

# MONDAY July 4th 2016

## Poster Session (PO1)

### PO1a Supervision and research

**Name of presenter**

PO1.1 Kelsey Inouye

**Title of presentation**

Using supervisor feedback in developing and revising the research proposal

**Abstract**

A central aspect of doctoral work is writing, which takes the form of conference papers, the doctoral thesis, and all the drafts and note-taking in between. As a result, writing is also a key site of developing academic identity, a place in which new academics begin to situate their research within a larger body of text. However, studies have indicated that writing is often a source of anxiety, but that students find support in their peers, faculty, and supervisors. In doctoral programs, the first milestone is usually an assessment of the research proposal, which in the UK is called the transfer of status paper. Students develop this paper with the help of their supervisors who provide feedback by engaging in the student's texts and offering comments that probe and shape that text and the research project itself. While there has been a significant amount of research classifying types of supervisor feedback and what feedback students find most useful, I have not come across any studies that focus on how students actually use that feedback in making revision decisions. Thus, this research focuses on how two doctoral students in education at the University of Oxford use supervisor feedback in developing and revising their transfer papers, drawing on semi-structured interviews and a body of documentation that includes drafts of the transfer of status papers, student notes, and written supervisor feedback. This research expands the literature on the relationship between doctoral writing and feedback, and how the writing process facilitates change in new scholars' academic identities. Because doctoral students represent incoming generations of researchers, this study is important in further illuminating how new academics begin to carve out a niche in their respective disciplines, while also providing their supervisors with insight as to how their feedback is received and processed.

**Name of presenter**

PO1.2 Mirjam Burget

**Title of presentation**

Science teachers' understanding of responsible research and innovation in school practice

**Abstract**

Responsible Research and Innovation (RRI) has recently gained growing importance in EU research policy documents, as it is supposed to provide a more inclusive and transparent approach to science governance. Generally speaking, Responsible Research and Innovation can be characterized as an attempt to govern the process of research and innovation with the aim of democratically including, early on, all parties concerned in anticipating and discerning how research and innovation can or may benefit society. The aim of the study is to find out if the dimensions found in the literature on RRI, namely, inclusion, anticipation, reflexivity, responsiveness, sustainability and care, can be identified in the way teachers understand Responsible Research and Innovation in their daily practice. In the study 12 Estonian teachers from 1st to 12th grade were

interviewed. To analyse the data six dimensions were identified from the answers of teachers. The results showed that the dimensions responsiveness and care appeared more frequently than the other four dimensions. This article in general is meant to open the discussion on how RRI can be part of today's educational practices representing a broader meaning that science can have for education.

**Name of presenter**

PO1.3 Miikka de Vocht

**Title of presentation**

Profiling teachers' attitudes about teaching responsible research and innovation (rri)

**Abstract**

The European Union pushes science education to orient towards the concept of Responsible Research and Innovation (RRI), i.e. a socially and ethically sensitive and inclusive processes of science and technology. This exploratory study analysed the concerns of 67 forerunner teachers from 10 countries using a questionnaire of the Concerns-Based Adoption Model (C-BAM). Similar to other studies, teachers focused on their informational, consequential and collaboration-related concerns, yet some also voiced many personal concerns about their ability to teach RRI. Teachers were also favorable towards RRI and believed that it may be embedded into the curriculum. However, the SoC-questionnaire suffers from a ceiling effect and un-even formulation of items across the concern stages. Based on these results we revised the questionnaire and collected new data from 230 teachers. Preliminary teacher profiles include the Realist, the Positivist, the Confident, the Unconfident, the Reformer, the Modest, the Enthusiast, the Over-confident and the In-different. With proper adjustments it is possible to shape Stages of Concern questionnaire into a tool which can identify the concerns and needs of individual teachers. Furthermore our work can hopefully identify aspects of RRI that need to be clarified and contextualized more for teachers.

## PO1b Instructional Design

**Name of presenter**

PO1.4 Anica Betz

**Title of presentation**

Experiencing authentic science in a linguistic reach out lab - A questionnaire study

**Abstract**

Education at high schools should adapt to up-to-date themes and methods as well as teaching beyond the classroom. Reach out Labs as extracurricular places of learning were established primary in the natural sciences to promote pupils' interests and to convey science authentically. These learning sites are linked to universities or other scientific institutes where pupils can experience a scientific environment and be part of the research process itself. Positive short-term effects such as an increased thematic interest after an intervention were demonstrated in a series of empirical studies at Reach out Labs in the domain of natural sciences. However, Reach out Labs in the humanities haven't been considered yet.

The presented study undertakes a quantitative measure of the effects of visiting a linguistic Reach out Lab on pupils, especially in terms of interest and perception of authenticity regarding the scientific work during the project. As experimental setup a parallel design was chosen, in which the project group participated on the project at a Reach out Lab at university, whereas the control group remained at school working at the same tasks. In a pre-, post- and follow-up design a questionnaire is used to measure these effects. Content of the intervention is a linguistic corpus of the Ruhrdeutsch (German variety spoken in the Ruhr area), which is part of a research project. Pupils are asked to analyze this corpus linguistically and use their findings to answer a research question.

The preliminary results of our study indicate an increased individual perception of authenticity in the project group during and after intervention compared to the control group while apart from the emotional component no significant difference in the pupils' interest was detected so far. These findings might contribute to a more profound understanding of the benefits of these kinds of learning beyond the classroom.

**Name of presenter**

PO1.5 Marie Vanderbeke

**Title of presentation**

Pupils' perceptions of authenticity in bilingual reach out labs

**Abstract**

The term 'authentic' is often used synonymously with words like 'real' or 'genuine'. In educational settings authenticity mostly refers to a simulation of everyday or professional contexts (Betz et al., i.p.). It plays a major role in both foreign language (FL) education and extracurricular learning settings as it is supposed to further pupils' learning motivation, interest in the subject content and acquisition of transferable knowledge (i.e. Brown, Collins & Duguid, 1989). This study combines both research areas, investigating the authenticity of bilingual reach out labs (BROs). Reach out labs were developed as extracurricular learning settings in research sites to advance pupils' knowledge of scientific methods and promote academic careers (Engeln, 2004). In the examined BRO, the pupils work with molecular biological methods using the English language as lingua franca. Here, the students' perception of authenticity is seen as an important factor in determining their future attitude as well as their situational interest in molecular biology and possibly FL learning.

This study examines whether pupils' perceive BROs as authentic using a qualitative approach. It triangulates videography with focus groups to gain insights into learners' perceptions and possible tendencies for differences between students' perceptions of the examined BRO. From an original sample of 51 students, so far nine cases (18 students) have been examined, using documentary videoanalysis (Bohnsack, e.g. 2015). The preliminary results show that authentication takes place on three levels: a) on a personal level, where pupils perceive the BRO as relevant for their individual needs, b) with regard to the scientific environment and c) concerning the institutionalised learning setting establishing a link to their schooling and educational background. All students authenticate the BRO on one of these levels but almost never on all three. The poster presentation will discuss the theoretical background as well as preliminary results of the study.

**Name of presenter**

PO1.6 Sabrina Wiescholak

**Name of co-presenter(s)**

Johanna Hilkenmeier, Christian Greiner, Heike M. Buhl

**Title of presentation**

Influences on six-year-olds' enjoyment and frequency of literacy activities

**Abstract**

To foster families' home literacy environment it is necessary to get a deeper understanding of aspects and influences of family literacy activities on children's reading motivation, frequency and ability. Furthermore to engage children's reading motivation in early childhood it is important to take a look at children's and parents' perspective. The following study aimed at analyzing the influence of family literacy activities on literacy enjoyment and frequency and at understanding the importance of parents' answers and children's

perception. We expect children's perception to be a mediator on the relationship between the amount of books at home and literacy enjoyment and frequency (Eccles, Wigfield & Schiefele, 1998). N = 223 six-year-olds and their parents were surveyed right after they were enrolled in German primary schools. Structural equation modeling showed little to moderate effects of books and the frequency of family literacy activities on the child's literacy enjoyment. Furthermore little to moderate effects of family literacy activities on literacy frequency were found. Results are discussed concerning family literacy programs which create an opportunity of fostering families' home literacy environment and children's reading motivation.

Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation to succeed. In N. Eisenberg (Ed.), *Handbook of child psychology, 5th ed.: Vol 3. Social, emotional, and personality development* (pp. 1017–1095). Hoboken, NJ US: John Wiley.

**Name of presenter**

PO1.7 Lisa Pagel

**Name of co-presenter(s)**

Birgit Heppt

**Title of presentation**

E-books do not threaten the validity of the traditional book question - yet

**Abstract**

The connection between a student's socio-economic and educational background and his or her educational outcome has repeatedly been shown in educational research. In many large-scale assessments, the number of books at home is used as an indicator for a family's socio-economic and educational background. Since electronic books have gained importance in our society, this study examines whether it is necessary to additionally include e-books to ensure the validity of the indicator. To address this question, 845 parents of elementary school children estimated the number of printed books (NPB) and the number of e-books (NEB) in their homes on a 5-point Likert scale. Analyses revealed a small correlation between NPB and NEB. In contrast to the NPB item, however, the majority of the parents indicated to own less than 10 e-books (64.9%) or did not answer the question at all (19.4%). Academic language proficiency of the children (as a form of academic achievement) was assessed with a sophisticated listening comprehension task. It correlated significantly with NPB but not with NEB. A two stage hierarchical regression with academic language proficiency as dependent variable and NPB and NEB as independent variables indicated a significant effect of the NPB item but no incremental validity for the NEB item. The results show that e-books are not as commonly used as might be assumed and their appearance and disposability on the book market currently does not affect the validity of the traditional book question. However, since e-books will most probably be used more commonly in the near future, researchers should be aware of the potential pitfalls of the variable, which seems to induce an uncertainty in many participants who choose not to answer the question at all. Further implications for educational research are discussed.

## **PO1c Teaching and Teacher Education**

### **Name of presenter**

PO1.8 Tommi Kokkonen

### **Name of co-presenter(s)**

Anna-Mari Rusanen

### **Title of presentation**

On the learning of relational concepts in physics

### **Abstract**

Learning science, for example physics, entails restructuring of learner's prior conceptions affecting ontological commitments, inferential relations and standards of explanation. This process is known as conceptual change. Despite ample research there are many open questions in conceptual change research. Some researchers argue that learner's conceptual change takes the form of ontological shift. Ontological shift is a categorizing process in which concepts are reassigned from one ontological category to another. This process is seen as an important learning mechanism. However, learning physics entails acquirement of complex relational knowledge in the form of laws and models.

In this paper, we argue that ontological shift cannot account for these central features in learning physics. Firstly, ontological shift view seems to treat categories as property lists. But this kind of feature based categorization differs from relational categories, in which membership is based on relations the concepts bear on other concepts (i.e., not on similarity). Secondly, acquirement of relational knowledge is not based on simple category assignment. Instead it involves several cognitive mechanisms such as analogical mapping, theory revision and theory redescription. These are gradual modifications to the learner's knowledge and differ cognitively from category assignment. Moreover, evidence from science education studies implies that students' learning express features of gradual elaboration and refinement rather than categorization.

### **Name of presenter**

PO1.9 Jaël Muls

### **Title of presentation**

Encounters between teachers on social media: an exploratory study of the role of a Facebook group within their teaching practice in secondary education

### **Abstract**

During the past decade the use of social media started to play an increasing role in our lives. However, research regarding social media in general and in relation to education in particular is still embryonic. The present paper addresses this issue by focussing on the role of social media environments for learning, teaching and education. Relying on observations of the Belgian Facebook group Teaching ideas secondary education and in-depth interviews with highly active participants, this ethnographic study draws attention to the question how teachers experience their participation in social network sites on education. The study shows that the Facebook group addresses the need of teachers to exchange teaching ideas, experiences and materials. Because of this exchange some new developments within the educational landscape arise. First of all, the Facebook group is a source of inspiration, through which teachers are able to gain insight in teaching ideas and materials used elsewhere and cross-fertilization between different courses, schools and education networks occurs. Hence, enabling the teachers to look over the borders of their own course and sail away from their island. Second, by sharing ideas, teachers are able to learn from each other. Consequently, the Facebook group functions as a network of practice in which self-reflection is spontaneously stimulated as teachers can mirror themselves to their peers in the community. Third, the atmosphere of sharing ideas and working together not only enables teachers to gain more and better ideas, but also allows them to work more

efficient by saving time and lowering their workload. By connecting our insights with the theory of Community of Practice and affinity spaces, we try to gain insight in how learning processes occur and how social media environments are able to overcome educational borders and hierarchies.

**Name of presenter**

PO1.10 Lisa Steffensen

**Title of presentation**

Climate change and critical mathematics education

**Abstract**

This PhD-project will explore how focusing on climate change can facilitate students' critical mathematics perspectives. Conflicts, uncertainties, crisis and risk are important in the philosophy of Critical Mathematics Education (CME). CME can be characterized by addressing social justice, open new possibilities for students and addressing mathematics critically. Many people in today's society celebrate and trust the rationality of mathematics, however, it is important to question mathematical rationality with a social responsible education. Climate change is a complex issue with a high degree of uncertainty, and involves mathematics to describe, predict, and communicate. My first research question is "How can theories within critical mathematics education and post-normal science provide insights into how students can develop critical mathematics perspectives in a climate change context?" This will be answered through an overview study. The theoretical framework will be relevant for my further research. The second research question is "What characterizes teachers' facilitation when the aim is to develop students' critical mathematic perspectives in a climate change context?" This question will be explored by collaborate research partnership with teachers from lower secondary school. The aim of the partnership is reflective educational practice in iterative loops. This question has a perspective towards teachers. The third research question is "What characterizes students' written and oral reflections when critical mathematics perspectives is facilitated in a climate change context? And how is mathemacy reflected in the students' reflections?" This latter question has a perspective towards students. Matemacy can be defined as "a capacity of making responses and as reading the world as being open to change".

