason in science, in their success in science national examinations and remarkably in both mathematics and English, subjects not part of the intervention.

The original theory of practice for Let's Think, cognitive acceleration was based on the work of the psychologists Piaget and Vygotsky and has since been developed to provide teachers with clarity about the nature of the teaching changes that they can make to accelerate children's development of reasoning. The differences from 'usual practice' can be subtle as well as profound and the features of the Let's Think classroom are clear enough to share as the basis of teacher development.

Our 20 years of experience training teachers has allowed us to develop successful approaches to teacher development where teacher collaboration, coaching and powerful approaches to reflection are used to help teachers become more effective in supporting students' development of reasoning.

The training programmes we use often take place over two years and the activities employed, as well as their basis in theories of personal development have strong parallels with students' development activity.

Through the training teachers become more successful at their management of the classroom environment and time, the development of collaborative work that engages students, a classroom where dialogue is sustained between students and where they can maintain their own enquiry into the tasks and problems of Let's Think.

Teachers also come to own the approach, the materials and in turn influence others as tutors and coaches. Coupled with the teacher development there is support for changes in school management and the curriculum, which sustain the approach when key staff move on in their careers.

Anita Backhouse and Stuart Twiss represent the Let's Think Forum, the charity which is responsible for maintaining Let's Think, cognitive acceleration and currently is undertaking further research into the approach on behalf of the national government of England and the government of London.

15:00 – 15:30   COFFEE BREAK

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

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Renata Jonina, TA Group, Latvia.
Developing Competence in Teaching for Thinking. What do Expert Teachers Do Differently?
Saturday, September 20, 15:30 – 15:55. Strand A. Room "Amata".

Despite a number of available approaches (*Higgins et al., 2004*) and country initiatives (*Gallagher et al., 2002*) for bringing more thinking into school teaching, many educational professionals agree that the impact on ordinary classroom has been very small (*Sternberg et al., 1988, Leat, 1999; McGuiness, 1999; Baumfield et al., 2005*) with few teachers having relevant skills to teach for thinking. Therefore, I find it essential to focus on classroom research and find the means of helping school teachers improve their ability to teach for thinking.

Within my research I have been focusing specifically on inventive thinking skills that are defined as ability to *"effectively solve non-typical (creative) problems in various domains avoiding a large number of trials and errors"* (*Sokol et al., 2008: 34*). The pedagogical framework - the Thinking Task Framework (TTF) - was developed as a tool for helping school teachers organise the teaching-learning process following an integrated subject-matter and inventive thinking-skills approach. A group of school teachers from Latvia and Finland has been learning to organise their classroom instruction following the framework. The empirical experience of working with these teachers shows that many of them face difficulties in changing their traditional instruction into the one suggested by the framework.

The given **study aims** at presenting essential differences in how teachers who are experts in the approach and those who are new to it transform the steps of the framework into their classroom instruction. The presentation is based on the main findings from the analysis of lessons of three experienced language teachers (i.e. experts) who have been using the framework for planning and conducting their lessons. The study employed the analytic approach to modelling the teaching process (*Schoenfeld, 1998, 2000*) decomposing the lessons into action sequences using methodology of "competitive argumentation" (*VanLehn et al., 1982*).

It was discovered that the differences are connected to both classroom instruction (classroom actions of students and teachers) and classroom interaction (classroom dialogue). Teachers who have long experience in teaching for thinking share at least 7 essential common elements in the way they transform the steps of the TTF into classroom instruction.

The presented results will be useful for those educational professionals who are interested in uncovering essential elements that allow a school teacher increase a thinking potential of a lesson. The presented results are also expected to help school teachers reflect on their own way of organising classroom instruction and interaction and to identify those elements they can change in their own practice.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom I

Open Reflection.
Teaching Thinking: Impossible, Challenging, Easy (Towards Effective Models of Teacher Education for Thinking)
Saturday, September 20, 16:00 – 17:00. Strand A. Room "Amata".

While most teachers agree about the importance of developing thinking skills and dispositions, only a few teachers are ready to change their own practice to facilitate this process. During this session, we will listen to these few who have chosen the thinking path and ask them to reflect on what they see as easy, challenging and impossible in the process of becoming a thinking teacher. We will ask the teachers to answer some of the following questions:

1. If you were asked to explain in 30 seconds what you are doing as a thinking teacher, what would you say?
2. If you were asked to identify a few elements of your teaching you would like to improve to become a better thinking teacher, what would you refer to and why?
3. If you were asked to think about those aspects of a thinking teacher work that you would like to become part of your own practice but you don't believe it's possible, what would you refer to?

It is assumed that what seems impossible for some teachers is no more than challenging for others or even easy to those who are more experienced. If the line of development really goes from impossible to easy, are there common patterns that can help teachers reach the easy phase faster? Are these patterns universal? To what extent do they work across subjects, cultural contexts and different approaches? What can we all learn that will help us work better and contribute to more teachers becoming true facilitators of learners' thinking?

Some of the answers to these questions will be provided by the experts and researchers. Members of the audience will also be invited to share their views and experiences.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

Shoshi Reiter, SR-TOC4HD, Israel.

Fostering Self-Regulated Students at Junior High School in Science Learning
Saturday, September 20, 09:00 – 09:20. Strand A. Room "Abava".

Rapid changes in today's science- and technology-oriented society are expressed in information explosion and changing job markets. Today's citizens are required to become independent and educated lifelong/ life wide learners. (Schraw, Crippen & Hately, 2006.)

The present study aimed to investigate ninth graders' yearlong SRL of the national genetics curriculum, with a focus on changes in students' regulatory behaviors over time and in their academic performance in this learning domain as compared with students learning in a teacher-controlled environment. For this purpose, we used self-protocols for promoting students' SRL and recording their regulating performance for analysis.

Two main objectives that are emphasized in this case: construction of science knowledge and acquisition of relevant skills, initiating a shift in students' behavior from being teacher-controlled, reactive learners to self-controlled, proactive ans autonomous learners (Dawson & Soames, 2006; Roth & Lee, 2004.)

Changes in students' Self-Regulation of Science learning (SRL) in two ninth-grade science classrooms were measured along a full academic year. The Self-Regulating (SR) class (*n*=25) studied genetics autonomously while applying self-regulated learning mode. The Teacher-Controlled (TC) class (*n*=27) studied the same content in a teacher-regulated mode.. Studies show that all students, regardless of their academic abilities, can improve their SRL (Self-Regulation of Learning) skills (Butler, 2002; Perels, Dignath & Schmitz, 2009). SRL promotes thinking skills and learning behaviors and therefore, may decrease students' academic diversity. By SRL skills we referee to resources management. goal setting, planing, monitoring, self- evaluation, Team-work, and self-instructions (Dignath, Buettner & Langfeldt, 2008; Zimmerman, 2002). As well, SRL was found to correlate positively with academic achievement (Eilam & Aharon, 2003; Zimmerman, 2001) and negatively with student dropout occurring specially in the beginning of the junior-high school (Van der Veen & Peetsma, 2009.)

Findings showed improvement of SRL in the intervention group. Achievements in science within the experimental group were higher than those of the control group in all parameters measured and were correlated to SRL. These findings led us to conclude that self-regulated learning is possible in a regular school despite limitation and complexity of the environment. Acquisition of SRL skills doesn't occur spontaneously. It requires a lot of practice in various learning situations over a long period of time. To put theory into practice in an educational system we recommend teaching regulation skills including a variety of components and let students experience them in large range of opportunities in order to improve SRL and academic achievements as well as acquire life-long learning skills Findings showed that enacted SRL correlated with self-reported SRL, validating measurements. The Self-Regulating students outperformed their Teacher-Controlled peers in science learning. Significant changes over time in both self-reported and enacted SRL emerged only for the Self-Regulating students, suggesting that long-term SRL practices promote awareness of learning processes and ability to apply SRL.

Such positive evidence influenced organization of plentiful opportunities within the framework of school curricula to enable students to be autonomous learners that experience regulation of their own learning processes.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

Clifton Chadwick, United Arab Emirates.
Teaching Critical Thinking in a Public School in the UAE
Saturday, September 20, 09:25 – 09:45. Strand A. Room "Abava".

The purpose of teaching critical thinking through academic subjects in schools is to prepare students to succeed in the modern world and to be responsible for their own continuous learning and progress. Schools are the first place (even before the home) where students/children are exposed to critical thinking strategies in a systematic way. They might start practicing at their homes informally, before they start schools, but soon they will lose this skill if it is not practiced in a strategic framework. As a result, if teachers and educators in schools were aware of their vital role in preparing the students to become thoughtful and creative people in the future; they would act accordingly and would take responsibility to make sure that this goal is achieved.

In the case of the United Arab Emirates (UAE) the government has expressed goals of preparing students for integration and participation in the knowledge economy. As a rather young nation with an incipient education system pressure to modernize as quickly as possible is a likely goal. Achieving success in the global economy and preparing more Emirati nationals to fulfill technical positions currently held by expatriate workers are considered to be urgent goals. A major aspect of ability to function in the knowledge economy is the ability to anticipate, identify and solve problems, skills which require critical thinking as a base.

Our research showed that the percentage of teaching critical thinking skills is very low, almost not practiced in the school. It also suggests that teachers think that their responsibility is to convey content to the students, not show them how to think with the content. That is a classical characteristic of the teacher-centered verbal knowledge paradigm of education.

The presentation proposes a broad approach to learning to think critically that includes structured content, the use of cognitive strategies, attention to affective variables and dispositions, awareness of intellectual standards and the ability to use systematic techniques for problem solving. It is a new and systematic model for teaching critical thinking.

One cannot think without content so learning new information and ideas is important. If a student does not have positive dispositions and attitudes about thinking, he will not be a good thinker no matter how much content he has accumulated. A good attitude and much knowledge will not be enough if the student has not learned the rules of intellectual standards: what is and/ is not good information, logically organized and available in a precise and accurate form at the appropriate moment. Then self-awareness and good cognitive learning strategies are also required. Solving problems requires all of the above.

Ability to think critically is growing more important in the globalized world as knowledge economy jobs grow and given that these jobs require high levels of problem solving abilities. In the specific case of the UAE, the government has stated goals to achieve higher levels of critical thinking and problem solving skills. Yet in the UAE and elsewhere, the teaching of critical thinking in public schools has not grown and continues to retain the "teacher teaches content" mentality.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II
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Alan Edmiston & Lynda Maple, Let's Think Forum. UK.
Let's Think: The Materials and Pedagogy
Saturday, September 20, 09:50 – 10:30. Strand A. Room "Abava".

The Let's Think approach raises the intelligence of pupils by improving their thinking processes. It is a Piagetian programme that draws on the research of Vygotsky and focuses on questioning, collaborative work, problem solving, independent learning, metacognition and challenge. Alan Edmiston & Lynda Maple, two of the founding members of the Let's Think Forum (UK) introduce you to a range of Let's Think activities that span mathematics and science for students aged 6 to 13. This session will involve a practical exploration of the materials and will highlight how the materials use the Piagetian framework of reasoning to challenge children's thinking. We will describe the pedagogy that underpins the Let's Think approach and share some stories from classrooms in the UK.

Delegates will be lead through (via hands on experience or simulation) a selection of lessons chosen to illustrate those that learners might experience from the start of primary school to the start of secondary education.

The activities chosen work within following curriculum areas:
*   variables and conclusions,
*   angles,
*   ratio,
*   force,
*   fractions,
*   simultaneous equations,
*   fair testing/classification,
*   linear and quadratic functions.

The activities have been chosen to illustrate the theoretical underpinning of the design of Let's Think curricula.

This session will end with some of the lessons learned from schools throughout the UK.

10:30 – 11:00   COFFEE BREAK

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II
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Victor Abashev, Vladimir Kravtsov, Alexandra Belik, Saint-Peterburg School No. 156, Russia.
Learning Environment that Promotes Cultural Thinking
Saturday, September 20, 11:00 – 11:20. Strand A. Room "Abava".

Creativity is a central force that shapes our culture. The aim of our administrative team was to find an approach to develop/facilitate cultural thinking by bringing creativity across course curriculum.

We had some ideas to foster creativity in classroom:
- the great part of education is uncontrolled and informal;
- creativity ties in the emotions of the learner;
- cultural artifacts can enhance insight problem solving;
- the course includes facilitation, it is very important for the teacher not to press, not to impose their
- view on students;
- the classroom environment must be a place where students feel safe to share novel ideas;
- classroom space should be designed for exploration, such as a thinking table, a drama stage, a
- space for groups to discuss ideas;
- people perceive things in varied ways through images, symbols, emotions, art, experience and
- feelings;
- finally the lesson should motivate and inspire.

We decided that the learning environment is a good choice, because it gives us a great opportunity for emotional involvement in the subject as well as providing creative thinking opportunities and insight throughout the lesson. We construct a class that appeals to pupils and promotes the course's goals. This classroom is welcoming to children, it allows them to see and easily move through all the areas, it encourages self-actualization.

We divide classroom into different areas:
- **multimedia area**;
- **display area** is realized as an exchangeable stained-glass window;
- **installation area** provides lesson with a modern form of museum communication;
- **art area** is designed as steps of the Acropolis;
- **tree (key element of the classroom design)** is a mythological, religious, philosophical and cultural
- archetype;

The course subject is too complicated for 9-10 years old children. That's why schools try to use various approaches to organize learning environment. Mostly they use information and communication technologies (video projectors, interactive whiteboards, etc.). The problem is that such approach provides only virtual environment, but for defined age group of pupils physical environment is more involving and inspiring.

Our experience of making learning environment for cultural thinking can be expanded into different subjects, courses and extended education.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II
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Bodil Kleve and Sylvi Penne, Oslo and Akershus University College of applied Sciences, Norway.
Developing Thinking Skills and Learning in Mathematics and Mother Tongue
Saturday, September 20, 11:25 – 11:40. Strand A. Room "Abava".

Cross curricular activities are focused in International Education . We therefore see a need to explore through our two subjects, Norwegian and mathematics, how thinking skills and creativity can be developed in school. What are the obvious differences between subjects and what are the similarities? An awareness of this will be the focus of our presentation in which we will discuss cross-curricularity in a literacy perspective. Our argument is presented on three levels, which together build on the perspective of meta-language.

First, we consider the level of discourse primarily concerning cultural relations and communities of meaning, for example subject-related communities. A discourse is a kind of 'community of meaning', of ways of thinking to understand the world or a part of the world. Discourse gives meaning, feeling of inclusion and identity, for example in the profession of teaching. Within a discourse, some frames may be obvious while others are in motion, formulated by Gee as "identity kits" (p. 701).

The next level is genre, concerning both common cultural texts and practices and how meanings are framed in linguistic forms. Genres are part of discourses but in a wider perspective of learning. From a literacy perspective, we suggest that it is crucial to separate genres as important didactical markers. We claim that as pupils meet few demands with regard to awareness about genres, thinking skills will rarely occur .

Finally, we consider arguments regarding the modes of thought which underpin subject-specific learning. Jerome Bruner describes and distinguishes between what he calls paradigmatic and syntagmatic modes of thought. Paradigmatic mode of thought is linked to a scientific way of thinking that requires arguments based on decontextualized generalizations and explanations (like mathematics). It requires the acknowledgement of an unchangeable, abstract system existing forever. Syntagmatic mode of thought on the other hand requires more hermeneutical ways of reasoning, and as such contextualized interpretations (like Norwegian).

Sylvi Penne will present these perspectives from a hermeneutic point of view (Mother tongue, L1 subjects) and Bodil Kleve will present these perspectives from a mathematics point of view.

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Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

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Audrone Allan, Lithuania.
Measurement of Thinking Changes in the Programme by Edward de Bono CoRT1 "Breadth"
Saturday, September 20, 11:45 – 12:05. Strand A. Room "Abava".

The objective to integrate Key Competencies into school curriculum is not a new idea. The shift from orientation to academic subjects towards key competencies '...for a successful life and well-functioning society...' was led by the OECD. (Rychen, 2001). Integration of key competencies into curricula became the target for educational policy in Europe (European Communities, 2007) and for developers of Lithuanian National Curriculum (LR Švietimo ir mokslo ministerija, Švietimo plėtotės centras, 2008). Few argue about the need of key competencies, but the status of these beside subject knowledge is not yet established. Key competencies will not gain higher status in school curricula when exact learning outcomes are defined and systematic assessment of achievement is performed.

We have initiated a two year (2011-2013) European Structural Fund project „Development of Thinking Competence" (http://mastau.lt). The primary aim of the project was to introduce New Thinking into school curricula and the organisational culture of educational institutions.
The principles for defining learning outcomes for thinking competence, development of assessment methodology and measurement of change in thinking was created as a part of that project.

An introduction of the Edward de Bono's CoRT Thinking Programme (de Bono, 1972) has been implemented. The CoRT 1„Breadth" is designed to broaden perception and perceptive thinking skills. Target of the programme have determined learning outcomes and five assessment criteria:
1. Breath of thinking (factors considered and aspects covered).
2. Decision making (exploration of alternatives and ability decide).
3. Bias in argumentation.
4. Originality.
5. Speed of thinking.