Key concepts: CME, critical mathematics perspective, mathemacy, reflective knowing, formatting power of mathematics, climate change, values, conflicts and uncertainty, post-normal science, critical citizenship, extended peer community, reflective educational practice, community of practice

**Name of presenter**

PO1.11 Susanne Heininger

**Title of presentation**

Teachers appraise evidence - Appraisal scale for empirical educational evidence

**Abstract**

Theoretical Background: Evidence based practice (EBP; Sackett et al., 1996) is considered as a good way to connect theory and practice. Within the process of EBP there is one decisive step: the appraisal of evidence. There are appraisal scales for educational evidence (Wendt & Miller, 2012), but not especially made for teachers and their need for time efficient and memorable items. So there is still a need for a teacher-scale to appraise educational evidence. We developed a 10-item-scale for appraisal of educational evidence. In this study we focus on the scale conformity of the appraisal scale.

Method: The appraisal scale (10 items) was integrated in an instrument for gaining knowledge about teachers competence of appraising educational evidence. To answer a given educational question educational

evidence was presented in the form of structured short versions of educational articles. Preservice teachers were asked to critically appraise the quality of these short educational articles. N=222 preservice teachers took part in this study. To test the unidimensionality, the coded ratings were checked for conformity to the dichotomous Rasch model. To check the models' conformity with regard to specific objectivity, the independence of item parameters across subsamples was evaluated. These subsamples were chosen using three split criteria: raw score median (high and low achievement groups), gender (Kubinger, 2005) and subject of study because of possible effects of previous knowledge. The Andersen's Likelihood Ratio Test (LRT; Andersen, 1973) was used to indicate items' conformity or non-conformity.

Results: The Andersen Likelihood Ratio Tests ( $\alpha=.01$ ) are not significant for the final selection of the items. This indicates conformity to the dichotomous Rasch model.

Discussion: The appraisal scale seems to be unidimensional. Furthermore we would like to focus on teachers competence levels in appraisal educational evidence.

# TUESDAY July 5th 2016

## Paper Session (PA2)

### PA2a Education and Society

#### **Name of Presenter**

PA2.1 Janina Eberhart & Carolyn Seybel

#### **Title of presentation**

Early childhood education and care research and evidence-based ECEC policy-making - A systematic comparison of longitudinal studies in the UK, New Zealand and Germany

#### **Abstract**

To ensure high quality early childhood education and care (ECEC) for all children and to drive significant change in this field, evidence-based ECEC policy-making has to incorporate and reflect on new research findings concerning factors that positively impact children's well-being and learning in ECEC settings. Sylva et al. (2007) argue that a partnership model comprising knowledge exchange between ECEC research and policy-makers is the most effective model for successful translation of results into policy action. Taking on an international perspective this paper systematically compares collaborative and translational processes between longitudinal ECEC research and ECEC policy-making in Germany ("Core daycare centres language & integration"), the United Kingdom ("Effective Pre-school Primary Education project"; [EPPE]), and New Zealand ("Growing Up in New Zealand"). Three factors were taken into account: Alignment of political and scientific decision making, use of sound methodology, and translational processes including clear and easily accessible presentation of results (Taggart et al., 2010). We systematically compared how these factors were considered in the selected longitudinal research studies. Our results showed that a more collaborative form of interaction from the initial design of the studies through to dissemination could only be observed in two studies. With regard to the effectiveness of collaboration this paper identifies different levels of collaboration and sheds light on possible challenges and barriers. In particular, lack of time for collaboration, conflicts of perspectives and goals between stakeholders, as well as the interpretation of empirical results seem to be challenges. The paper concludes with suggestions how collaborative and translational processes can be improved to ensure that ECEC policy-making is fit for the future.

#### **Name of Presenter**

PA2.2 Lotta Tikkanen

#### **Title of presentation**

What makes a large scale reform successful? Factors affecting the success of core curriculum reform in Finland

#### **Abstract**

The aim of the study was to gain a better understanding of how the officials of the Finnish National Board of Education (FNBE) perceive the primary regulators of the national core curriculum reform and the success of the implementation. Alignment between the identified regulators was also explored. Altogether 23 officials of the FNBE participated in this mixed methods study. The results showed that the officials perceived the core curriculum reform as a systemic entity: the reform was implemented using top-down-bottom-up

strategy, and several regulators were identified at different levels of the education system. The officials also perceived the implementation being successful, and identified more promoting than hindering factors in the reform implementation. However, they emphasised regulators at the administrative level, whereas regulators at the district or national level were less often identified. They also highlighted the importance of orchestrating collaboration in comparison with the other regulators. The results imply that in addition to considering separate determinants of reform success, it is important to pay attention to sufficient alignment between the regulators at different levels of the education system in order to better understand and promote the implementation of a large-scale reform.

**Name of Presenter**

PA2.3 Natascha Massing

**Name of co-presenter(s)**

Britta Gauly

**Title of presentation**

Participation in Adult Education and Gender: Analyzing Individual Barriers across Different Welfare State Regimes

**Abstract**

Lifelong learning is becoming increasingly important in today's societies. Individuals have to maintain and develop their skills in order to cope with changing demands. Our research compares participants of adult education with non-participants across countries with different welfare state regimes. When focusing on non-participants, we analyze perceived barriers to adult education, considering gender differences and family composition.

We analyze countries according to the "classical" welfare state typology by Esping-Andersen (1990), extending it by Southern countries. Welfare policies are directed at the working population and affect the reconciliation between employment and family responsibilities differently. As women are less engaged in the labor market, welfare policies also indirectly affect the participation in adult education as most of it takes place at work (Desjardins, 2015).

Recent data from the Programme for the International Assessment of Adult Competencies (PIAAC) offer the opportunity to analyze participation in adult education across countries. We use multiple logistic regressions in order to estimate the likelihood to participate for women in comparison to men. We adjust this estimation by introducing control variables such as age, education, employment status and family structure.

Furthermore, we analyze perceived barriers to adult education across different welfare state regimes, looking at gender differences and family composition.

Our results indicate that the likelihood to participate in adult education differs across socio-demographic groups. Furthermore, different welfare policies have an impact on the extent women and men take part in further education. Our research provides insights into better understanding why adults are deterred from engaging in further education and which policies might increase the opportunity to participate for both women and men.

## PA2b Learning & Professional Development

### **Name of Presenter**

PA2.4 Hans Tierens

### **Title of presentation**

Determinants of starting a teaching career: A multilevel analysis

### **Abstract**

In Flanders, the northern half of Belgium, a growing shortage of teachers is to be expected in the near future. This shortage can be attributed to lacking recruitment into teacher education, scanty job entrance and ample attrition. This study focuses on the job entrance issue by investigating the transition decision after graduation from teacher training. Most research uses psychological theories and perception of the teaching profession to model the individual's occupational choices, relying on ex post measurements. In this research, we inquire the possibility of using factual ex ante measurements, more specifically the characteristics of the individual in its environment, to predict the entrance of 31961 teaching graduates, graduated between 2006 and 2013, into the teaching profession. Since transition decisions are found to be influenced by multiple levels of influence, such as their own characteristics and abilities and the individual's environment, a multilevel multinomial decision model is proposed to analyse the transition decision. The individual's characteristics contain both socio-demographic characteristics and scholarly performance during their school careers. The individuals can be influenced by their current family environment, setting the standards and boundaries for their future aspirations, their school environment, serving mainly as the competitive environment in which individuals perform and attempt to excel, and their geographical location, describing the generic resourcefulness of the environment. The results of this research show that primarily the individual's competitive and collegial environment, consisting of fellow teacher trainees within the same institution, exerts a considerable influence on the transition decision.

### **Name of Presenter**

PA2.5 Anitta Melasalmi

### **Name of co-presenter(s)**

prof. Jukka Husu, non presenting

### **Title of presentation**

Examining preschool teachers' socially shared professional identities

### **Abstract**

Literature on teacher education emphasizes the importance of identity in teacher development, particularly related to issues such as teacher transitions to and within working life, but also issues concerning teacher agency and awareness of possibilities to shape ones' own professional development. Teacher identity formation is a multifaceted phenomenon, influenced by both external contexts and internal factors. This study focuses on the making of shared professional identity of preschool teachers. We view the evolving shared teacher identity through the frame of a sociocultural perspective, particularly emphasizing the relational nature and ongoing process of becoming. This kind of narrative identity is embedded within evolving stories that a teacher constructs to make sense and meaning out of his or her professional practices. Drawing on positioning theory and based on narrative autobiographical stories we ask: what impact does the felt response and feedback of "significant" others have to teachers' shared professional identities? The findings presented in this paper demonstrate how the impact of experimented feedback (colleagues, culture, leadership) shape in different ways teachers' professional identities constructed in interaction at various positions in their working contexts. In interaction the experienced feedback intersected with teachers' professional commitment, agency and occupational tasks, thus affecting teachers' identification more or less interdependently with their colleagues in professional working, knowing and being. The results highlight

factors related to the development of professional identity, either giving support to individual professional growth and empowerment or having a decreasing effect on teachers' professional identity and agency in early childhood contexts.

Key words: teacher identity, professional development, agency, teacher narrative

**Name of Presenter**

PA2.6 Antoine Lecat

**Title of presentation**

On the role of (in)formal learning in teachers' employability and innovative working behavior across career phases

**Abstract**

Purpose – The purpose of this paper is to examine the effects of future time perspective on (in)formal learning activities and the effects of learning activities on employability (i.e. occupational expertise, anticipation and optimization, personal flexibility, corporate sense and balance) and innovative work behavior.

Methodology – A quantitative, cross-sectional survey of 248 primary and secondary schools teachers was taken, in the French Community of Belgium.

Findings – It is found that both formal and informal learning are related to innovative work behavior. Informal learning is even stronger related than formal learning. Furthermore, while all types of learning increase teachers' flexibility and anticipation, only informal learning increases corporate sense in the schools.

Social implications – The results imply that school policies should support all teachers' informal learning, no matter their career stage. Especially for younger teachers' informal learning is important to improve their ability to innovate and to deal with changes of the dynamic world of education, e.g. innovation in technologies and didactics.

Originality/value – Today schools and their teachers have to deal with a variety of challenges. Teachers need to adopt to technological innovations such as smart boards. Didactical approaches as well as course manuals are evolving quickly since knowledge changes that fast. Schools need to respond to accountability pressures from policy makers which affects teachers' work. At the same time teachers are working longer and are more often than before dealing with a burnout (Beausaert, Sierens, Soenens, & Dochy, 2009). Also the turnover rate of young teachers, leaving the teaching profession within the first five years of work is higher than ever (OECD, 2004). In order to be able to deal with these challenges, teachers have to be employable and show innovative working behavior (IWB). This study is studying employability and IWB's antecedents and study the role of social informal learning.

## **PA2c Motivation and Emotion**

**Name of Presenter**

PA2.7 Myriam Halimi

**Title of presentation**

Pupils' gender role attitudes in first grade secondary education: Trajectories of change

**Abstract**

Gender disparities in education have been and still are a concern in both academic and public debate all over the world. Several decades of research have found, boys to be underperforming compared to girls in many western countries. This may have consequences in later life such as lower participation in tertiary education and gendered employment

differences. Therefore, it is important to examine the mechanisms underlying educational gender disparities. Gender role attitudes are argued to be important predictors of, for example, participation in tertiary education and academic achievement. This study investigates the evolution of pupils' gender role attitudes from the first year of secondary education to the third year of secondary education in Flanders (Belgium) using longitudinal survey data (N= 4,063). Analyses were performed using paired samples t-tests and latent growth curve techniques. Findings confirm that boys support more traditional gender role attitudes than girls and that both girls and boys with at least one parent born outside Europe demonstrate more traditional gender role attitudes. Furthermore, also religious respondents tend to have more traditional views. However, although the initial gender role attitudes were found to be significantly different depending on youngsters' sex, origin and religiosity, only sex was found to significantly impact the change in gender role attitudes over time. This might be an indication that life experiences might be better predictors for change in gender role attitudes than background characteristics. Analysis was limited to sex, origin and religiosity. Future analysis might take into account other personal and contextual characteristics such as life experiences in analyzing change in gender role attitudes. Furthermore, we suggest analyzing change in gender role attitudes at the intersects of multiple diversity dimensions as opposed to each diversity dimension separately.

**Name of Presenter**

PA2.8 Tatjana Taraszow

**Title of presentation**

Individual and family-related determinants of students' gender role orientation

**Abstract**

Compared to a few decades ago, gender-related educational disparities have almost reversed. Today, girls complete more years of education and earn higher degrees than boys. Findings of international large-scale assessments such as PISA, TIMMS, and PIRLS indicate for most participating countries no gender disparities in math proficiency but higher reading scores for girls than for boys. Gender role orientation is discussed as one possible explanation for gender-related educational disparities, which is defined as a person's attitude toward gender roles. Mostly, it is differentiated between a traditional and an egalitarian gender role orientation. Because research lacks a systematic analysis of factors affecting the development of adolescents' gender role orientation, the present study aims at identifying which individual and family-related characteristics have an effect on gender role orientation as a basis for further analyses on gender role orientation as a possible explanation for gender-related educational disparities.

Results from regression analyses based on a sample of 5,339 Grade 10 students from the National Educational Panel Study show that boys have a more traditional orientation than girls. Students with a higher educational level hold a more egalitarian orientation compared to students with a lower educational level. Further, the results indicate that having an immigrant background does not necessarily imply to have a more traditional orientation per se; rather it depends on the respective immigrant background whether students tend to have a more traditional gender role orientation compared to non-immigrant students. Students with a higher cultural capital at home are more egalitarian than students with less cultural capital. The analyses furthermore show that gender seems to be the most predictive determinant of gender role orientation. Future studies should investigate this gender effect in more detail in order to identify possible explanatory factors and thus to describe the gender-specific development of adolescents' gender role orientation.