Pre-post testing methodology have been employed for measuring change in thinking.
In total, 221 teachers have participated in the programme and change of thinking have been measured only in a sample of 151 teachers. Ten groups of students throughout Lithuania have participated in the experiment. Statistically significant changes (Δ) have been detected in the sample of teachers: increase in number of factors considered (Δ=3,7), aspects covered (Δ=0,45), richness of argumentation (Δ=2,9), small increase in impartiality of thinking and decrease in speed of thinking (Mąstymo kompetencija Lietuvos bendrojo lavinimo mokykloje, 2013).
Differences in age of students, implementation context, objectives and experience of teachers made results of students not comparable (Allan, 2013). The key conclusion is that changes in thinking can be achieved and successfully measured.

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Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

Elena Kuznetsova, Voronezh State Agricultural University, Russia.
Developing Intellectual Skills of Professionals by Teaching Field-Specific Vocabulary
Saturday, September 20, 12:10 – 12:30. Strand A. Room "Abava".

Intellectual development of the personality becomes now an important problem for society. Within professional development the ability to think conceptually, critically, and creatively helps to solve problems that extend beyond the boundaries of one's area of specialization and make decisions in unusual situations. Such essential qualities of the expert as fast orientation in the field, perceiving and remembering professionally significant information assume development of intellectual skills.

At the most basic level, S.D. Johnson defines intellectual skills as those mental operations that enable us to acquire new knowledge, apply that knowledge in both familiar and unique situations, and control the mental processing that is used to think in the form of lexical (semantic) words meanings, judgments, conclusions, concepts, hypotheses, and theories. One of the ways of development and improvement of intellectual skills needed to satisfy the demands of work is acquiring of field-specific vocabulary in English.

The hypothesis of our research is that the technology of formation of lexical skills on the basis of establishing of all possible associations of acquired words benefits intellectual skills developing.

At the heart of possession of the word the whole system of associations lies (N. Behtereva, I. Zimnyaya, A. Leontyev, Y.Samarin). It was already specified in foreign language methodology that the network of associations of the foreign-language word does not arise spontaneously by transfer from mother tongue but it has to be formed anew (E. Solovtsova). Thus strategy of teaching specific vocabulary has to provide establishment of these associations as more as possible. We believe that "association" is the associative correlation of the word to any phenomenon of the objective world: feeling, problem, concept, event, opinion, act, circumstance, fact, relations, idea, object.

Obviously, it is expediently to classify the phenomena in 4 groups: 1) actions taking place in student's background; 2) objects included in his experience; 3) feelings and emotions caused by his experience; 4) concepts and representations developed by the time of student's action.

Any association should be established in conditions when the student realizes subject of discussion within solving any problem, feels in the course of the statement concerning this subject certain emotion, solves the speech task which emergence is motivated. Associations become individualized only under certain condition - if they are established in speech activity. It means that specially organized learning process will get students to use the word in different situations depending on relations, feelings, circumstances, partners.

The main idea is that students should do a number of tasks (manipulations) in which the words are not the object for studying but the means of task realization. These manipulations cause strong connections of the words with situation, speech task, feelings, emotions, verbal junctions, etc. As a result a lot of association clusters are formed and the student uses the word naturally.

Assimilation of words happens for the account of the law of involuntary storing (P. Zinchenko). Therefore, doing different manipulations with words students carry out various cogitative, logical, and other kinds of operations influencing on the development of professional intellectual skills.

12:30 – 13:30   LUNCH BREAK

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

Gillian Boniface, Bergen International School, Norway.
Using Sorting Tasks in the Classroom to Encourage Critical Thinking
Saturday, September 20, 13:30 – 13:50. Strand A. Room "Abava".

In the workshop (round table session) I will provide examples of sorting tasks activities that encourage students to look carefully at images in order to be able to analyze and deconstruct them. These are essential skills if students are to be able to understand the language of visual communication, and show evidence of critical thinking in the production of their own creative work. While working with their images students record their conclusions on what are the parameters that link them, check and modify these conclusions, and eventually building their individual algorithms, which they can then apply to the creation of practical work. We will look at tasks that cover specific Approaches to learning (ATL), critical thinking skills, but as part of the discussion consider how they can be adapted and modified to suit a wider range of learning needs. Examples of skills that students are required to learn are practicing observing carefully in order to draw reasonable conclusions and generalizations, testing generalizations and conclusions, revise understanding based on new information and evidence, formulate factual, topical and conceptual questions and analyzing complex concepts into their constituent parts to create new understanding. I plan to show how the ENV model, developed as part of the Thinking Approach, can be used to teach all these essential skills to students.

The tasks have been tested out in the classroom with students from the age of 13 to 18, and can be easily adapted to suit a variety of curriculum content. Participants will try at least one of these for themselves, and there will be plenty of opportunities for discussion. It is envisaged that by the end of this session participants will have gained a better understanding of how thinking skills can be acquired by students, what types of activities are suitable for teaching specific skills, and how progression of these skills can be measured and mapped.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

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Elina Maslo, Aarhus University, Denmark.

Developing Communicative Competence through Thinking Tasks – Experimenting with Thinking Approach in Danish as Second Language Classroom
Saturday, September 20, 13:55 – 14:15. Strand A. Room "Abava".

In the Nordplus Nordic Language Project "Problem solving tasks for learning of Danish as second and foreign language in transformative learning spaces" (2012-2014) a group of teachers of Danish as a second and foreign language have had the possibility to develop and try out some thinking tasks with different groups of learners. The experiences from two language classes will be presented at the conference with the aim to discuss the potential of thinking task for development of communicative competence.

We are taking account in the broad understanding of language and learning. Language is here not understood as an autonomous linguistic system, but as a sociocultural praxis which mediates the interaction between people and the social world. To be communicatively competent includes therefore both the grammatical, textgrammatical, sematic, pragmatic and sociolinguistic competencies combined with the intercultural competencies.

We believe that language learning is a complex multidimensional process, which proceeds differently by different individuals. The paper is therefore based on a socio-cognitive constructivist approach to language learning, and believes that learning happens through active participation and common problem-solving in social environments – transformative learning spaces.

In the thinking approach we can find this understanding of language and language learning in the concrete learning activities, when learners are developing their ability to understand and systematically analyse language as a functional system, where language user is choosing between many different elements for different purposes in their communication.

The Thinking Approach to language teaching is used with the aim to develop both language and thinking skills of learners, and is seen as an systematic approach to development of the creativity and problem solving skills of the language learners. At the same time we believe, that in the process of using the approach in the language classroom, also the communicative competence is getting forced.

The video observation method has been used to collect the data for this presentation. The language use of the students have been analysed with the aim to discover the potential for the development of communicative competence.

Extended Summaries of the Presentations
Strand A. Innovations in the Classroom II

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Lyudmila Kuznetsova, Saint-Petersburg University, Russia.
Use of Metaphor in Teaching and Learning
Saturday, September 20, 14:20 – 15:00. Strand A. Room "Abava".

The power of metaphor as a tool of thinking has been acknowledged since ancient times. Aristotle wrote in The Retoric that metaphor "makes learning pleasant" and helps to make clear those things that escape notice. In their book Metaphors We Live By (1980) George Lakoff and Mark Johnson state that so-called conceptual metaphors help us structure the world around us. In pursuit of clarity we compare what we do not know with something more familiar, thus reaching a more in-depth understanding of concepts that defy simple explanation. This ability "to unpack; to move beneath the surface; and to work for knowledge" (Hooks 2010:10) is the definition of critical thinking skills accepted here.

Metaphor is often used as a technique challenging teachers to think critically about their role as educators. In the course of the last seven years the presenter has conducted professional development courses in groups of university teachers of English and economics, offering them, among others, a task to suggest a metaphor for the process of teaching and learning at university. Participants of the courses were asked to draw or to describe their metaphors in writing. Then the metaphors were anaysed with regard to the beliefs which transpired about the teacher's role, the role/s of learners, and the type of the process of learning. The analysis of the 42 metaphors suggested by the participants of the research project enabled them to uncover and to reflect on their own, often unconscious, assumptions about their practice.

As the participants of the course reported in their feedback forms, the comparison and analysis of metaphors which, by the very nature of this technique, were incomplete representations of the teaching/learning process, enabled them to critically assess their practices. One other outcome of this exercise was that the participant teachers started to employ metaphors in teaching their courses in order to stimulate their students' reflection on the topics taught and critical analysis of the suggested images.