**Name of Presenter**

PA2.9 Csaba Gáspár

**Title of presentation**

The relationship between social problem solving and empathy among 12-, 15-, and 18-year-olds

**Abstract**

The aim of the longitudinal study was to examine the differences of social problem solving (SPS) and empathy, and to investigate their relationship among 12-, 15- and 18-year-old Hungarian students. The first examination was taken in 2014 (N=167), and the second one in 2015 with the same students (N=153).

To measure SPS (positive and negative problem orientation, rationality, impulsivity, avoidance) adapted version of D'Zurilla, Nezu and Maydeu-Olivares's (2002) Social Problem Solving Inventory-revised, (Hungarian adaptation Kasik, Nagy, & Fűzy, 2009) was used. Interpersonal Reactivity Index (IRI) of Davis (1980) was adapted (Rózsa, n.d.) to measure empathy (perspective taking, fantasy, empathic concern, personal distress). The questionnaires had good reliability (Cronbach- $\alpha$ : SPSI-R=.72-.81; IRI=.61-.75) and factor structure (KMOSPS=.76-.79; KMOIRI=.74-.76).

According to the results, at the 12-year-olds positive problem orientation is more characteristic, while in the case of 15- and 18-year-olds negative problem orientation is more frequent. The avoidance features more often 15- and 18-year-olds, than 12-year-old ones. Negative problem orientation and avoidance style increases during age. 18-year-olds get the highest scores on the combined factor of perspective taking and empathic concern. Girls are more often characterized by empathic concern and impulsivity, than boys.

Based on the correlations between SPS and IRI factors, perspective taking has a strong connection to positive orientation and rationality in almost every age. The personal distress has greater influence only on negative orientation, avoidance and even on impulsivity in the case of high school students. After one year the positive factors of SPS and the combined factor of empathy seems to be increasing, while negative factors of SPS and personal distress shows decreasing tendency. The results show new information about the relationship of SPS and empathy but they point out the necessity of further examinations.

## PA2d Teaching and Teacher Education

**Name of Presenter**

PA2.10 Ben Beernaert

**Title of presentation**

Dynamics of Student Trust in Teachers in the first two years of secondary education: A multilevel longitudinal approach

**Abstract**

The last decade trust has proven to be one of the most important aspects of student-teacher relationships in terms of student- and school outcomes. Despite its importance, one of the most serious issues that schools face is the problem of broken trust. In this research we empirically research the evolution of student trust in teachers and the underlying influencing processes. By means of repeated measures multilevel analyses (MIWin) on data of 6380 students in 59 schools in the first 2 years of high school, this study examines the dynamics of students' trust in teachers (STT) in Flanders (Dutch speaking part of Belgium) over three time-occasions. We estimate the effects of factors on the occasion-level, the student-level, and the school-level on the evolution of trust. Results show that the evolution of student trust is best described as a quadratic trend, declining significant from the first to the second occasion where a strong negative time-effect was found. The negative effect of time from the second to the third occasion is less strong than from first to second occasion. While grade retained students have less trust in their teachers than students who passed, they don't differ in the strenght of their decrease in STT over time. On school-level, there were no significant effects on the intercept, however there is evidence that students in schools without superstructure –middle schools- report a less strong decrease in STT over time. We conclude that time and possibly a person-environment

misfit due to environmental changes in the transition from primary to secondary school is the most meaningful predictor of negative change in student trust in teachers on both student and school level.

**Name of Presenter**

PA2.11 Sanna Ulmanen

**Title of presentation**

Teachers' role in promoting students' emotional engagement

**Abstract**

The aim of the study was to examine the development of the internal dynamics of the students' emotional engagement in peer group and teacher-student relations during the three terms among primary and secondary school students. The results showed that emotional engagement constructed in teacher-student and peer-group interaction remained stable over time. Furthermore, the result showed that the students' emotional engagement in teacher-student relationships associated with emotional engagement in peer relations and explained the perceived peer group relations over time. Surprisingly, the association between teacher-student and peer group relations was stronger among the secondary school students than among the primary school students implying that despite the contextual differences, teachers have real opportunities to promote positive peer influences at different phases of the school path.

**Name of Presenter**

PA2.12 Shengnan Wang

**Title of presentation**

Class-level teacher expectations and teacher expectation effects in junior high schools in China

**Abstract**

Teacher expectations and teacher expectation effects have been widely researched since the Pygmalion study by Rosenthal and Jacobson in 1968. Despite the debates and controversies about the original study, most researchers have reached a consensus about the existence of expectancy effects and self-fulfilling prophecy effects of teacher expectations on student learning in ordinary classrooms.

For decades, researchers in the fields of social and educational psychology have endeavoured to construct teacher expectation models and conceptualise different teacher typologies. Based on her model of class-level teacher expectations, Rubie-Davies proposed a typology of teachers with regard to teachers' expectations for all their students as a whole. Her series of research studies have found that teachers who hold high expectations for all their students can make a positive difference in student learning and their academic achievement.

Based on Rubie-Davies' theory of class-level teacher expectations, the current research aims to further examine class-level teacher expectations in high schools in a non-western context. The participants are 38 Chinese, Mathematics and English teachers and their 1106 Year 7 students in 9 junior high schools in a city in northern China. By applying and conducting teacher expectation surveys and classroom observations, the research is dedicated to exploring the existence of class-level teacher expectations, their possible influences on students' achievement, and the possible mediation processes of class-level teacher expectation effects in the Chinese high school context.

**Name of Presenter**

PA2.13 Patricia Köpfer

**Title of presentation**

Students' perception of teachers' professional error competence – development of an instrument

**Abstract**

Teachers are assumed to exert high influence on the quality of teaching and on student achievement. Nevertheless, studies show that teacher education in Germany has deficits. Also, in the sector of Vocational Education and Training (VET) and especially in the domain of business education, there are shortcomings in teacher education and in the research of teacher competences. Following the current debate about teacher education and training and expertise of teachers we focus on a specific competence aspect: the professional error competence (PEC). Teachers need the following three facets of PEC to be able to deal with errors in an adaptive way:

- 1) Knowledge about domain-specific student errors.
- (2) Strategies for handling errors.
- (3) Belief in potential benefit of student errors.

PEC is domain-specific and in accounting there exist only a few studies. Although accounting is crucial in developing competence in business and economics. Findings from previous studies reveal (prospective) teachers' PEC deficits. For this reason, in the present study teachers will be videotaped in real classroom situations. Additionally, students' perception of their teachers' PEC will be captured. Teacher action in real classroom situations can be scrutinised and reconsidered only by the connection of– or confrontation with – different perspectives, perceptions and experiences. By connecting the external (videotape) and internal (students' perception) view surface structures as well as deep structures of lesson can be visualized.

Initially, the focus is on the development of the instrument to measure students' perception of teachers' PEC. A standardised questionnaire is to be developed, which measures students' perception analogous to the facets of PEC. To the author's knowledge an instrument for capturing PEC from students' perspective does not yet exist. At the conference, results of an initial pilot of the questionnaire will be presented.

## Roundtable Session (RT3)

### RT3a Assessment and Evaluation

**Name of presenter**

RT3.1 Tina Stoquart

**Name of co-presenter(s)**

Stijn Jaspers

**Title of presentation**

The effectiveness of different levels of feedback in computer-based learning environments: a multi-modal approach

**Abstract**

As widely documented in the literature (Kulhavy & Stock, 1989; Bangert-Drowns et al., 1991; Kulhavy & Wager, 1993; Kluger & DeNisi, 1996; Mory, 2004; Narciss & Huth, 2004; Hattie & Timperley, 2007; Shute, 2008; Van der Kleij et al., 2015), feedback has an impact on the learning process and many factors impact the effectiveness of feedback. To gain further insight in the complexity of feedback, the effect of different feedback levels (FT = feedback about the task, FP = feedback about the processing of the task, FR = feedback

about self-regulation) (Hattie & Timperley, 2007) on student's learning process and student's performances is investigated. Student's performances can be expressed as student's results on specific learning tasks. Beside the performances, it is important to know how learning processes of students are really changing when they receive feedback. What does a student do with this feedback? Because the design of the project will be in a computer-based learning environment (Van der Kleij et al., 2015), we will be able to determine the learning process of students by looking at logfiles (Siemens & Long, 2011). Analyzing these logdata will give us much more insight in the learning process. We find it also important to measure other variables next to the learning process, such as student's characteristics, to gain a broad and clear perspective on the effects of feedback. These characteristics (sex, age, learning style, proficiency level, self-efficacy, academic orientation, social and academic integration) are expected to affect the effectiveness of feedback. Taken together, we will get a broad view on feedback effectiveness and the impact it could have on student's learning.

**Name of presenter**

RT3.2 Lukas Begrich

**Title of presentation**

Measuring teaching processes using first impressions

**Abstract**

An appropriate way of measuring teaching processes is a frequently discussed problem in educational research (Fauth, Decristan, Rieser, Klieme, & Büttner, 2014b). While such measures would be necessary to investigate the effectiveness of teaching processes in large scale assessments existing methods either have shortcomings in reliability and validity or they are extremely time-consuming and labor intensive (Kunter & Baumert, 2006b). The present research explores the measuring of teaching processes based on first impressions using so-called "thin slice" judgments. These judgments are based on brief video or audio clips and are shown to have predictive utility in respect of many psychological constructs (Ambady, Bernieri, & Richeson, 2000). A few studies have already applied this procedure to aspects of teaching.

A prior pilot study applied this paradigm to instruction quality in terms of the frequently stated three basic dimensions cognitive activation, classroom management and supportive climate. From each of 37 elementary schools classroom videos three 10-second slices was randomly drawn. Ratings of all three basic dimensions based on 30-second observations showed high reliabilities. Further we found significant correlations with ratings of trained Raters based on the complete classroom videos for all three basic dimensions of instruction quality. Finally, in a multilevel-regression analysis the ratings of cognitive activation and classroom management based on first impressions showed to be significant predictors of student achievement. For classroom management the ratings of trained raters who had seen the complete classroom videos failed to predict student outcomes. These findings support the idea of measuring teaching processes based on first impressions. Even though high inter-correlations between the three basic dimensions reveal a more undifferentiated judging process the results support the idea of using first impressions as a "quick and dirty" way of assessing teaching processes in large-scale assessments.

# WEDNESDAY July 6th 2016

## Paper Session (PA4)

### PA4a Higher Education

#### **Name of Presenter**

PA4.1 Petrie van der Zanden

#### **Title of presentation**

Being successful at university: A systematic review of the factors critical to first-year university student success

#### **Abstract**

Going to university is a challenging transition for many late adolescents as they have to cope with the academic, social, and intrapersonal demands of university life. To help first-year students succeed in higher education, an understanding of the factors that contribute to success in this specific phase of their study is needed. In this review, a broad view on student success was adopted, including students' academic achievement, critical thinking skills, and social-emotional well-being. The results indicate that students' previous academic performance, study skills, and relationships with parents and friends contribute to multiple domains of success. Further, students' academic achievement and social-emotional well-being are particularly related to factors within the student, whereas the educational context appears to be important for students' critical thinking skills. As predictors differentially influence the three domains of student success, a nuanced look at success in which different domains are carefully weighted against each other is needed.

#### **Name of Presenter**

PA4.2 Külli Kori

#### **Title of presentation**

Profiles of Higher Education Information Technology Students in Estonia – How to Support Students to Reduce Dropout?

#### **Abstract**

Information Technology (IT) specialists are needed across the world. However, dropout rates in higher education IT studies are high, and therefore, the needs of the labour market will not be met. The aim of this study is to find out which support first-year higher education IT students with different profiles would need in order to graduate and start working in the IT field. Data was collected from 509 first-year IT students in Estonia. The students responded to questionnaires at the beginning of the first and second semester. In the questionnaires students had to evaluate different factors that could influence dropout. The students' response profiles were analysed through latent profile analysis, and the students were divided into four classes based on the results. The level of the studies' accordance with students' expectations and students' intrinsic motivation were similar between the classes. However, the differences appeared in work related aspects. Students in Class 1 had work experience but did not plan working in the IT field and graduating. They might have felt that what the university offers does not match the needs of future employers. Students in Class 2 needed work practice to increase their confidence in graduating. Practice was also useful for students in Class 3, but they were at a greater risk of choosing work over graduation. Students in Class 4 seemed to be doing fine. So, during the first year the support that the university offers seems to be suitable for these

students. Based on the results suggestions are made as to how universities can support each class of IT students to prevent dropout.

**Name of Presenter**

PA4.3 Kristina Kuznetsova-Bogdanovits

**Title of presentation**

Understanding and managing the needs of contemporary arts students: the case of higher education in music in Estonia and Finland

**Abstract**

European society is becoming more heterogenous, diverse culturally and socially, competitive economically and at the same time unstable. It is a stimulating yet challenging context for learning in general and higher education institutions in particular. This paper focuses on the interrelations of managing higher education in the arts, entrepreneurial attitudes of students and the interrelations of art students and society. The paper bases on John Dewey's philosophy of experiential learning, social constructionist approach to knowledge creation and John Holden's value dimensions of art. The paper examines entrepreneurial education from the perspective of music students of the Estonian Academy of Music and Theatre and University of the Arts Helsinki Sibelius Academy in particular. The research questions posed are: How do the music students in Estonian Academy of Music and Theatre and University of the Arts Helsinki Sibelius Academy describe the relevance of provided entrepreneurial courses for their professional music career? How do those taking part in entrepreneurial courses in these universities reflect on the content and instruction methods? This research adopts a qualitative phenomenological case study approach and aims to provide student-initiated definitions of entrepreneurial mindset, professional career in the arts and entrepreneurial learning. Main outcomes of the paper stress the importance of initiating discussion on and popularizing of entrepreneurial terminology in academia, significance of extracurricular development projects as part of students' entrepreneurial education and involving processes and agents on all levels of an arts university as a value-based organization into the management and provision of entrepreneurial education.