The aim of the proposed workshop is, first, to demonstrate some of the ways metaphors can be applied in the classroom and, second, to involve its participants, working in pairs or small groups, in suggesting their metaphors for complex concepts. The exercise itself and the subsequent discussion is aimed to demonstrate the potential metaphors hold for developing thinking skills - comprehension of complex ideas, their structure and specific features.

References:
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Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

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Dmitry Kucharavy, SeeCore Project, France.
System Thinking for Decision Making
Saturday, September 20, 09:00 – 09:40. Strand B. Room "Venta".

The workshop will be divided into three sections. First, the System Operator (multi-screen scheme of thinking) will be introduced using an excerpt from a case study on urban public transportation. Second, small teams of participants will practice using System Operator in real case studies by using some examples brought to the table by the participants themselves. Third, the cases thus developed in the second section will be presented and discussed from methodological and subject matter viewpoints.

Practical recommendations and rules on how to recognize super-systems, how to identify past and future systems, how to consider multiple contexts and other such "how-to"s will be introduced. Participants of workshop will learn basic definitions and models (e.g. analysis versus study) and procedures for developing system description for target subject. Typical mistakes and misunderstandings when developing multi-screen descriptions of a topic will be discussed and clarified. Handouts will be provided electronically.

At the end of workshop, participants will discuss the practical differences between application of systems thinking and non-systematic approaches on various topics.

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Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

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Shoshi Reiter, SR-TOC4HD, Israel.
How to unlock schools' resources potential
Saturday, September 20, 09:45 – 10:30. Strand B. Room "Venta".

Bringing about the change in school resources management – Why change? How many times has someone come up with a brilliant idea, service or product that was enthusiastically presented only to be politely refused? In order to create any change we first must agree on why we need to leave our comfort zones and jump into something new. Many times we hear that "if only…" we had more money, stuff, other teachers, students, government or whatever…. we will do much better at school" Based on the Theory of constraints, I claim that with the same resources we can get much better results. The Theory of Constraints (TOC) is a managerial theory developed by Dr. Eliyahu Goldratt, author of bestsellers (e.g. "The Goal"). At the core of TOC is a focusing mechanism, which identifies the system's constraint and aligns the system so that the constraint can be fully utilized. If there is a difficulty in applying the focusing mechanism, special TOC analysis tools (called the "Thinking Processes") are used to analyze and remove this difficulty. During the session I will present the mind frame and field research that leads to the above claim.

Changes in the administration of matriculation examinations in Israel (based on the Theory of Constraints), has produced a marked improvement in the high school graduation rate of underprivileged students, without the need for additional manpower or other resources and without changing the pedagogical teaching methods. Because of changes made within the educational system in the early 1990's, the high school diploma has become the prime measure of success also for underprivileged students, within the vocational/technological high school. The "Reut" school, adopting the Theory of Constraints (TOC) has led a continuous increase in the number of students eligible for high school diplomas. The improvement achieved is described together with an analysis of the results. This case study shows that it is possible to significantly improve student performance, even when the students are from weaker academic levels who had a huge disparity in knowledge levels, and who have languished in the educational system for years. The improvement was also made in a relatively short period of time, by only changing the allocation of system resources.

During the conference session, the process of ongoing improvement suggested by the Theory of constraint, will be presented and practiced. Participants will be introduced to the thinking tools and processes of the TOC and practice them, to check limiting assumptions and how to unlock potential.

Target audience is schools directors and coordinators. We will use video, discussion and individual practice. Time line of workshop: 15 min will be dedicated to present TOC. 30 min will be dedicated to exercises and experience of the tool. Participants will apply the tool on examples from their organization. 10 min will be dedicated to summary and closer including questions. Participants will be seated in groups of 4 people in a group, will be provided with relevant materials and be engaged in activities.

10:30 – 11:00   COFFEE BREAK

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

Audrone Allan, Lithuania.
Implementation Thinking as a Key Competence into Lithuanian Schools
Saturday, September 20, 11:00 – 11:25. Strand B. Room "Venta".

The idea of 'New Thinking' for Lithuanian schools arose in 1991, when it became clear that there was no 'Independent Lithuania' without new schooling that educates the independent, constructive and creative thinker. The methodologies of Edward de Bono and Ned Herrmann fit that purpose.

Edward de Bono (1990) provides the principles of possibility, lateral, parallel and effective thinking, prescribing practical methodologies to develop these 'New Thinking qualities' (1972). Ned Herrmann's methodology, 'Whole Brain Thinking' helped define the 'Thinking Universe', to appreciate diversity of thinking styles and value every thinker (Herrmann, 1989). That humanistic approach fitted well the principles of the Lithuanian National School Reform.

The first ten years experience promoting New Thinking methodologies in Lithuanian schools are summarised in my doctoral dissertation (Valiuškeviiūtė, 2001). Series of project initiatives have followed.

The focus in the discussion is on the latest experience of a two year (2011-2013) European Structural fund project „Development of Thinking Competence" (http://mastau.lt). The primary aim of the project was to introduce New Thinking into school curricula and organisational culture of educational institutions. The project can be characterised as a systematic process, involving:
• Working with curricula at three levels: national, school and individual teachers.
• Working with wide range of people; trainers, teachers, school administration, students, parents and other educational stakeholders.
• Three stages in the work with teachers:
   Introduction to the new thinking tools.
   Training in principles of teaching thinking.
   Support for classroom experimentation.
• Designing wide ranges of practical resource materials to support the change; for classwork, tools for assessment, evaluation of progress and methodological guidelines for teachers.

Rich lessons for the agents of curriculum change have been withdrawn from the experience (Mąstymo kompetencija Lietuvos bendrojo lavinimo mokykloje, 2013):
• Teaching thinking in the current version of Lithuanian National Curriculum can be seen as a strategy for development of other generic competencies or the way to improve outcomes in teaching subjects. Similar approach to teaching thinking is shared by teachers.
• One needs to be realistic in promoting new ideas. Only 22 percent of teachers started experimental implementation after being trained in using methods.
• Success in the integration of New Thinking in Lithuanian Schools is combination of clear connected factors: Leadership, organisational culture, on-going support, availability and competent use of quality teaching and systematic assessment of achievements.

References:
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Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

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Ingrīda Muraškovska, Latvia.
Creative thinking as the organizational principle of educational content
Saturday, September 20, 11:30 – 11:55. Strand B. Room "Venta".

There does not exist any doubt regarding the necessity and importance of creative thinking. Different methods exist aimed towards the development of creativity skills, and creative tasks are frequently used in pedagogical practice. However, there exists a lack of a systematic approach regarding the most appropriate way to make creativity a component of the daily learning process.

It is based on two kinds of difficulties. Creative thinking – it cannot be characterized by separate and sudden moments of creativity. If we wish to achieve high and independent results of creative thinking, it must become intentionally manageable. The development of creative thinking must be planned as a component of educational content. However, it is not entirely clear, what the educational content is based on. The aspect of the other difficulty is the lack of time in order to expand the educational content. How to structure the content of creative thinking and how to include it in the overall educational content, without overloading the children?

The content of creative thinking is based on the complex of creative thinking instruments. It has been developed within the framework of the General Theory of Powerful Thinking and the Theory of Inventive Problem Solving (OTSM-TRIZ). During my 25 year long pedagogical practice, I have lead optional classes teaching children to acquire these thinking instruments, solve problems, obtain new knowledge after an independent research and develop creative projects. In order to manage this even more efficiently, OTSM-TRIZ must be integrated within the overall educational content.

The educational content has been traditionally structured according to knowledge areas and learning subjects. The creative thinking skills belong to so-called horizontal or transverse skills that twist through all the learning subjects and have become even more updated recently. Therefore, another dimension appears within the structure of educational content – dimension of transverse skills. That implies that the educational content can no longer be planned linearly – based on subjects, topic after topic. Another way of planning must be found that would provide for an effective integration of learning subjects and transverse skills, without extension of the education time.

How to structure the educational content, integrated with creative thinking, and how to use the non-linear planning principle – I want to share my experience regarding this, which has been obtained by planning and implementing a social sciences' course in the school in a new way.

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

Cornelia Knoch, PZ Zürich, Switzerland.
Conditions of creativity and thinking for professional staff development
Saturday, September 20, 12:00 – 12:25. Strand B. Room "Venta".

This contribution mainly addresses school leaders because they are the ones who have a strong impact on the conditions which are required for professional staff development in the field of creativity and thinking. Against this background, the presentation focuses on the question of what is needed to initiate the necessary space for creativity and thinking among the teaching staff of a school in a systematic and structured way.

Therefore, the author looks at the concept of creativity and connects this with the context of personnel development. Based on the context and current empirical data (see Krause, 2013), four main dimensions were identified for finding the answers for the main question of this paper. These dimensions are: a) leadership style, b) personality aspects, c) work organization and d) organizational culture. Looking deeper at these dimensions they offer keys for an in depth understanding of supportive and non-supportive factors of the development of creativity within an organization and its members. Outcomes of studies (see Zhou and Shalley, 2013) show e. g., that an as informative perceived leadership style has an impact on the intrinsic motivation of employees. Intrinsic motivation is an essential factor for the development of creativity. In contrast, a leader who is perceived as more controlled has a negative impact on the creativity of employees (presumably because of a lower intrinsic motivation). Furthermore, the leaders' expectations of the staff to be creative have positive influences on the creativity of the staff (see Volmer, 2013).

This presentation gives insights in currently relevant outcomes of research in the area of "creativity in organizations". These results give crucial hints for influencing creativity and thinking within a professional working context. For this reason, the highlighted research findings contain significance for schools as special professional working contexts too. These insights can contribute to a systematic awareness and conscious handling of professional teaching staff development: An analysis explores possibilities of a transfer on the school. The Swiss "Volksschule" will be used as an example.

Based on the synthesis of the research outcomes and the analysis of the transfer on the school this paper ends with preliminary recommendations for professional staff development in the field of creativity and thinking. The recommendations address mainly school leaders (as the ones who are responsible for initiating personnel development) and offer the basis for a discussion afterwards.

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12:30 – 13:30   **LUNCH BREAK**

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

Richard Cummins and Ged Murphy, Thinking Schools International, UK.
Creating a thinking school
Saturday, September 20, 13:30 – 14:25. Strand B. Room "Venta".

The workshop will provide an introduction to a whole-school approach to the teaching of thinking. Based on twelve years of experience of working with schools in several countries the model supports schools wanting to place thinking at the heart of the curriculum.
During the workshop participants will:
- Be introduced to the concept of a thinking school
- Have the opportunity to reflect on the rationale for becoming a thinking school
- Consider the process involved in becoming a thinking school
- Examine the six starting points
- Consider Teaching FOR Thinking; Teaching OF Thinking and Teaching ABOUT Thinking
- Identify personal next steps

The workshop will be interactive and participants will use thinking tools, especially Thinking Maps as part of the process.

Adela Vitkovska, Eurofortis, Latvia and Inese Didže, Dobele State Gymnasium, Latvia.
The implementation of Total Quality Management into the daily life of inside schools
Saturday, September 20, 14:30 – 14:55. Strand B. Room "Venta".

The quality of an educational organisation is not only reflected by the individual results of its students or the calibre of its teachers; quality, whether it be quality management or quality improvement, can only be developed and maintained across the whole organisation through the creation of a culture of 'Excellence'.

The mainstays of every educational organisation are its three key pillars: educational personnel; students; and management together with employees. To create an excellent school, we need to think particularly about all three groups and how they represent school processes, resources, management, strategy and organisational results.

Schools across Europe, both in the West as well as in the East, are using the 'EFQM Excellence' model as the framework for their organisational quality. The 'EFQM Excellence' model is beneficial for every organisation that would like to improve and develop using sustainability principles. To become strong and successful the organisation has to find the 'spirit of excellence', to be always be a bit better than they are today. The 'EFQM Excellence' model guides organisations in how to do this using a structured approach which focuses on areas that matter to you directly. This is done without resorting to simply providing generic ideas and feedback about what it is to be an 'ideal organisation'.

EFQM Award-Winning educational institutions have demonstrated that their business results including: examination results; salary ranking of graduates and their future opportunities; satisfaction level of students; employees and business partners are sustainable, and have significantly improved after the implementation of the 'EFQM Excellence' model.

Our presentation to you will have three main parts:

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I
- -
1. General introduction to the 'Excellence' approach, self-assessment and the 'EFQM Excellence' model
2. Experiences showing how self-assessment techniques and the 'EFQM Excellence' model have been used in educational organisations across Europe
3. Case study - showcasing 'EFQM Excellence' model implementation in a Latvian educational organisation

During the practical presentation, there will be a demonstration of the 'Excellence' approach, its benefits and its impact in educational organisations. You will get a chance to experience some 'Excellence' techniques and their practical usage, learn how it is being utilised in various EU countries and find out about the real case study of the 'Excellence' approach as it has been implemented in Latvia by Inese Didže, director of Dobele State Grammar School.

Inese Didže will share the experience they had using systematic implementation of the 'Excellence' approach in her school. She will present the implementation process, difficulties they faced during the starting phase of implementation as well as the outcomes and its resulting impact on the daily life of the school.

15:00 – 15:30   COFFEE BREAK

Ann Pihlgren, Ignite Research Institute, Sweden.
Complementary education in classrooms and after school activities
Saturday, September 20, 15:30 – 15:50. Strand B. Room "Venta".

Swedish schools, as well as several school systems in other European countries, are facing a drop of results in international tests of student performances. The world is experiencing rapid societal changes – fast progress of technical development, the globalization of communication, markets, and ideas. If these challenges are to be met it calls for good educational practice, focused not only on teaching thinking and creativity to students, but also on taking responsibility for societal development in the future.

Swedish afterschool activities, *fritidshem*[1], are attended by most children age 6-9 years old, and are, although subject to parents' choice, part of the Swedish school system.

Observation and teacher interviews were recorded during three years in six schools with afterschool activities, 25 school lessons and 15 sessions in after-school activities ('*fritidshem*') for grade K-3. The cognitive content in each sequence was assessed, using Bloom's revised taxonomy for learning, teaching, and assessing (Anderson & Krathwohl, 2001). The work was limited to the teacher's choices connected to students' thinking.

The literature section shows that the successful teacher plans, assesses, chooses activities and tools carefully (Hattie, 2012) as well as arranges the setting carefully (Ritchhart, 2002), with strong focus on fostering students' habits of mind (Gardner, 2009). The contextual and communicational interactions play a

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[1] The literal translation of the Swedish concept *fritidshem* is 'leisure-time home'. In official documents by the Swedish National Agency for Education ('*Skolverket*') the English translation is 'leisure-time center'.

vital part of supporting students' thinking and creative development (Willingham, 2009). These criteria were used when analyzing the results.

The anticipated criteria were hard to reach in most of the observed classrooms and afterschool activities. Though most teachers showed an understanding of what would develop the students cognitively and creatively, they lacked the understanding to translate this knowledge into practice. The grey marked positions in Blooms revised taxonomy (see Appendix 1) were met in most of the observed classrooms, and some of the afterschool activities. Thinking was hardly ever addressed in afterschool activities, and although students sometimes had the opportunity to create, creativity was not systematically enhanced. However, more advanced thinking and creative activities were reached by some teachers, revealing a similar and productive way of planning. A group of teachers were involved in cooperative teamwork, including school and afterschool activities. Where co-planning was practiced, the cognitive quality of activities was reinforced.

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Anderson, L. W. & Krathwohl, D. R. (red.) (2001). *A Taxonomy for Learning, Teaching, and Assessing. A Revision of Bloom's Taxonomy of Educational Objectives.* New York: Pearson Education.
Gardner, H. (1999). *Intelligence reframed. Multiple Intelligences for the 21st Century.* New York: Basic Books.
Hattie, J. (2012). *Visible Learning for Teachers. Maximizing Impact on Learning.* London: Routledge.
Ritchhart, R. (2002). Intellectual Character. What it is, why it matters, and how to get it. San Francisco: Jossey-Bass.
Willingham, D. T. (2009). *Why don't Students Like School? A cognitive scientist answers questions about how the mind works and what it means for the classroom.* San Francisco: Jossey-Bass.

Eva Leffler, Åsa Falk Lundqvist, Umeå University Sweden.
The Entrepreneurial Learning promotes creativity and thinking in learning situations
Saturday, September 20, 15:55 – 16:35. Strand B. Room "Venta".

During the two past decades, entrepreneurial learning has emerged as a concept in both the Nordic, and the European educational debate (Mahieu 2006, Skogen & Sjovoll 2010). The emphasis is on collaboration between school and working life, active forms of learning and learning opportunities through a diversity of learning arenas, with a goal to encourage children and young people to be creative, perceive opportunities and to be problem-solving - commonly referred to as entrepreneurial skills (Leffler 2006, Svedberg 2007). The point of departure for this round table is that this debate and movement, school curricula included, is based on political decisions that lacks a foundation of research and theories of learning and teaching. We argue that the foundation of an entrepreneurial learning needs visibility for the concept to become productive in schools.