**Name of Presenter**

PA4.4 Antje Reichert

**Title of presentation**

Life goals and personality traits of students from different groups of academic disciplines

**Abstract**

Goals provide motivation and endow action with structure and meaning. This applies especially to life goals, which serve as points of orientation in shaping one's individual life. The reflection on life goals is particularly relevant for students in tertiary education since they are in an important stage of transition, namely emerging adulthood.

The existing standardized instruments used to collect data on life goals are either based upon an explicitly chosen theory or are difficult to come by and not fully documented. For this reason, the objective was to develop and validate a questionnaire that has students as its target group and is openly accessible, fully documented and covers a wide range of topics.

The common battery of items used for the standardized collection of life goal data was expanded to include religious and spiritual goals as well as items that were developed in the course of qualitative pre-studies to this project. The initial battery of 117 items was tested on N = 1,011 students and a questionnaire of 76 items was developed to measure life goals in ten dimensions: (1) hedonism, (2) altruism, (3) popularity, (4) bonds with partner and peers, (5) physical health, (6) performance, (7) power, (8) security, (9) spirituality and (10) economic success.

A short version of the online questionnaire comprising 40 items was tested in a follow-up study with N = 3,731 students, the results of which confirmed the theoretical model (CFI=.95, TLI=.94; RMSEA=.08, 90%C.I.=.079–.081). The study also found significant differences depending on the subject of study as well as relationships between life goals, the Big Five and academic success.

## PA4b Instructional Design

### Name of Presenter

PA4.5 Franziska Bouley

### Title of presentation

Competence acquisition in accounting lessons - A comparison of didactical approaches from teachers' view

### Abstract

Accounting plays a crucial role within commercial education as it does not only provide students with knowledge but also help them to develop an economic understanding of corporate processes. However, accounting lessons face different problems: studies show that students' attitude towards accounting is rather negative (e. g. Friedlan (1995)) and their expectations of the future profession of accountants do not meet the actual demands (e. g. Ngoo et al. (2015)). Moreover, a strategic, i. e. grade-oriented learning style can be stated (Teixeira, Gomes, & Borges, 2015). Consequently, a debate about the 'best' approach (in terms of efficiency regarding students' competence acquisition) to teach accounting has started, whereas the Balance Sheet Approach and the Economic Instrumental Approach play a dominant role. Both approaches differ in their layout of content and applied method. However, this discussion bases on personal opinions contrasting advantages and disadvantages. Empirical evidence still lacks. The goal of the underlying study is to close this research gap by answering the question how the Balance Sheet Approach and the Economic Instrumental Approach differ with respect to students' competence acquisition in accounting classes. Due to missing reliable literature and empirical evidence, in a first step, experts interviews are conducted with accounting teachers. This opens up the possibility to generate methodologically sound hypotheses concerning students' competence acquisition in both approaches.

### Name of Presenter

PA4.6 Julia Westphal

### Title of presentation

How do learners with a serialist or holist learning approach learn with different instructional formats?

### Abstract

Often texts are accompanied with pictures that help to understand the verbal information. In this case, text and picture should be presented nearby in order to avoid the so called split-attention effect. When both representations are presented separately learners have difficulties to mentally integrate text and picture, due to additional demands of visual search. In consequence, with split-source formats learning performance is often significantly reduced compared to formats where text is presented in close proximity to a picture. But learners do not always derive benefits from "optimized" instructional formats based on their learner characteristics. The way learners approach a task and process information could have an influence on different instructional formats, therefore we are interested in the serialistic versus holistic approach of Pask. Holists are characterized by a global approach focusing on several details to get an overview. Serialists learn in a local way by focusing on one detail at the same time and unite them step by step. Hence, the split-source versus integrated format could act as match or mismatch condition of serialistic versus holistic approach, i.e. a holistic approach might lead to more problems with search processes induced by a split-source format than a serialistic approach. In contrast, an integrated format should support learning with a holistic approach.

Therefore, we investigated the interaction of holist versus serialist approach and instructional format in terms of the split-attention effect on performance. In a 2 x 2 design 51 students received either a split source version or an integrated version of a learning material about the nephron. Furthermore the learning approach was measured by the Study Preference Questionnaire. As results indicated holists actually suffer from split-source format, but derive benefits from the integrated format. In contrast, serialists did not show any impairments and achieved similar performance with both formats.

**Name of Presenter**

PA4.7 Minh Hien Vo

**Name of co-presenter(s)**

Chang Zhu, Anh-Nguyet Diep

**Title of presentation**

The effect of blended learning on student performance at course-level: A meta-analysis

**Abstract**

The current research aims to study the impact of blended learning on the academic achievement of higher education students. To gain an in-depth understanding of the investigation, a meta-analysis study was designed to perform a statistical synthesis of studies contrasting student performance with blended learning conditions with those of traditional classroom instruction. More specifically, we include students' disciplines and the instructors' end-course evaluation as moderating variables. A literature search on relevant databases with five inclusion criteria developed for the purpose of the study yields 26 relevant studies with 33 effect sizes. After the data set has been finalised, effect size and moderating variables were analysed using Comprehensive Meta-Analysis package. The results show that blended learning demonstrates a small summary effect ( $g^+ = 0.386$ ,  $p < .05$ ) in comparison to traditional teaching method. Although the meta-regression indicated no significant differences between disciplines and between end-of-course evaluation methods, the mean effect sizes were in hard disciplines ( $g^+ = 0.507$ ) was found to be twice as much as that of soft disciplines ( $g^+ = 0.236$ ). Similarly, the mean effect size in studies using formative evaluation ( $g^+ = .495$ ) as end-of-course assessment was higher than that of studies using summative measures ( $g^+ = .238$ ). As for implication, we suggest that blended learning can be a useful alternative in both disciplines if the blend between online and face-to-face are informed by instructional design and efficiently augmented by technologies.

**Name of Presenter**

PA4.8 Ruth Boelens

**Title of presentation**

Adult educators' beliefs about learners with different educational backgrounds and their related approaches to differentiated instruction in blended learning environments

**Abstract**

There has been a surging interest in the potential of blended learning to personalize learning and support the multiple learning needs of students in education. However, it is still unclear how teachers experience differentiated instruction in their blended learning activities and environments. Therefore, the aim of the current study was to explore (a) how adult educators understand and respond to diversity in adult education, and (b) what key challenges they face when implementing blended learning activities in this regard. A total of 20 teachers from two centers for adult education participated in semi-structured in-depth interviews. The data was first analyzed on the group level to provide a comprehensive overview, and second on the level of the individual instructors to illustrate characteristic teacher cases. Results and implications of the findings for the development of blended learning practices are discussed.

## PA4c Motivation and Emotion

### Name of Presenter

PA4.9 Sabrina Navratil

### Title of presentation

The interaction of learners' emotional state and learning with inference prompts

### Abstract

Self-generated learning (SGL) activities are one way to support learners' comprehension of new learning material. SGL activities, such as inference prompts, foster learners working more actively and intensively on learning materials which in turn may result in deeper comprehension and better learning outcomes. One aspect that might moderate the effectiveness of SGL activities is the emotional state. It is assumed that positive emotional states function as facilitators enhancing intrinsic motivation and support the use of productive problem-solving and creative learning strategies. This in turn is supposed to be especially beneficial for self-generating tasks. Contrary, negative emotional states seem to lead to rigid, analytical and detail-oriented learning strategies that might be particularly good for already given information, such as text. Our study aims to explore an interplay of learning with SGL activities (here: inference prompts) and learners' emotional state. German students (N = 124) were randomly assigned to one of four conditions, created by two learning material conditions (inference prompts vs. text) and two emotional states (positive vs. negative). Learning outcomes were measured by a verbal factual knowledge and a transfer test. A successful emotional state induction, partially stable over the learning phase, was observed. Learning material including inference prompts were reported as more difficult than text. Regarding verbal factual knowledge, neither learning material nor learners' emotional state had an influence on learning outcomes. However, regarding transfer concepts which were addressed in the inference prompts, learning with inference prompts lead to significantly better learning outcomes than learning with text. No interactions between learning conditions and emotional states were observable. The better the performance of inference prompts, the better the performance of concepts of the verbal factual knowledge test which were not addressed in the inference prompts and of the concepts of the transfer test which were addressed in the inference prompts.

### Name of Presenter

PA4.10 Anna Rawlings

### Name of co-presenter(s)

Anna Tapola, Markku Niemivirta

### Title of presentation

The predictions of temperament on course-specific motivational appraisals and achievement in general upper secondary school.

### Abstract

Temperament is the neurobiological basis of personality that in part accounts for individuals' ways of perceiving and reacting to environmental stimuli. Reward and punishment sensitivity are seen as fundamental dimensions of temperament that affect emotions and behaviour, and may hence also influence motivation. However, research into the links between temperament and motivation is sparse. This research examined the influence of reward and punishment sensitivity on motivational appraisals and achievement among general upper secondary school students (aged 16-17, N = 141). Reward and punishment sensitivities were measured in the beginning of the school year. The instrument taps one punishment and three reward sensitivity dimensions: two intraindividual (i.e., reward stemming from one's own actions: novelty-seeking and positive expressiveness) and one interpersonal (responsiveness to social reward, e.g., praise). The students rated their course-specific motivational appraisals (interest, strain, effort)

at the beginning of each of the three Finnish language courses. Course grades were used as an indicator of achievement. Previous achievement and individual interest in Finnish language were taken into account when observing the relationships. The longitudinal data were analysed using partial least squares path modeling.

Temperament predicted motivational appraisals less than expected. However, the significant predictions observed offer theoretically meaningful insight into possible mechanisms of how temperament may influence motivation. Punishment sensitivity and interpersonal reward sensitivity had negative effects on interest, effort, and achievement, and positive on strain, thus suggesting some underlying similarity in their functioning. The predictions of the positive-expressiveness reward sensitivity were somewhat ambiguous (positive on effort, negative on achievement), as were the effects of the novelty-seeking reward sensitivity (positive on interest and strain). Achievement remained relatively independent of all predictors other than previous achievement. Future research with a larger sample size, in a longer time frame and in other subject domains might yield more conclusive results.

**Name of Presenter**

PA4.11 Kristin Schotte

**Name of co-presenter(s)**

Aileen Edele, Petra Stanat

**Title of presentation**

The role of cultural identity in academic achievement and psychological well-being of immigrant students

**Abstract**

In Germany, students from native families outperform their immigrant peers with regard to educational achievement as an aspect of sociocultural adaptation. However, immigrant students show similar levels of psychological adaptation, such as life satisfaction and self-esteem. One factor that seems to affect the adaptation of immigrant adolescents is their cultural identity. Research on the adaptation of immigrants generally assumes that the identification with the ethnic context (EC) is particularly beneficial for psychological adaptation and that the identification with the mainstream context (MC) is particularly beneficial for sociocultural adaptation. In addition, it is often assumed that a strong identification with both contexts (integration strategy) has the most beneficial outcomes for psychological and sociocultural adaptation. However, only a few studies included standardized achievement measures as an indicator of sociocultural adaptation. The present study extends the existing research by simultaneously investigating the effects of cultural identity on psychological and sociocultural adaptation, using test results as an indicator of achievement. OLS-regression analyses are performed with data from a sample of 9th-grade immigrant students (N=4385) within the NEPS, a large study conducted in Germany. As expected, our findings show a small robust positive association between MC-identification and sociocultural adaptation as well as a positive relationship between EC-identification and psychological adaptation. Furthermore, our results support the adaptive advantage of the integration strategy for psychological adaptation. However, there is no additional benefit of the integration strategy compared to a solely strong MC-identification for sociocultural adaptation. We argue that the adaptivity of integration depends on contextual factors and that the adaptive potential of integration is restricted in an assimilative context such as Germany.

**Name of Presenter**

PA4.12 Janina Jasper

**Title of presentation**

Measuring cultural hybridized identity in the context of citizenship

**Abstract**

The European Framework of “Key Competences for Lifelong Learning” states that schools have an obligation to give students the opportunity to become active and responsible future citizens, including the development of a sense of belonging. However, the development of cultural identity represents a challenge for students as they are confronted with a variety of options, including multiple socialization levels, networks, and layers of territorial attachment (local, regional, national, supra-national, and global). In particular, during acculturation, students with migration background are at higher risk, developing a sense of belonging which incorporates their ethnic and national identity due to discrimination. Consequently, there is a need to monitor students’ hybridized identity development. Therefore, on the basis of traditional and new concepts of cultural identity, key questions and demands for an assessment instrument are presented. Following the demands, comparative descriptive content analysis of the International Civic and Citizenship Education Study (ICCS) 2009 and ICCS 2016 and other relevant studies is applied, examining to what extent the presented cultural aspects are considered already in recent assessments. Finally, an instrument for cultural hybridized identity is proposed that responds to the raised key questions and formulated demands.