Entrepreneurial learning deals with and take the starting point from the perspective of the child. The most important in entrepreneurial learning is to capture children´s motivation and with help of the creativity discover different possibilities to answer questions and different ways of solving problems. Entrepreneurial learning puts focus on thinking instead of doing. Entrepreneurial learning situations demands leaders with creative competences and capability to improvise and follow students' way of thinking (Leffler & Falk-Lundqvist, 2013). A big challenge for schools today is to be able to motivate all students to be interested in learning. The students of today have got a lot of knowledge and a lot of opinions about what they need to learn and not need to learn. The teacher and his or her way of leading learning processes controls if the learning climate motivates the students to learn the knowledge and skills the school promotes. A climate that allows students to reflect, challenge and feel free to answer questions without being judged as unskilled is characteristic for the entrepreneurial learning culture. In this school culture questions can be answered in many different ways and the students' understanding of the question or task is taken seriously and viewed with respect.

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management I

We argue that an entrepreneurial attitude to teaching and learning which involve and encourage the students to become creative and to use their power of action, take initiative and become motivated will contribute to improve the school culture so it will become more meaningful for all. The Swedish Education Act (2010:800) states that disciplinary foundation and proven professional experience is the bas for all education and it is therefore important to put entrepreneurial learning in a scientific frame and to use theories on learning as an explanatory way to understand and communicate entrepreneurial learning.

At the work shop we will involve the participants in activities with the aim to visualize how to implement entrepreneurial learning in learning processes. The focus is on leadership.

Sylvie Studente, Nina Seppala & Noemi Sadowska, Regent University, UK.

Facilitating Creative Thinking in the Classroom: Investigating the Effects of Plants on
Visual Creativity
Saturday, September 20, 16:40 – 17:00. Strand B. Room "Venta".

The research area of enhancing creativity in educational settings is an area of growing interest (i.e. Fasko, 2000, Feldhusen & Goh, 1995; Sternberg & Lubart, 1991; Hennessey & Amabile, 1987; Guilford, 1967; Pithers & Soden, 2000). Creativity research has identified a number of environmental, situational and personal factors which affect an individual's ability to be creative (i.e. Mumford, 2003; Runco, 2004; Simonton, 2003). This paper reports upon a study which examines the effects of plants and the colour green upon visual and verbal creativity. Previous research has identified that creative thinking can be enhanced by situating individuals in natural settings (Atchley et al, 2012; Shibata & Suzuki, 2002) and that exposure to the colour green can also enhance creative performance (Litchenfeld et al,2012). However, research into these areas has been sparse and to date has not been linked to the possible beneficial effects to be garnered in the classroom.

Our study addresses the overall theme of creativity and thinking skills in learning by focusing upon the causal effects of views to nature in classroom settings upon student's ability to think creatively. In particular, our research centers upon innovation in the classroom focusing upon the classroom environment itself. Specifically our research sought to study the effect of exposure to live plants upon visual creativity.

We report upon a pilot study concerned with the effect of exposure to live plants upon visual creativity. This study was undertaken with 36 business students who were randomly allocated to one of two conditions. The control group completed a visual creativity task in a classroom with no plants present and blinds drawn to block views to natural settings. The experimental group were placed in the same room but were surrounded by live plants. The room had large windows with a view to a green area. The level of creative thinking in the participant's work was assessed by three independent experts using a modified version of Amabile's Consensual Assessment Technique (Amabile, 1982). Findings indicate that participants in the experimental group achieved higher creativity scores than those in the control group. This suggests that live plants and views to natural settings have a positive effect on the ability to think creatively.

To investigate this further another set of experiments were conducted to ascertain as far as possible the effects of plants and the colour green on both visual and verbal creativity in classroom settings. Results from these three experiments are currently being analysed and will be presented at the conference. Recommendations for educational practitioners arising from the analysis and findings will also be presented. This study is part of a wider programme of research being conducted at Regent's University London investigating causal effects of the classroom environment upon visual and verbal creativity.

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management II

Dmitrijs Semjonovs, Aleksejs Bogdanecs and Manuels Fernandezs, Novikontas Training Centre and Maritime College, Latvia.

Educators' attitudes and skills for enhancing quality of seafarers' in-house training (IHT)
Saturday, September 20, 13:30 – 14:00. Strand B. Room "Gauja".

Professional of maritime industry are clear about the necessity of improving In-house training (IHT) quality, but not so clear about what exactly has to be improved and how to do it. We consider that educators are the key point for quality of education, and that a way of understanding better the problematic of IHT is to investigate what a competent IHT educator is.

In this session we will present the results of our study. Using interviews and questionnaires, we addressed two groups of respondents: 1) experts CDI technical managers/owners of companies; and 2) officers/seafarers. In the interviews with two representatives of each group we asked them: what makes the in-house training courses necessary? (the regulations? the improvement of seafarers' competence? the improvement of on shore staff's competence?); where is the main problem in IHT? (the educators? the contents/ topics? the methods? the length/frequency of the courses? the premises and equipment?); and what is the best solution for the problem they see? Analysing these interviews we tried to clarify the most important aspects and problems of IHT and their relation with educators' attitudes and skills.

After that, using the questionnaire "IHT educators' attitudes and skills", we focused on the evaluation of necessary skill and attitudes of IHT competent educators. One part of the questionnaire addressed educators' thinking skills, including those more directly related to seafarers' work, such a "can-do" approach to fixing problems, "thinking on their feet" abilities (to make quick decisions) and independent "tough mindedness" (strong and determined thinking).

We compared the answers of both groups of respondents, looking for differences between them, and finally we came back to them with the converging results, to contrast our conclusions with their practical knowledge of the field. The provisional results show the differences between both groups of respondents. Experts CDI technical managers and ship owners are more concerned about complying with regulations and obtaining good results in external evaluation. They see as main problems the lack of competent educators and the inadequacy of IHT contents. On the other hand, officers and seafarers seem to be more concerned about competence improvement, and they perceive important problems in the organization of courses (length and frequency) and in the lack of adequate material resources for IHT. Results show also the importance of improving IHT educators' thinking skill, such as the ability of formulating with precision educational problems, ability of formulating clearly measurable learning outcomes, ability of capturing the main human (motivation, openness to learning) and institutional (formal requirements, quality evaluation procedures) elements of their work, and the creative approach in the organization of the learning processes.

We associated respondents to the interpretation of results, showing them the preliminary conclusions and discussing them together. We tried to make clear the practical implications of this research for training managers, educators, directors of maritime education and training (MET), and to open new lines for future research. The presentation of this study will serve as introduction for the round table on contents and methods for IHT.

Extended Summaries of the Presentations
Strand B. Innovations in Educational Management II
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Dmitrijs Semjonovs, Aleksejs Bogdanecs, Novikontas Training Centre and Maritime College, Latvia.
Rethinking IHT contents and methods in shifting contexts
Saturday, September 20, 14:00 – 15:00. Strand B. Room "Gauja".

Contents and methods of IHT should be rethought to respond better to the changing socio-economical context. Current IHT covers a range of topics tied to safety and management system, pollution prevention, incident investigation, communication on board etc. Participants in this round table are representatives of the following companies related to maritime education: Latvian Shipping Company, BGI crewing company, Duna marine management, Nordic Tanker, Sealandia group, Novikontas, Columbia Ship management, Latvian maritime administration. The problem that will be addressed is the inadequacy of current contents and methods in IHT to the needs of the professional field and the different needs of students (new and elder generations). These two specific factors require IHT to change. For elder generations the contents seem already well known and the training useless, but they have difficulties to recognize that the profession is changing and that life-long learning is nowadays an unavoidable necessity: Seamen with long work experience esteem that they possess already the necessary knowledge for their work. They have been working for years, without problems. However, work situations and people mentalities are in continuous evolution. So, it is necessary to refresh and actualize knowledge contents. For the young generations the methods used by IHT educators seem old-fashioned, do not include use of modern technologies and the format of the training as a whole is not attractive. So, improvements in pedagogical methods are necessary for improving the quality of teaching-learning process of IHT.

The round table will be introduced by a paper presentation (20') on the IHT educators' attitudes and skills for enhancing quality of in-house training. During the round table the following questions will be addressed: Which are the most important current topics for IHT? What are the good novel practices in IHT? Which are the problems linked to a low-quality IHT? Does the introduction of IT skills in IHT learning produce benefits for developing thinking skills? The possibilities for implementing in-house training through webinar and other modern pedagogical tools will be also discussed.

Organization of the round table: The methodology of the round table will be based in collaborative exploration of proposed topics. The coordinator will expose briefly the state of debate in IHT contents and methods, and his interpretation of the situation, using the Interpretative Phenomenological Analysis (IPA) method, offering insights into how he makes sense of the situation in the given changing context. Based on the presentation, participants will share experience and progress in their discursive exploration of the necessary new contents and methods for IHT.