## PA4d Special Educational Needs

**Name of Presenter**

PA4.13 (Annie) Zhuoni Cai

**Title of presentation**

Teacher expectations for children with autism spectrum disorders

**Abstract**

Research about teacher expectations has generated fruitful findings regarding the impact that teacher expectations have on students learning. However, research on teacher expectations for students with Autism Spectrum Disorders (ASD) is sparse. This current study was designed to add to the literature regarding teacher expectations for students with ASD in terms of their academic achievement and social development. Participants were 27 teachers (13 special education teachers and 14 general education teachers) who worked with students with ASD in Auckland, New Zealand. They were asked to complete a questionnaire which included teacher judgement about the specific student’s current reading achievement and social performance, as well as teacher expectation about the students’ achievement regarding those two aspects one year later. Results revealed that teachers held various reading expectations and social expectations for individual students with ASD. Among the diverse reading expectations, a trend was found: that is teachers’ expectations for student reading revealed three different levels. Specifically, 10 teachers expected that their students’ reading would stay at the same level (LS), 14 teachers expected that their students’ reading would increase one level (L1) while 3 teachers expected that their students’ reading would increase two levels in a one-- year period. Further qualitative analysis highlighted that teachers having different levels of expectations, had different emphasis regarding their predictions about student reading achievements. The research also showed that there was a high positive correlation between teachers’ reading expectations and teachers’ judgment of students’ current reading performance. On the contrary, teachers’ judgment of students’ detrimental behaviour had a statistically significant negative relation with teachers’ expectations for students’ social performance. Apart from that, no statistically significant correlations were found between teacher expectations for reading achievement and social progression. Implication regarding autism teaching was discussed.

**Name of Presenter**

PA4.14 Ariane Paccaud

**Name of co-presenter(s)**

Reto Luder, André Kunz, Anna Jossi

**Title of presentation**

Special educational needs, goal setting and curricular access: How do Swiss teachers deal with these (sometimes contradictory) concepts?

**Abstract**

In inclusive schools, multi-professional planning of the support for children with special educational needs (SEN) is crucial. The decision making concerning goals, as well as the implementation of curricular and instructional adaptations are important tasks in this planning. However, many studies criticize the quality of Individual Educational Plans (IEPs), and question the possibilities of curricular access.

This paper focuses on the following research questions:

- How many goals (academic and/or functional) are planned for the children with SEN?
- How is the goals' quality, and which factors are correlated with this quality?
- To which extent does the level of the academic goals differ from the curriculum and what factors are correlated with this difference?

In order to address these questions, data about 125 situations of children with SEN were collected through questionnaires given to the teachers. The data offer important information about children's needs and how schools organize their support. The goals were analysed using categories from the International Classification of Functioning Disability and Health (WHO, 2007) and from the Swiss-French curriculum. Criteria from Giangreco et al. (1994) served to analyse goals' quality.

Results indicate a mean of 9.3 goal per child. The average quality of the goals is medium to low (1.85 out of 4 possible points), a majority of the goals concerns academic topics (56%) and two third of the children have no goals under the curricular level. Therefore, one could perceive the curricular access as good since very few children have goals under the curriculum's level. Nonetheless, the question of the right to follow the child's own pace, with adequate curricular adaptations stays under scrutiny. In this sample, it appeared that children who "legally" should benefit from curricular adaptations do not have significantly more goals under the curricular level. Further qualitative investigation on this topic is needed.

## Roundtable Session (RT5)

### RT5a Teaching and Teacher Education

**Name of presenter**

RT5.1 Maria Iacovou Charalambous

**Name of co-presenter(s)**

Helen Phtiaka

**Title of presentation**

The voice of adolescents at the edge of schooling: ethnographic calibrations

**Abstract**

This paper attempts to critically reflect on the use of pilot studies in educational ethnographic design, through the discussion of a research on truancy. The research under consideration is currently conducted in a mainstream secondary Technical and Vocational school in Cyprus and is designed to follow a qualitative,

ethnographic approach to studying truancy, a widely discussed phenomenon in the educational world over time. The purpose of the research being conducted is to unravel the standpoints and voices of a commonly marginalised and excluded group of students, in a commonly marginalised type of school in the Cypriot society. Privileging the point of view of the least advantaged students, through their critique and participation, not only has the ability to empower students with low attendance, but at the same time, as an objective, can raise critical awareness on the role of the educational context and the teachers on the creation of 'at-risk' students.

Piloting research ideas at the beginning of a research is considered by many researchers to be critical, since it can alert the researcher as to whether the research questions, approaches and methods are specific, ethical and doable. However, the temporary character of piloting does not seem to resonate well with crucial aspects of the ethnographic approach, such as its synergistic character, the focus on ongoing and close researcher-participant familiarity, as well as the fact that an ethnographer tries to capture the reality of the participants rather than his/her own reality. In this paper, it is argued that this kind of ethnographic calibrations, far from constituting a preliminary, temporary tool to be used for initially alerting the researcher on his/her methods and approaches, can be seen as an inextricable and continuous element of any research which claims to privilege the voices of its participants.

**Name of presenter**

RT5.2 Yili Wang

**Title of presentation**

The formation and change of preschool children's friendship network during one pedagogical season

**Abstract**

The purpose of the study is to examine how children's peer relationships are formed and fostered. As a part of the study it is examined how the integration of tablet-game play can enrich pedagogical practices in preschool. The participants consist 16 children (8 girls and 8 boys) aged 5-7 from a Finnish kindergarten. There are two groupings for them: 1) the daily grouping that consists of the table order and 2) the intervention grouping for tablet game play. Sociometric nomination with 3-scales ("I want to play with the child never/sometimes/always") was employed to investigate the length and stability of reciprocal and unilateral friendships under the one-year intervention period. The nominations were collected 5 times during the year to study what kind of changes happens in getting and losing friendship ties among the children. Social network analyses were used to analyze the data. The results indicate that children's age does not explain as much friendship formation as gender. Children prefer to form friendship ties with the same gender peers. In all, the number of reciprocal friendship ties and mutual absent of the friendship ties increases towards the end of the year whereas the number of unilateral friendship ties decreases. The friendship ties are classified to "all friendship ties" and "intense friendship ties". The results indicate that during the intervention the children nominate less the names of the children with whom they want to play always, i.e. the intense friendship ties. It can be concluded that children's choices narrow down and become crystalized. Instead of extending their friendship networks, children seek for stabilize and mutual relationships with their peers. The intervention of pedagogical practices has hardly any influence on children's friendship ties. The changes in friendship formation are most frequent at the beginning of the year.

**Name of presenter**

RT5.3 Jun.-Prof. Dr. Matthias Rohs

**Name of co-presenter(s)**

Christian Vogel, David Van de Water

**Title of presentation**

From supply-driven to demand-oriented academic education

**Abstract**

In terms of an active higher education regionalism, the engagement of universities within their regions and localities increase in importance. The presentation introduces an approach in which empirical findings of the regional societal and economic framework conditions are used by universities to lead their decisions regarding the development of academic education programmes. By showing the current status of a prototype of a web-based monitoring system, the challenges within the process of operationalisation to the data acquisition and the data matching will be discussed. Finally, a debate on chances and limits of using empirical data as a basis for higher education decision making is intended.

## Roundtable Session (RT6)

### RT6a Best of JURE Roundtable

**Name of presenter**

RT6.1 Ellen Houben

**Title of presentation**

The reciprocal relationship between perceived employability and work-related learning: The influence of level of education

**Abstract**

This study will explore the reciprocal relationship between perceived employability (PE, i.e. an individual's perceived chance of employment in the internal and external labour market) and work-related learning (WRL). Due to increasing environmental demands to adapt quickly and efficiently to new technologies and changing labour market conditions, employees are forced to invest in their PE. Participation in WRL is generally seen as a means to do so, however research about the influence of WRL on PE is scarce and research about the influence of PE on the participation in WRL is lacking. This study seeks to enhance insight into this relationship along two aims. First, we account for the reciprocal relationship between WRL and PE. We base our hypothesis on two conflicting theories. On the one hand, the Conservation of Resources Theory (COR; Hobfoll, 1989) states that individuals might seek to protect, retain and accumulate resources. In line with this theory, individuals experiencing high PE might want to invest more in PE by participating in WRL, which may, in turn, increase PE. This might result in what Hobfoll describes as "gain spirals". On the other hand, Powers' Control Theory (1973) predicts the opposite effect. This theory argues that people act upon their perception about the discrepancy between the current and the desired state. The implication is that individuals who feel employable may not feel the need to invest in WRL, potentially leading to a reduction of PE over time. Individuals who feel less employable, in contrast, may invest in WRL to boost PE. Second, Most research has focussed on higher educated individuals. However, particularly for lower educated individuals PE and WRL might be necessary, as they already hold a vulnerable position in today's knowledge-based economy. For this reason, we will explore whether and how level of education influences this reciprocal relationship.

**Name of presenter**

RT6.2 Franziska Baier

**Title of presentation**

Investigating personalization as a value-adding feature of blended learning

**Abstract**

Individualized instruction is an old concept that has been investigated intensively. Empirical evidence of its effectiveness is mixed. Digital media as a new trend in education have the potential to address specific needs of students and thus individualize learning. Specifically blended learning has emerged as one way to combine personalized computer-based instruction with face-to-face teacher support and social interaction. However, many studies investigating blended learning show major drawbacks as they are not able to isolate specific mechanisms that might lead to an advantage of blended learning over face-to-face instruction. In many of these studies the blended learning setting differs from the face-to-face setting in several ways. Furthermore, personalized blended learning settings are often compared to face-to-face instruction that is hardly personalized. So it is hard to tell whether individualization per se is effective or whether it is especially effective when implemented in a blended learning setting. To overcome these drawbacks a quasi-experimental study is planned that systematically compares four different conditions: blended learning, blended learning with individualization, traditional instruction and traditional instruction with individualization (two-by-two between subjects factorial design). The study will be conducted with a total of 120 university students that can participate in one of the developed learning settings for course credits. Individualization will be implemented by using rapid assessment tasks to diagnose learners' knowledge and by subsequently providing adaptive learning aids. The blended learning conditions will be partly implemented through the digital learning platform Moodle. As outcome variables student achievement as well as their motivation will be assessed. The study at hand seeks to stimulate a discussion about study designs that are useful to explicitly find out about the potential additional value of individualization when implemented through digital media.

**Name of presenter**

RT6.3 Nicole Ackermann

**Title of presentation**

«The economically competent citizen»: Modelling and measuring civic-economic competence of high school students in German-speaking Switzerland

**Abstract**

A superior educational goal of Swiss post-compulsory schools, especially high schools ("Gymnasium"), is to produce citizens who successfully and responsibly participate in social and economic life. In a democracy with periodic referenda, social participation demonstrates, amongst other things, in the process of political decision-making, whereas economic participation appears through everyday private and professional decision-making. Civic-economic competence (CEC) is a context specific combination of basal (i.e. language, mathematics), civic and economic knowledge, knowhow and attitude, applied to current and relevant private, business and economic issues and their solutions, to enable a successful, responsible and reflective participation in social and economic life (cf. Dubs, 2011; Eberle et al., 2016).

Previous research in empirical educational science mainly examines economic and interdisciplinary competence of high school students or economic and vocational competence of commercial trainees. Thus, examining civic-economic competence of high school students appears to be a new and relevant research field considering the lack of empirical evidence and the above-mentioned educational goal.

The aim of my research project is to model and measure civic-economic competences of high school students in German-speaking Switzerland and to derive recommendations to promote civic-economic

competence in high schools. The CEC model is as a construct with three dimensions: content domain, cognitive process (cf. Anderson & Krathwohl, 2001) and knowledge structure (cf. idem). The CEC test, recently developed to measure the construct, contains current, relevant and authentic issues, arising from the private (e.g. budget, debt, insurance), business (e.g. performance, finance, human resources) and economic (e.g. public debt, energy policy, social security) domain. Besides, other cognitive tests and a socio-demographic questionnaire will be applied in the research project to measure the effects of cognitive, affective and social factors.

Keywords: Civic education, economic education, economic competence, civic-economic competence, competence modelling, competence measuring, test construction, educational goals.

**Name of presenter**

RT6.4 Alisa Tóth

**Title of presentation**

Framework of colour perception and appreciation: aesthetic and non-aesthetic experiences of colour

**Abstract**

Since the iconic turn being visually literate has never been as important as today. Colours have high impact in visual literacy (VL; Eilam, 2012). Researchers argue that the primary literacy of the 21st century is visual literacy. Therefore students must learn how to understand non-verbal communication using their knowledge about both words and pictures, which should be taught at school (Bunmark, 2002). However, colours constitute the main part of visual literacy, no one has ever constructed a framework for assessment about how children perceive and interpret colours yet. To be able to interpret and produce visual messages and exchange ideas, there is a need for visual literacy. Its importance is emphasized in contemporary arts curricula and also other subjects of primary education (e.g. Framework for 21st Century Learning, 2010). The aim of this presentation is to demonstrate the framework of colour perception and appreciation through curricula analysis and sample test items, constructed for pilot study for first and second grade pupils. To make the research design more clear, I show sample test items and samples from a previous visual ability research, conducted in online assessment named eDia (Electronic Diagnostic Assessment; Csapó, Lőrincz, & Molnár, 2012). For visual literacy eDia covers items for the spatial abilities, visual communication/signs and symbols (Kárpáti, Babály & Budai, 2014; Kárpáti & Simon, 2014), and for colour perception and appreciation. The framework of colour perception and appreciation are needed for a multidisciplinary approach for designing art curricula. I suggest implementing the empirical findings of psychology and science, therefore I performed the literature review in relation to my curricula analysis. I adopted the European Framework for Visual Literacy (CEFR\_VL), to map the visual competency elements.

## **RT6b Learning & Professional Development**

**Name of presenter**

RT6.5 Dietrich Wagner

**Title of presentation**

Fostering students' ability, intention and willingness for ethical reflection at a business school

**Abstract**

This PhD project engages with the question of how students' ability, intention and willingness for ethical reflection can be fostered within a study programme at a business school.

Research about reflection in Higher Education is widely available and the fact that reflection contributes to a better and deeper understanding of the content learnt is beyond controversy. Reflection plays an especially crucial role in a dynamic, fast-moving world because it helps individuals be aware of what is going on around them in the midst of a permanently changing environment.

Although general research about reflection abounds, research on ethical reflection in Higher Education is rare. Ethical reflection is that component of the reflective process which tries to illuminate hidden values, ideas of man and agendas within a particular content – whilst asking critical questions. Ethical reflection challenges the individual to take a stance based upon his or her own values.

This PhD project aims at developing concepts and methods which help to foster ethical reflection within a study programme. Therefore, the research approach of educational design research is being used. This research approach is very suitable for problems in which the solution for an un-researched problem needs to be developed. After specifying the problem and evaluating the literature, a first intervention prototype will be developed. This prototype will require testing and revision. Throughout the entire research process, design principles will emerge showing how interventions with a similar aim in similar settings should be constructed. These design principles are the link between practice and theory because they describe how and why an intervention works and how it should be constructed and implemented. Thus, in addition to the practical solution of the problem, this research project will deliver the theoretical contribution of design principles which can be further evaluated in subsequent research.

**Name of presenter**

RT6.6 Shannon Rushe

**Title of presentation**

Professor expectations and student interpretations of academic skills

**Abstract**

As members of the Learning and Curriculum Support (L&CS) Team, we provide front-line support to students and witness, first-hand, the challenges in student skill development. Through a collaborative, cross-unit research project funded by the University of Guelph's Scholarship of Teaching and Learning research grant, we have identified, in the teaching and learning in third year university courses, a series of disconnects

1. between the learning, writing and information literacy skills professors expect students to possess and the skills students actually possess when they enter the course;
2. between professor expectations of student skill requirements and student interpretation of skill requirements from the course outline; and
3. between professor and student understandings of where students should develop these skills (i.e. in class or outside of class).

Initial findings have highlighted the difference in skills that faculty think their students have when entering a course, and the skills that students think they have when entering that same course. Discrepancies between responses of faculty and students suggest that there are different expectations in regards to the learning, writing, and research skills faculty expect students to have and which skills they expect to teach. The results of this study aim to improve the communication of skill expectations between faculty and students, as well as inform programming academic skill development units to help facilitate the teaching and development of learning, writing and research skills necessary for academic success.

## **RT6c Learning & Professional Development**

### **Name of presenter**

RT6.7 Eva Vermeire

### **Title of presentation**

Fostering work-related learning in internships: A subjective view on objective contexts

### **Abstract**

There is growing consensus that work-related learning (WRL) is a key asset in achieving sustainable employment. Evidence shows that education might play a key role in supporting WRL in the school-to-work transition. Research has already shown the importance of the level of education as a predictor of WRL. For now, most research has focused on higher education. Paradoxically, less is known about WRL of vocational educated workers while they hold a vulnerable position on the labour market. Therefore, this research aims to investigate factors within vocational education that fosters WRL during internships. Further, this research is interested in personal resources among students and their relationship with WRL.

An interesting theoretical framework to investigate WRL is the Job Demand-Control-Support model. Demands, control, and social support are powerful structural factors that influence WRL. Vocational students are particularly exposed to two different learning environments (i.e. classrooms and internships). We hypothesize that both of these learning environments can affect WRL. Hence structural factors of both contexts are considered. Therefore, we hypothesize that WRL during internships is fostered through the experience of high autonomy and social support, especially under conditions of high workload as predicted by the original model.

These structural factors are perceived differently by individuals depending on the personal resources. Two resources have particular resonance, which are self-efficacy and goal orientation. Because the perception of the structural factors influences WRL, we expect that WRL is influenced indirectly by these resources. Therefore, the indirect influence of personal resources on WRL, through the perception of structural factors, is investigated during this study.

This research will adopt a longitudinal design. Such a design enables us to investigate the relationship between personal resources, the perception of structural factors in classrooms and internships, and WRL during internships.

### **Name of presenter**

RT6.8 Benjamin Salge

### **Title of presentation**

Identification of individual and institutional incentives and barriers to continuing vocational education and training (CVET) among fringe groups for the development of targeted CVET measures

### **Abstract**

Demographic, political and technological trends will cause an increasing skills and labour shortage in various industry sectors of the German economy. The healthcare and social services industries, the hotel and catering industries, the trade industries as well as the (high) technology industries will be particularly affected by emerging staff shortages. Consequently, companies are forced to fill a rising number of job vacancies with currently unexploited labour force potential – i.e. unqualified or low qualified people, people returning from career breaks, long-term unemployed or migrants – as well as elderly but experienced employees. Thus, extending targeted CVET measures will be the key action of companies to successfully recruit and integrate these groups of people into the companies' work processes and therefore into the labour market as well as into society.

As the integration of these so-called fringe groups is such an important matter from a sociopolitical as well as from an economic perspective, the research goal of the underlying joint project is to empirically identify relevant influence factors of both the motivation for and the participation in continuing vocational training with respect to the target groups. In this context, the interaction of the individual and institutional influence factors will be specifically analysed.

Regarding the usability and the transferability of the results the research project is expected to provide information on both conditions specific to the individual, as well as industry-specific conditions/requirements for participation in CVET measures. The findings are of high practical value for the development of targeted CVET measures as well as for the integration of the affected target groups into the labour market and thus society. Additionally, companies and educational institutions will be more sensitized to the demands of the target groups in regard of CVET measures.

## **RT6d Teaching and Teacher Education**

### **Name of presenter**

RT6.9 Marjolein Cox

### **Title of presentation**

A systems thinking approach in geography education in secondary schools

### **Abstract**

The interconnectedness of people and goods on earth has increased tremendously due to globalization. Therefore, many relationships have become increasingly complex, which creates a challenge for geography teachers who have to explain this complexity in a clear and appealing way, as well as for students who have to understand these relationships. Systems thinking might be a solution as it helps to understand this complexity by looking at the whole system and at the interconnectedness between the different elements in the system. Systems thinking therefore seems to be promising to have a high promising effect for students in secondary geography education. In the literature however, instructional strategies explaining the gradual implementation of systems thinking and effectiveness studies of the implementation, are lacking. Therefore, one of the aims of this study is to develop a measurement instrument to gauge the effectiveness of a lesson series based on systems thinking in an experimental design. The experimental lesson series is developed for 16 to 18-years old students on complex global subjects such as food supply, natural resources, globalization, carrying capacity of the earth and international migration. In the pre- and posttest causal maps are used to measure the level of systems thinking as these maps have the ability to explicit complex systems. The validation of the research, including the validation process of the tests, and the opportunities for analysis of the data are discussed.

### **Name of presenter**

RT6.10 Monica Pentassuglia

### **Title of presentation**

Teachers' practice and educational research: The arts-based research perspective

### **Abstract**

Educational research, in recent years, has focused special attention on teachers' experience. The study of body, movements, and relationships in the workplace, in this perspective, becomes a turning point in the educational research; new interpretative categories such as performance, choreography, dance, etc. are identified and used. Following these assumptions, the present study is aimed to analyse the body and the choreography staged by

the teacher thanks to the use of Art (the Dance), as a “lens” to observe the reality according to the approach of the Arts-Based Research. The challenge is to understand how the ABR can help open up new areas of knowledge that will enable researchers and practitioners to take new awareness through a wider vision of reality.

Research questions stated to develop the project are as follows: is it possible to identify a choreographic style in teachers’ activities? Can Art help to understand strengths and weakness points in teachers’ work? What kind of knowledge do teachers convey with their body?

Data analysis provides field observation (with video recording) to a sample of secondary school teachers during their daily work in the classroom. According to the R. Laban's theory of movement analysis, the Labanotation was used in order to analyse teachers’ movements, in parallel with the recording of didactic actions. The merge of these two types of data (the movement analysis and the didactic one) was then performed in order to identify different teachers’ choreographic styles.

Different ways of knowing needs different ways to study that knowledge (Barbour, 2011). New approaches, as the one implemented in this study, not only can help teaching-learning processes but they can give also an important contribution to artists-researchers in order to implement new ways to understanding (Janesick, 2000; 1994) in the wider educational research field.

**Name of presenter**

RT6.11 Roni Zohar

**Name of co-presenter(s)**

Ester Bagno, Bat-Sheva Eylon, Dor Abrahamson

**Title of presentation**

From collective choreography to angular velocity by leveraging marking and discourse

**Abstract**

Eleven female high-school students enrolled in an embodied-design experimental physics course (Zohar, 2015) participated in an implementation of a two-lesson introductory unit on angular velocity. Four of the students were dance majors. Working in a dance studio, the students stood alongside each other in row formation, and a bottle was positioned to the left of the left-most person. The students were asked to walk around the bottle, keeping the row intact. After some trial and error they negotiated a collective method to circle the bottle, keeping the row, with students farther away from the bottle walking faster. During planning and post-activity reflection, we noted instances of the participants and teacher spontaneously using their arms and hands to enact a miniaturized version of their full-body solution. Such ‘marking’ (Kirsh, 2010) typically serves dancers “as an anchor and vehicle of thought” for individual and collective reflection, instruction, and planning of action. In this hybrid dance/physics discursive space, we argue, marking was ‘keyed’ (DeLiema et al., 2015; Goffman, 1974) by the instructor as the collective constructing and examining of a gestured model representing a scientific phenomenon under inquiry (Becvar, Hollan, & Hutchins, 2005). We thus view this episode as a case of a teacher guiding members of a community of practice (dancers) to utilize their semiotic routines (marking) as a means of supporting scientific discourse around curricular content (angular velocity). Micro-ethnographic analyses of the participants’ multimodal interactions suggest how this hybrid marking/modeling mediated between collective motion-based experiences and the production of paper-and-pencil diagrams in the scientific register (Radford, 2003). We draw implications for an embodied design for science lessons that builds on the capabilities of moving bodies and shifts through marking into discourse about the scientific content. (Abrahamson & Lindgren, 2014).

# THURSDAY July 7th 2016

## Paper Session (PA7)

### PA7a Best of JURE Paper Session

#### **Name of Presenter**

PA7.1 Jaana Isohätälä

#### **Name of co-presenter(s)**

Hanna Järvenoja, Sanna Järvelä

#### **Title of presentation**

How does participation in collaborative interaction foster socially shared regulation of learning?

#### **Abstract**

In the social learning settings of today's society, the importance of socially shared regulation of learning (SSRL) has become increasingly evident. However, notably few studies illustrate how SSRL emerges in students' interaction, especially in small groups' face-to-face collaboration. Because participation in interaction is the prerequisite for constructing shared understanding, this study explores how students' participation in interaction fosters the emergence of SSRL. We adopt a process-oriented and micro-analytic approach to qualitatively analyze videos from one collaborative learning session of six groups of teacher education students (N=24). We first investigate how SSRL emerges in higher or lower levels of participation. We then zoom into three examples of SSRL to analyze and illustrate groups' interaction in more detail. Our findings show that SSRL was most prevalent during times when the whole group actively participated in interaction. Students' reciprocal interaction afforded the group to externalize perceived challenges in cognition, motivation and emotion and to elaborate, question, accept and refute each other's perceptions. Interaction during SSRL only became meaningful when students' communicative acts were interpreted in relation to each other and when students' speech, behavior, gestures, gaze and prosody were taken into consideration. Understanding SSRL also required understanding students' previous interaction and their earlier events of SSRL. In all, our findings emphasize the situated nature of SSRL. In terms of practical implications, we conclude that students' ability to engage in SSRL needs to be promoted by supporting participation in interaction and activation of regulation processes.

#### **Name of Presenter**

PA7.2 Maria Psyridou

#### **Name of co-presenter(s)**

Eklund Kenneth; Poikkeus Anna-Maija; Torppa Minna

#### **Title of presentation**

Reading fluency and reading comprehension of late talkers: A follow up from age two to sixteen

#### **Abstract**

The purpose of the study was to investigate the reading outcomes of children identified as late talkers at the age of 2–2.5 years and to examine to which extent co-existing receptive language delay and family risk for dyslexia moderate the effect of late talking on reading development.

Productive and receptive language skills were assessed at the age of 2–2.5 years, and reading skills were

assessed in grades 2, 3, 8, and 9 (age 8 to 16 years). The sample consisted of 200 Finnish-speaking children, of which 108 had family risk for dyslexia and 92 came from families without reading difficulties. Participants were divided into five subgroups: 1) family risk, no language delay, 2) family risk, late talkers, 3) family risk, late talkers, and co-existing receptive language delay, 4) no family risk, late talkers, and 5) no family risk, no language delay.

Our results indicated that only the late talkers with family risk for dyslexia and with receptive language delay experienced problems in reading comprehension, and their reading comprehension difficulties became more severe across time. On the other hand late talking was not linked to reading fluency problems. It seems that late talking represents a risk for reading development only when combined with receptive language delay and/or family risk for reading difficulty.

**Name of Presenter**

PA7.3 Carla Bohndick

**Name of co-presenter(s)**

Tom Rosman, Susanne Kohlmeyer, Heike M. Buhl

**Title of presentation**

The relationship between subjective fit and academic success. An application of the person-environment fit theory

**Abstract**

According to person-environment fit (P-E fit) theory, a fit between personal factors (e.g., individual abilities) and situational factors (e.g., work requirements) leads to job satisfaction, performance, commitment, and well-being (Edwards et al., 2006). Recent research suggests that the fit between subjective abilities and study requirements also predicts academic success (Etzel & Nagy, 2015; Heise et al., 1997; Li et al., 2012). Nevertheless, some questions are left open. First, the conception of fit must be clarified and analyzed whether it is necessary that the abilities exceed the demands or if the abilities must match the demands. Second, effects of academic self-efficacy and subjective P-E fit must be disentangled, because both are likely to influence academic success. To answer both questions, an online survey was conducted with 693 teacher education students. Students were asked to rate general requirements of their academic programs (e.g., self-discipline) on a 5-point-scale in terms of (1) their own abilities and (2) the relevance for their studies. P-E fit was determined by calculating the absolute difference between ability and relevance ratings. Academic success was assessed by grades, perceived performance, and study satisfaction. Data were analyzed through structural equation modeling with subjective abilities and subjective fit as exogenous variables, and criteria for academic success as endogenous variables. All three criteria for academic success were more strongly related to subjective fit than to subjective abilities. Perceived performance and grades were solely related to subjective fit. The results indicate the need for a stronger consideration of subjective P-E fit for theory development and will be discussed with respect to practical implications.