The problem of experienced people who don't feel the need to attend training will be addressed more specifically as follows: First, for enhancing participants awareness of the problem, two actions will be implemented during the round table: 1) exposition of the changes operated in the field that requires up-dating knowledge and practices in the new context; and 2) explanation of the the malfunctions that can happen (and actually happen) at different levels (security, communication, efficient management etc.) if this updating of knowledge is not properly done. In second moment of the round table, a discussion on the possible procedures of validation of experienced seafarers' previous knowledge (initial diagnostic) will be introduced. This initial diagnostic will allow adaptation of the contents of IHT to the real necessities of the attendees. At the end of this sequence, a "brain storming" about the alternative contents of IHT that could be more interesting and useful for experienced seafarers will be proposed.

Concerning IHT methods and organization, in a recent rapport (Maritime Career Path Mapping 2013 Update - MCPM) it is stated that more short training courses should be made available, both shore-based and through distance learning. About the contents, the same rapport shows that new elements of IHT are necessary: shore leadership, basic office skills, management skills needed in the office (report writing , preparation of budgets),

knowledge of the roles of other players in the wider shipping world and other so-called "soft skills" needed for shore positions (MCPM, point 5.2.8).

As a result of this round table, participants will share innovative solutions in educational management and classroom activities arrangement during in-house training. Practitioners, students, teachers, managers and policy makers are encouraged to share their ideas, researches, plans and ongoing projects for improving IHT contents and methods, in particular for thinking based learning.

15:00 – 15:30   COFFEE BREAK

Dmitrijs Semjonovs, Aleksejs Bogdanecs, Novikontas Training Centre and Maritime College, Latvia
Rebuilding efficient, useful and cost effective in-house training for seafarers (workshop)
Saturday, September 20, 15:30 – 17:00. Strand B. Room "Gauja".

In-house training (IHT) is the professional training the seafarers receive when they are ashore. It is an increasingly important part of seafarers' education. In this last session of our section we wish to situate the contents of the two previous sessions (IHT educators' competence and the necessary adaptations of IHT methods and contents) in a wider perspective. We will discuss about the sense of IHT and about the problems of IHT organization and cost: seafarers' lack of time for attending IHT, institutions' difficulties for organizing IHT, high costs of the IHT formation for both attendees and institutions, pressure of rating companies on ship owners for obtaining good IHT reports etc.
We find useful to reflect together on current IHT practices, problems and optimal solutions. In this workshop we will adopt the problem-solving approach based on the analysis of possible contradictions and building solutions. During the workshop we will address several questions:
- What makes IHT useful? It is a fact that some seafarers wish to start working ashore, moved by "the need for a new challenge" and "better long term career prospects ashore". But what about the other seafarers? Is compulsory IHT useful for them? Why? It is also clear that quality of IHT is necessary for ship-owners to be successful in audits that include IHT. Transport companies, especially the biggest ones (BP, Shell) will work only with cargos that have a good enough IHT rapport. How could IHT professionals benefit of this situation to really improve IHT quality?
- What is the optimal way of organising IHT? Some professionals think that ship operators should have their own in-house training program that will help reinforce the company's culture and safety; but it is expensive, and not all the companies can afford that. What to do? Moreover, when they are ashore, seamen need time for family and rest, and they do not have time enough to follow all the compulsory courses (one course for renewing a certificate can last 1 week, and they need to renew 5 certificates regularly). How to organize IHT courses more effectively?
- Finally, how to make IHT cost effective for organizers and seafarers?

During this workshop you will participate in a discussion about these problems, looking for the best solutions for them. The whole process will take place in a creative way. Mutual understanding between participants (confidence, sense of humour, positive emotional environment) is a key factor for the success of the workshop. Participants will refresh what they already know, and will accept constructive critique of their opinions, listening to other possible solutions and reconstructing their own practical knowledge. The facilitator of workshop will help participants to focus on the main topics. The presence of a professional auditor, ship owners and other IHT professional will enhance the interest of the discussion.

Extended Summaries of the Presentations
Strand C. Innovations in Family Learning

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Ingrīda Muraškovska, Latvia.
OTSM-TRIZ – the planner of a successful life path
Saturday, September 20, 09:00 – 09:25. Strand C. Room "Gauja".

I began to lead classes with pre-school children when my own children were small and I was invited to work in a kindergarten. I was interested in the Theory of Inventive Problem Solving (TRIZ) and possibilities to develop such a thinking in children in order for them to be able to independently evaluate the situation and overcame any difficulties associated with that. The best way to acquire that during the childhood is a game. Therefore, I began to invent exercises and games, which make the systematic founding of TRIZ theory accessible and exciting for children. That was 25 years ago.

The further pedagogic practice in kindergarten, school and work with adults, as well as the performed research have certified the conclusion that the basis of a successful career (professional, social, personal development fields) does not depend on the obtained education diplomas, but on the possibility to undertake new challenges, act independently and find optimal solutions for various situations. In addition, if it is not a standard situation, there does not exist prepared knowledge in order to solve it; therefore, it has to be obtained or developed independently. The above-mentioned theory aims for that, and has already become the General Theory of Powerful Thinking and the Theory of Inventive Problem Solving (OTSM-TRIZ).

I want to offer parents:

- an opinion regarding the conditions that contribute towards development of children creative skills,
- an insight regarding several OTSM-TRIZ instruments and their usage in children education,
- games and examples of exercises that are based on OTSM-TRIZ, which can be used in a family in order to improve the development of children curiosity, imagination and creative thinking.

Extended Summaries of the Presentations
Strand C. Innovations in Family Learning

Andrea Gruber, Pressley Ridge, Hungary.

School Holidays: Finally Time to Learn? Creative Use of Long Out-of School Periods to Foster Creativity

Saturday, September 20, 09:30 – 10:30. Strand C. Room "Gauja".

Education systems in most European countries still fail to recognize school holidays as an invaluable opportunity to foster informal learning and foster students' creative thinking skills. In these vacation periods parents often face the challenge to provide meaningful yet affordable activities for their children. With a little creativity and organization on their part, parents, older siblings, neighbors, or teachers can structure the time and activities of the long vacation days in a way that provides endless fun for the kids at an affordable cost. The workshop will be divided in two parts. First the facilitator will briefly introduce two theoretical frameworks, the **Experiential Learning Cycle** and the **PIE** (Plan-Implement-Evaluate) model. She will also discuss how parents can use this theory of 'learning by doing' to plan the day's events, such as meals, play time, household chores, gardening, picking fruits, etc into exciting and enjoyable challenges for their kids in which they will learn a lot of new skills and strengthen some key competencies.

The second part of the workshop is when the fun begins for the workshop attendees. We will play together and try some activities so that participants gain personal experiences in experiential learning. Then the facilitator will share examples of how they structured activities during school vacations in various settings: in schools as a day camp with thematic weeks, in the neighborhood as family adventures, or in the community as a barter service.

Thematic weeks mean that some activities of the day during one week are focused on a theme. Kids can prepare for the activities by looking for information on the internet, plan steps of what will happen, visit a museum, make a presentation – whatever is his/her interest.

Family adventure is when parents and kids discover their own neighborhood as a group. While the parent is at work children can do the planning and preparation for a bigger event together. For example, asking stories about magic places in the street from the neighbors, finding out about entertainment nearby, researching famous foods of the neighborhood. Then later in the week the kids and parents can do the activity together: visit the magic place, do the entertainment, cook the famous food.

Community family brings together several families from the same house or street. The parents take one-week turns to supervise all the kids. Activities can include things from the family adventure or any every day activities such as shopping for and cooking lunch, gardening, making icecream, etc.
In this second part, we will also collect some of the best practices with the active participation of the audience. We will see all the good ideas that you have had or what you have tried that have used vacation time in a creative way.

We will close the workshop with discussing ideas on the types of activities that are developmental and also sharing tips on the organization of the activities that serve the age-appropriate needs of children. For example how you can create a structure in which older children supervise and entertain the younger ones or sharing responsibilities with making things happen during their vacation.

I believe that with a little finesse and creativity you can provide "**the best vacation ever**" for your kids which will also **teach** them **skills**, inspire their creativity, and foster their development. I am also positive that if you come to this workshop you personally will have a lot of **FUN**.

10:30 – 11:00   COFFEE BREAK

Extended Summaries of the Presentations
Strand C. Innovations in Family Learning

Linda O'Toole, Universal Education Foundation, Learning for Well-being, Belgium and USA.

Learning for Well-being Core Capacities/Practices in Family Environments.
Saturday, September 20, 11:00 – 11:55. Strand C. Room "Gauja".