**Name of Presenter**

PA7.4 Heli Muhonen

**Name of co-presenter(s)**

Helena Rasku-Puttonen, Eija Pakarinen, Anna-Maija Poikkeus, Marja-Kristiina Lerkkanen

**Title of presentation**

Patterns of knowledge building in educational dialogue

**Abstract**

Traditionally knowledge building has been explained in terms of individual creativity but recent literature has emphasised the social interaction as part of it (e.g., Brown & Duguid, 2000; Sawyer, 2007; Scardamalia, 2002). Previous studies have raised evidence that focused, sustained and reasoned classroom dialogue can promote students' conceptual understanding and learning, and not only the content but also the functional structure of dialogue between teacher and students plays a significant role in students' learning and development (Mercer, 2008). There is an evident need to gain deeper understanding how knowledge can be built collaboratively through educational dialogue.

The goal of this study was to examine the patterns through which knowledge is built in educational dialogues in Grade 6. This study represents a subsample of a large-scale follow-up study (teachers and their students). 20 video-recorded lessons from 7 teachers, selected based on latent profile analysis, were analysed using qualitative functional analysis of classroom talk. According to the analyses educational dialogue episodes in the classroom represented three main types of knowledge: fact, view and experience. Sharing of these three types of knowledge were identified to form six patterns of educational dialogue representing diverse ways of knowledge building in classroom. The findings indicated that dialogues with factual orientation dominated in the Grade 6 lessons. Factual knowledge, however, was also often shared simultaneously with the two other main types of knowledge, views and experiences.

Keywords: educational dialogue, patterns of knowledge building, fact, view, experience

## PA7b Assessment and Evaluation

**Name of Presenter**

PA7.5 Andrea Magyar

**Title of presentation**

Comparing the measurement effectiveness of online linear and adaptive tests versions of word reading skills

**Abstract**

The rapid development of technology in educational measurement points the way forward to the transition to computerized testing, in which one of the most sophisticated method is the adaptive testing system. During adaptive method the order of the items is not predetermined in a fixed sequence; they are selected from an item pool such a way that the selected items are matched to the ability level of the individual based on his or her performance on items presented previously.

The main aim of this research is to examine the effectiveness of traditional linear testing in a comparison of adaptive testing mode among 10-11-year-old students (n=3220). As in the Hungarian primary schools there are serious problems with the children's reading skills, the improvement of an effective adaptive system is justified.

During the research an adaptive and a linear version of a word-reading test were constructed and delivered via internet by using computers facilities available at schools. The analyses were carried out with the use of the partial credit model.

The results showed a more accurate estimation in the case of the adaptive system (WLE=.92) than of the

linear version (WLE=.90). The test information and the measured errors in both cases both indices were favourable in the case of the adaptive test (63% information and  $SE_{adaptive} = .13$ ) than of the linear test (59% information and  $SE_{linear} = .14$ ). The differences were significant ( $t = 12.61, p < .001$  and  $t = 13.52, p < .01$ ), respectively.

The uniqueness of the research is that empirical data were used, moreover, the use of the same sample also made student-level comparisons possible. The results confirmed those of international simulation experiments, namely, that considerable measurement precision can be achieved using an adaptive test algorithm compared with conventional linear tests.

**Name of Presenter**

PA7.6 Yves Blicck

**Title of presentation**

A reference framework for quality assurance and improvement in adult education for online and blended learning: A qualitative study

**Abstract**

Online and blended learning (OBL) is emerging in adult education (AE), Flanders (Belgium). To explore approaches and experiences with Quality Assurance and improvement (QA&I), qualitative data were drawn from focus group interviews (n=12 groups) with respondents from 5 centers for AE. In each center one interview was conducted with respondents at institutional level (n=17); and at least one with professionals at program level (n=20). It appeared that centers need to know how to contextualize their QA&I approach to OBL. As the demand increases, providers need general, balanced, scientifically-grounded guidelines, measures and instruments to monitor all important quality aspects. Also for this context a common quality framework for OBL is lacking. In literature it is argued that methodologies need to be developed that permit the contextualization of existing quality frameworks. This study is designed to identify success factors for quality in OBL for adult learners. It is a step towards the construction of a framework that providers, or accreditation bodies, can use to contextualize their approach to QA&I. The work of Ossiannilsson and Landgren (2012) is opted as a main theoretical framework. It contains success factors for quality in OBL to meet students' expectations, demands, and rights: accessibility, flexibility, interactivity, personalization, transparency, productivity and participation. In addition to the interviews a systematic literature review was performed. Seven databases, focusing on the search terms adult education in combination with quality systems (such as assurance, frameworks,...) were searched. Preliminary findings of qualitative analysis suggest that similar success factors for OBL are present in AE, with the addition of the success factor credibility. Success factors could be linked to several quality aspects: management, design (course design, curriculum design and assessment), (technological) delivery and support (learner support and teacher and staff support). The findings are discussed and prospects for future research are presented.

**Name of Presenter**

PA7.7 Attila Rausch

**Title of presentation**

Online assessment of early numerical skills in kindergarten - Results of a pilot study

**Abstract**

Several studies have shown that early numeracy predicts students' later mathematics performance (e.g. Aunio & Niemivirta, 2010). Early numerical skills, such as counting skills, number-word sequence are important basis of the arithmetic skills in primary school level (Aunola, Leskinen, Lerkkanen, & Nurmi, 2004). Therefore it is essential to identify problems in time by assessing skills of early numeracy, in order to promote successful school entry (Csapó, Molnár, & Nagy, 2014; Snow, 2006).

Our mayor aim is to develop a new online assessment tool for kindergarten teachers in order to assess their student's early numeracy skills in a friendly and colorful testing environment. In this study we show the first results of this new online early numeracy test.

The participants of the study were 5-6 years old Hungarian kindergarten students (N=91). Our measurement tool consisted of six subtests with symbolic and non-symbolic tasks. We assessed connections between magnitudes and numerals, knowledge of number word sequence, understanding relations, basic counting skills, recognition of numerals, connecting magnitudes and number words. The assessment was administered by tablet computers.

The overall reliability of the test was satisfactory (Cronbach- $\alpha$  =.894). And the 6-dimensional CFA model which based on the six subtests showed an acceptable model fit (CFI=.938; TLI=.933; RMSEA=.038). The average achievement on the test was 71.72%p (SD=18.96). Furthermore, no significant difference was found between genders.

Our result show that however most parts of the test proved to be reliable, there are some subtests which call for revision, and we will need further researches to develop our assessment tool to make it more reliable and valid. We hope that in the future it can be a useful educational tool to assess early numeracy online.

## PA7c Instructional Design

### Name of Presenter

PA7.8 Tino Endres

### Title of presentation

Adaptive retrieval practice to enhance learning

### Abstract

When trying to develop learning environments for many people, instructors are typically faced with a heterogeneous group of learners. A "one method fits all" approach to learning is mostly not adequate. Adaptive systems enable us to consider different learner characteristics to tailor learning environments to the needs of individual learners. The learning method we aim to adapt is the testing effect. An effective testing-to-learn retrieval has to be both: successful and effortful, which implies some tension. On the one hand, retrieval should be as difficult and mentally effortful as possible to ensure a high activation of the retrieved and related contents. On the other hand, if retrieval is too difficult and not successful, it is not mentally activating this information. Considering this tension, adaptive systems give a great opportunity in using the testing effect. An adaptive learning system that offers individualized testing-to-learn tasks could guaranty both aspects. As learner characteristic, we choose learners' prior knowledge. This study will form the basis for a newly developed adaptive system. A within-subject design (n=90) was used to figure out relevant key points for the adaptive system. Learning contents were three expository texts. We compared two types of testing tasks, varying in their expected mental effort, to a restudy control group, which revised the text again. The posttest comprised a meta-knowledge and a conceptual knowledge scale. Individual learning was better when the testing-to-learn retrieval was mentally effortful. We detected a bottom line of mental effort where learners invested too less mental effort to trigger a testing effect. This bottom line could be broth together with high pre-knowledge. We will take the findings of this study and transfer them into an algorithm of an automatic adaptive system in a later study.

**Name of Presenter**

PA7.9 Britt Adams

**Title of presentation**

Improving adolescents' advertising literacy through education: The perceptions of teachers

**Abstract**

Nowadays, children and youngsters are often confronted with new advertising forms such as social media advertising, mobile marketing and advergames. Compared to rather traditional formats, young consumers experience more difficulties to recognize these new advertising formats because of their integrated and interactive character. Scholars have repeatedly stressed the importance of advertising literacy education in which minors learn how to deal critically with advertisements. A number of advertising literacy programmes have already been developed during the past decades, but research about stakeholders' perceptions is limited. Therefore, the objective of this research is to uncover secondary education teachers' perceptions of one existing educational package, namely "Advertising in new media". Data were collected both qualitatively, by organizing two focus groups (n = 17) and quantitatively, by sending a survey to teachers who downloaded the educational material. The results show that teachers emphasize the importance of enhancing adolescents' advertising literacy through education. Regarding the content, advertising literacy education is - according to teachers - expected to pay attention to both traditional and new advertising formats, the intent of advertisers, the used persuasive tactics, the influence of advertising, and the values and norms in advertising. Furthermore, based on previous studies of Meeus et al. (2014) and Nation et al. (2003), teachers give their opinion about a number of design guidelines concerning advertising literacy education (e.g. involving parents and the use of authentic advertisements). Finally, with regard to professional development, teachers indicate that advertising literacy is rarely discussed in teacher training. Consequently, teachers suggest the integration of this topic in preservice teacher training. Considering the suggestions given by teachers, further research should focus on both the adaptation or development of (existing) educational material aimed to enhance minors' advertising literacy and its empirical evaluation.

**Name of Presenter**

PA7.10 Nicole Furlan

**Name of co-presenter(s)**

Jean-Luc Gurtner

**Title of presentation**

Feedback in vocational education and training: A multimodal Perspective

**Abstract**

Feedback is a key aspect in learning processes and a central topic in educational and training research. Aside from frequent opportunities and multiple sources for feedback, research highlights the quality of feedback to be decisive for learning. Whereas insights into feedback processes are rich for school and higher education settings as well as recently also for workplace learning, relatively little is known empirically about feedback processes in initial vocational education. In our contribution, we take a closer look at feedback affordances in vocational education and training (VET). In the Swiss VET context, within a dual-model of apprenticeship, learners engage in work- and school-based training in parallel. During their on-the-job training in a training company four days a week, they are embedded in a team of experienced colleagues and in-company trainers, who are responsible for learners' training and professional development and thereby learners continuously contribute to a community of practice. Learners usually have their working contract with this training company, which they view as their workplace. Based on a socio-cultural approach of workplace learning, it is investigated, (Q1): From whom and how often do learners get feedback at the training company? (Q2): How is feedback conducted during every-day work at the training company? An Online Questionnaire Study with learners and trainers in four professions (N=825) provides insights into frequency and sources of

feedback for learners across professions. In order to better understand fine-grained mechanisms of feedback during every day work situations, an ethnographical approach has been adopted for VET research. In-depth case studies of two workplaces based on interviews and observations give insights into feedback quality dimensions of feedback content, delivery and timing. We present findings for both research questions and discuss theoretical as well as methodological considerations for future research avenues.

## **PA7d Teaching and Teacher Education**

### **Name of Presenter**

PA7.11 Christin Siegfried

### **Title of presentation**

The impact of teacher training on economic competence of teacher students

### **Abstract**

Economic competence is considered to be one of the basic and central competences necessary for individual chances in life as well as the further development and growth of society (e.g. Beinke, 2004; Kaminski & Eggert, 2008; Retzmann et al., 2012). Therefore, economic competence should be part of general education systems (Kaminski, 2001; Beinke, 2004; Dubs, 2011; Retzmann et al., 2012). The importance is enhanced by surveys that repeatedly show that young adults in particular seem to lack economic knowledge and to be especially prone to making unfavorable economic decisions. Because recent studies indicate a connection between teacher professional knowledge, teacher competence and the competences of their students (e.g. Schober, 1984; Allgood & Walstad, 1999; Hill, Rowan & Ball, 2005; Rivkin, Hanushek, & Kain, 2005; Goldhaber & Anthony, 2007; Dills & Placone, 2008), the question can be raised whether teachers themselves have sufficient economic competence to adequately support their students' learning processes in this domain. Some studies (e.g. Retzmann & Bank, 2013) show that this is not always the case. Based on these results, we developed and implemented a training program for prospective teachers of politics and economics. The focus of the training was on economic knowledge, because this facet is central for the development of economic competence. Results show that there is an increase in knowledge due to the training.