Building on the Learning for Well-being framework , we will explore ways of observing and listening that allow a child's individual processes to emerge, and strategies for creating environments that support the unique ways of functioning of every child. These are foundational capacities for practitioners working with children, especially in collective settings, but they are even more significant for parents who provide the basic context in which children understand themselves, and model the social context in which they are expected to live.

Participants in the workshop will have opportunities to share in smaller groups, reflect on their individual processes, and practice a listening/inquiry process that can be used in their family (and work) environments with adults and children.

Outcomes of the workshop include: (1) understanding a framework for fostering the family as a mutual learning environment; (2) experience of reflecting on their own patterns and how those impact others; and (3) practice with a listening/inquiry process that can be used with children and adults.

Edgar Lasevich & Alexander Sokol, TA Group, Latvia.

PASS materials as a tool for the development of thinking skills of pre-school children
Saturday, September 20, 12:00 – 12:25. Strand C. Room "Gauja".

PASS materials for parents aimed at facilitating the process of developing their children's language and thinking skills have been around for about two years. During this time, we have seen that materials work and can be very effective. We have also learned that they are not easy for many parents. The efficacy is higher if parents have an opportunity to attend a face-to-face meeting where they are presented with the materials and shown how they can be used. Further occasional workshops for exchanging the experience with fellow parents and getting suggestions on using the materials are always appreciated.

During this session, I will briefly present PASS materials and our experience of using them and then share a few ideas on launching local communities of parents who use the materials and could benefit from occasional communication with fellow parents. I would invite the participants to comment on how these ideas could be implemented in their contexts and to what extent they might be interesting for local communities. Possible ideas for external financial support will also be discussed.

By the end of the session we could form a group of colleagues interested in continuing the conversation on the use of PASS materials in their own context, its possible adaptation and development. A possible next step would be a common small scale project (or several projects) tailored to the local needs but sharing the common core.

To benefit more from the session, the participants are asked to familiarise themselves with the PASS materials through the project website (www.ta-parents.eu)

12:30 – 13:30   LUNCH BREAK

Acknowledgements

The Organising Committee would like to express gratitude to the following organisations for supporting the TA Teachers Conference 2014:

Nordplus Horizontal programme of the Nordic Council of Ministers
www.nordplusonline.org

British Council Latvia
www.britishcouncil.lv

Riga City Council's Education, Culture and Sports Department (RD IKSD)
www.iksd.riga.lv

European Parents' Association (EPA)
www.euparents.eu

INVITATION FOR COLLABORATION IN EDUCATIONAL PROJECTS

Parents As Successful teacherS (PASS)

In the framework of the international project Parents As Successful teachers - PASS (2011-2013), TA Group professionals together with the colleagues from partner institutions have developed educational **materials for parents** for introducing a foreign language to 4-7 year-old children. This language education aids the development of **children's creativity and thinking skills using eight everyday situations**, such as watching cartoons, playing with objects, reading to your child, etc. The materials have been created **for eight languages** (English, German, French, Italian, Spanish, Latvian, Russian and Dutch) and piloted in five countries.

Are you interested in
- adapting the developed materials for your context?
- having the materials translated into local language(s)?
- launching a community of parents interested in the development of language and thinking skills of their children?
- organising support activities for parents (face-to-face and online)?

We invite you to get acquainted with the materials online – **www.ta-parents.eu** – and get in touch with us if you are interested in building the cooperation on further development and adaptation of PASS materials and extension of the PASS community of parents!

Curious to find out more today? **Attend a talk on PASS materials on Sat, 20 September!** Check Strand C Innovations in Family Learning (page 26).

info@ta-group.eu

Teacher Education for Thinking Project

Over the past few years TA Group has coordinated a number of **projects on teacher education for thinking** in the Nordic-Baltic region. One of the outcomes of these projects are communities of thinking teachers who you can meet at this conference and also get to know via TA Teachers forum at **www.ta-teachers.eu**

We would like to collaborate with more teachers and organisations interested in working towards more **systemic approach to learning for thinking**. We would be happy to share our experience and learn from what you know. Let us use these two conference days to agree on possible common plans.

Join us in the projects planning corner during the lunch break on **Saturday (12:30-13:30)**, participate in the panel discussion on **Saturday (16:00-17:00)**, come and talk to us at any time or just send an email or call after the conference.

We are always glad to talk to like-minded colleagues!
info@ta-group.eu

TA TEACHERS

FOR YOUR NOTES:

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CALL FOR COOPERATION IN ERASMUS+ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

From January 2014 Erasmus+ programme for education and training has been launched. This programme offers a number of new opportunities for professional development in the field of education. Now organisations, including kindergartens, schools, vocational schools, colleges, universities and adult education providers are able to define their training needs according to the strategic development plan and apply for **EU funding to cover expenses related to training.**

Dealing professionally with teaching thinking we are glad to offer professional development opportunities to your staff. We are running a series of professional development training events in various locations accross Europe (Italy, Portugal, France and Latvia). These courses are **eligible for Erasmus+ KA1 funding.**
Our courses address two key competences:
      1. Development of thinking skills of learners when teaching various subjects and age groups.
      2. Systemic approach to the management of a modern educational organisation.
Refer to our website for specific dates on our courses and detailed programme. All our courses can also be organised on demand, either as residential or in-house. We would also be happy to **develop a course tailored to the needs of your institution.**

▮▮▮▮▮▮▮▮▮▮▮ RESIDENTIAL COURSES

Bringing Creativity & Thinking Skills into the Educational Process
Venue: Strasbourg (France), Riga (Latvia), and Pinerolo (Italy).

Creativity & Thinking Skills in Language Education
Venue: Riga (Latvia) and Pinerolo (Italy).

Teaching Russian in Europe: Development of Creativity and Thinking Skills of Learners
Venue: Riga (Latvia) and Pinerolo (Italy).

Creativity & Key Competences of Children Aged 3-10 through OTSM-TRIZ
Venue: Riga (Latvia)

Effective Management of the 21st Century School
Venue: Strasbourg (France), Riga (Latvia), and Pinerolo (Italy).

Problem Management & Effective Education Based on TRIZ
Venue: Strasbourg (France) and Pinerolo (Italy).

Towards Improving Adult Learning: Systemic Approach & Problem-Solving
Venue: Lisbon (Portugal) and Pinerolo (Italy)

Parents As Successful teacherS
Venue: Riga (Latvia)

CONSULTANCY ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

We believe that **learning should develop thinking**. To achieve this, specific learning programmes are to be designed, teachers are to be developed and effective leadership frameworks for thinking are to be implemented.

TA Group experts would be glad to collaborate with your organisation on
•   design of courses, programmes and curricula;
•   teacher development *(including ongoing professional development online and on-site)*;
•   management training and development of quality-assurance frameworks for teaching thinking.

Contact us directly or check our website for further details:
info@ta-group.eu
www.ta-group.eu

00371-29486240

TA TEACHERS CONFERENCE 2014

www.ta-teachers.eu

Conference Programme: An Overview

Fri, September 19

09:00 – 12:00	Pre-conference Tutorials *(separate registration)*
10:00 – 12:30	Registration for Delegates
12:30 – 13:30	LUNCH BREAK
13:30 – 16:00	Plenary Sessions
16:00 – 16:30	COFFEE BREAK
16:30 – 18:45	Plenary Sessions
19:00	Welcome Reception

Sun, September 21
Excursions
(separate registration)

Sat, September 20

09:00 – 10:30	Breakout Sessions: Strand A. Innovations in the classroom Strand B. Innovations in educational management Strand C. Innovations in family learning
10:30 – 11:00	COFFEE BREAK Coffee Break Discussion *(in Latvian)*: Kāds atbalsts nepieciešams skolai radošuma ieviešanai?
11:00 – 12:30	Breakout Sessions: Strand A. Innovations in the classroom Strand B. Innovations in educational management Strand C. Innovations in family learning
12:30 – 13:30	LUNCH BREAK Lunch Break Discussion: Potential Collaboration in Educational Projects *(see page 68 for details)*
14:00 – 15:30	Breakout Sessions: Strand A. Innovations in the classroom Strand B. Innovations in educational management
15:30 – 16:00	COFFEE BREAK
16:00 – 17:30	Breakout Sessions: Strand A. Innovations in the classroom 16:00 – 17:00: Open Reflection: T*eaching Thinking: Impossible, Challenging, Easy (Towards Effective Models of Teacher Education for Thinking)* Strand B. Innovations in educational management
18:00	Old Riga. Walking Tour *(free for the delegates)*
20:00	Conference Dinner, Restaurant Neiburgs, Jauniela 25/27 *(separate registration)*