### **Name of Presenter**

PA7.12 Piet Van den Bossche

### **Name of co-presenter(s)**

Loth van den Ouweland

### **Title of presentation**

Expectations of teacher performance: An exploratory study in Flemish secondary schools

### **Abstract**

Research suggests that setting performance expectations for teachers benefits teacher and school performance. However, these expectations remain largely unexplored at the school level, research on differences in principals' views on teacher performance is scarce and teachers' opinions are mostly neglected in studies on teacher performance. Therefore, we interviewed both principals and teachers in secondary schools about their performance expectations towards teachers. Our findings indicate that expectations differ considerably among schools. Moreover, teachers (especially more experienced teachers) do not fully know what is expected of them. Principals express struggles and concerns regarding the explication of performance expectations, and expectations regarding the non-teaching role are more vague and relative compared to expectations regarding teaching. Finally, teachers are not only influenced by, but also influence performance

expectations of other teachers: expectations arise from within the teacher team, and in some schools teachers' views are included in the development of the school vision and related expectations. Our conclusions concern the school-relatedness of expectations and the importance of teacher-school fit, principals' communication of expectations and the need for more explicit expectations, the ambiguity of the teacher's non-teaching role, and teachers' support for and impact on expectations. Suggestions for follow-up research include the study of explanations for differences in principals' and teachers' expectations, the impact of these expectations on actual performance, and the support that schools need to set clear expectations and build consensus.

**Name of Presenter**

PA7.13 Olga Chernikova

**Name of co-presenter(s)**

Karsten Stegmann

**Title of presentation**

From observing to teaching: A meta-analysis on effects of observational learning in teacher education

**Abstract**

To become a teacher one should master various knowledge and skills to observe and assess classroom situations, plan lessons and implement concepts and approaches. Moreover, teachers should continue learning from practice to meet needs and challenges of education. Can teachers learn and improve their teaching skills through observing more experienced colleagues? Is observational learning powerful enough to prepare teachers to be adaptive experts? Does observational learning has an effect when other instructional techniques are added?

This article presents findings of meta-analytical review focused on observational learning in teachers' education. The research aimed at finding summary effect of observational learning on acquiring teachers' skills and knowledge and identifying significant moderators of this effect. To answer research questions, state of the art meta-analysis was combined with p-curve and replication index analysis, which allowed addressing quality of research done so far and in particular possible publication bias and/or results manipulation. The results of the study indicated medium to strong effect  $g=1.13$  ( $SE=0.21$ ), CI 0.72 – 1.54 of observational learning on knowledge and skill acquisition in teachers' education. The results also supported some significant moderators, namely additional scaffolding, format in which models were presented and measures of performance used to estimate learning gain. The results showed that being present in real classroom for observation is promising technique, which enhances effects of observational learning. Effects of observational learning are comparable when actual performance or written reflections are assessed to measure the knowledge gain. Observation can be effective for knowledge acquisition even without special scaffolding. Nevertheless using additional instruction can lead to twice as strong effect. P-curve and R-index analyses indicated that the presented results were trustworthy, not effected by publication bias and therefore can be used for insights to the researchers in the field concerning topics for further exploration and statistical power for study design.

## Roundtable Session (PA7)

### RT8a Learning & Teaching in Diverse Settings

**Name of presenter**

RT8.1 Tony Burner

**Title of presentation**

"School of the future?", Or how to work with culturally and linguistically diverse classrooms

**Abstract**

There is no doubt that classrooms are getting more and more culturally and linguistically diverse (Miller, Kostogriz, and Gearon 2009). More culturally and linguistically diverse classrooms can pose particular challenges for teachers teaching in schools of the future.

In Norway, a committee appointed by the government, called the Ludvigsen Committee (The Norwegian Government, 2014), was assigned the task to assess today's school subjects against the needs of the future. It suggests four competencies in school of the future: subject specific competence, competence to learn (metacognition and self-regulated learning), competence in communicating, cooperating and participating, and competence in exploring and creating. For all the four competencies, the committee suggests the inclusion of social and emotional competencies.

Relevant educational activities from the European Council's TASKs for democracy (Council of Europe, 2015) were used in English language arts classes in teacher education during spring 2016. The sample consists of 32 students in two classes. One of the classes is an in-service course for teachers working in grades 5 to 10, and the other class is part of a unique international teacher education for primary schools program (grades 1 to 7).

Task components chosen from TASKs for democracy were:

- Willingness to work together with others and become actively involved
- Ability to learn from a variety of ways from participation in groups
- Understanding of the changing nature of identities and cultures
- Readiness to examine one's behavior, language use and body language
- Self-knowledge and introspection

The activities were be evaluated by the students through oral and written means. They were be asked about their experiences and perceived outcome. A short electronic questionnaire was conducted, with a scale of 1-5, plus open comments from students, asking them specifically after each session what they learned in relation to the set goals.

**Name of presenter**

RT8.2 Eleni Damianidou

**Name of co-presenter(s)**

Helen Phtiaka

**Title of presentation**

Facing the future of inclusive education through the eyes of secondary education teachers

**Abstract**

Under the influence and the pressures of the current national and international context, special education in Cyprus evolved into inclusive education through four turbulent stages, dating back to 1929, when the School for Blind was founded. However, the mere placement of disabled children in mainstream schools does not necessarily mean that they are included. Trying to find out how the 1999 Law for inclusion has influenced teaching practice and attitudes towards disabled children, we conducted a survey with a representative stratified sample of 536 secondary education teachers, using a semi-structured questionnaire. Data analysis revealed that, despite the law, a disabling attitude and teaching practice still prevails in Cyprus secondary education schools. Thus the participants believe that Cyprus schools are neither prepared to welcome disabled children nor confirm equal opportunities in education, while the society is prejudiced, the educational system is dysfunctional and hence the best solution is the placement of disabled children in special schools. Moreover, they have low expectations from disabled children. This situation seems to be related to the centralized and bureaucratic education system of Cyprus, the prevalent negative attitude that is rooted in a long-term abhorrence of disability, and the dominant rhetoric that perpetuates the existing unequal power relations. However, there is still hope for a better future of inclusive education in Cyprus, since the key-factor for change seems to be the teacher and not the legislator. In fact, as the participants believe, teachers have the power to effect change and establish inclusion, since they are the ones who actually decide what they will do in their own classroom.

**Name of presenter**

RT8.3 Michèle Collenberg

**Title of presentation**

Developing intercultural competences in preservice teacher education for the upper secondary level

**Abstract**

Recently there has been a growing socio-cultural and ethnic heterogeneity of students in classes of commercial vocational schools in Switzerland. This has had an impact on various aspects of school life, e.g. classroom management, interaction between students and teachers. Currently, however, intercultural competences are not self-evident in the pedagogical professionalism of teachers. In particular in preservice teacher education for higher levels of education (vocational training, after compulsory schooling) the topic is still largely ignored. The aim of this project is to design a learning environment for the promotion of intercultural competences of preservice teachers in the degree program in Business Education at the University of St.Gallen. Hereby the project wants to investigate what the guiding principles are for designing a didactic-methodological learning concept in order to promote intercultural competences in this context. The study follows the approach of Design-Based Research (DBR). The starting point for this research is not to ask whether an existing intervention is effective but to ask how a desirable goal (here: the development of intercultural competences) could best be achieved by a yet to be developed intervention. In various cycles of development, testing and evaluation of innovative solutions to unresolved practical problems DBR structures this process with a combination of design practice and gaining theoretical knowledge. Based on the results of a literature review and an analysis in the field of action the prototype of the learning concept will be

implemented in various courses of the degree program. A particular challenge for designing the prototype are the different beliefs preservice teachers have about working with students from different cultural and ethnical groups as they influence strongly the outcome and effects of multicultural learning activities. Therefore the research partly focuses on the question of how these intragroup differences can be taken into account.

**Name of presenter**

RT8.4 Poyiadji Athanasia

**Name of co-presenter(s)**

Emily Polydorou

**Title of presentation**

Diversity on television and the role of school

**Abstract**

Undoubtedly, we can say that we live in a world dominated by the media, who perpetuate stereotypes related to diversity. In the 1980s there was a tendency to recognize cultural differences (Taylor, 1994).

Unfortunately, this tendency made the distinctions the basis of differential treatment. When someone fails to comply with the normal characteristics of the body and the mind he is stigmatized (Goffman, 2001). This is a result of the experience of oppressive social relations (Shakespeare, 1996). Considering all the above, we understand that people's identity is socially constructed. Important for this construction and deconstruction are media and school.

This study deals with the concept of diversity and the way it is presented in a Greek television series entitled "National Team ". The aim of this study is to demonstrate the way in which the media and the particular television series produce and reproduce the discussions about diversity. The main topics on which the study focuses are: disability, immigration, homophobia and sex discrimination, which are demonstrated according to the historical period (Phtiaka, 2011) and are influenced by ideological, socioeconomic and political forces (Liasidou, 2012) in Greece. These topics are analysed with the help of qualitative content analysis (Mayring, 2000) and critical discourse analysis method (Fairclough, 1995). Through the research questions that are composed, it is pointed out in what extend minority groups face racism. Then, the process of coding data and categorization follows. This leads to the results of the study, which show that minority groups feel discriminated at education, employment, accommodation and social interactions.

So the need for change emerges. It is important for media and school to become more humane and adopt more fair practices for all. What we need is inclusive education, where all students will be equal and have the same rights, regardless diversity.

## Poster Session (PO9)

### PO9a Best of JURE Posters

**Name of presenter**

PO9.1 Janina Lehmann

**Name of co-presenter(s)**

Tina Seufert

**Title of presentation**

Differences in learning with auditive, musical and visual learning material

**Abstract**

The present study aimed to investigate differences in recall and comprehension after learning with auditive, visual or musical learning material. All three modalities differ in the way they are processed in working memory and therefore in how and what participants learn. Listening leads to a better overview of the text, while reading leads to a better focus on details. In addition, musical learning material is dual coded by the presence of melody and text and therefore provides an opportunity for cueing the text by presenting the melody. In our investigation, we also analysed whether the melody of the musical learning material functioned as an anchor for its lyrics. We tested 112 students randomized in a 3x2 between-subject design. For the first factor, text modality, the subjects either learned with a common printed text, the same text read out or sung accompanied by a piano. The second factor, presentation of the melody, was varied during the test phase: Half of the participants in every group answered the questions of the post-test while hearing the melody of the musical learning material, while the other half heard nothing. For recall, we found an advantage of the written learning material. Regarding comprehension, the group with the musical learning material performed best. This might be due to the fact that listening led rather to a general overview of the text, which is important for answering comprehension questions, compared to reading which led to more focus on the details, which is required to answer recall questions. The presentation of the melody had a negative influence on comprehension without interacting with text modality. This result might be explained by the seductive detail effect, in that hearing the melody provides additional information which needs to be processed, instead of being specific enough to function as an anchor.

**Name of presenter**

PO9.2 Sarah Gray

**Title of presentation**

Number specific and general cognitive markers of preschoolers' math ability profiles

**Abstract**

Identifying abilities that predict different profiles of preschool math competence would provide a basis for the early diagnosis and remediation of math difficulties. A range of competences have been linked to differences in preschoolers' math capabilities; including differences in core number abilities (dot enumeration, DE; and magnitude comparison, MC), executive functions (response inhibition and working memory), vocabulary abilities, and children's tendency to spontaneously focus on numerosity (SFON). The current study aimed to examine how these abilities differentially contribute to the prediction of different emerging math ability profiles. Preschoolers' (n = 103, aged 40 to 60 months) completed DE, MC, working memory, response inhibition, picture vocabulary, three SFON, and six math tasks. Data was analysed in three steps using a latent profile approach. First, we identified five emerging math ability profiles that differed in patterns of counting, number relations, and arithmetic abilities. Second, we identified four SFON

behaviour profiles characterised by qualitative differences in the ability to spontaneously notice and use numerosity. In the final step, we found that differences in DE, SFON behaviour profiles, and vocabulary, were associated with different math ability profiles; while MC, executive functions and age were not significant predictors. In sum, the analyses revealed different cognitive indices were associated with different patterns of emerging math abilities. The findings have implications for the way we diagnose and remediate young children's math difficulties.

**Name of presenter**

PO9.3 Christa Krijgsman

**Name of co-presenter(s)**

Tim Mainhard, Jan van Tartwijk, Lars Borghouts, Leen Haerens

**Title of presentation**

Assessment practices: within- student fluctuations in perceived motivational experiences across lessons

**Abstract**

Both Assessment for Learning (AfL; to build progress and detect personal progress) and grading have shown to play an important role in students' motivational experiences. However, research examining this association has primarily focussed on between-person differences, while within-person fluctuations over a longer period of time have not been investigated yet. Grounded in Self-Determination Theory, the present study investigated whether perceived autonomy and competence, quality of motivation and fear fluctuated within students across lessons, and if these fluctuations were predicted by the students' perceived extent of AfL, and the presence of grading.

Twenty-four classes with 508 secondary school students participated in this study. On six repeated occasions, students reported on their perceived extent of AfL (SAFL-Q), motivational experiences (BPNSNF; BRPREQ) and fear (LASSI), after a regular lesson and after a lesson in which grading occurred, in three different series of lessons. Multilevel regression analyses were deployed.

Preliminary analyses reported substantial within-person variation (for all variables ranging from 47.26% to 62.97%). This suggests that students' motivational experiences fluctuated significantly within students from lesson to lesson. Also, preliminary results showed a decline in autonomy satisfaction and autonomous motivation and an incline in controlled motivation and amotivation throughout time. Further analyses are currently processed through multilevel regression analyses to investigate which factors explain fluctuations over time, as well as overall increases or decreases in motivational outcomes, and will be presented in the upcoming JURE abstract in March 2016.

The understanding of motivational experiences representing a dynamic within-student concept is important, because when contributing factors explaining these oscillations can be indicated, key implications for education can be made in order to promote positive motivational student experiences.

**Name of presenter**

PO9.4 Iines Palmu

**Title of presentation**

The longitudinal relation between academic performance and externalizing behavior problems: transition from primary to secondary school (A cross-lagged analyses)

**Abstract**

Existing research suggests that there is a relation between academic attainment and externalizing behavior in children, but the direction of this relation is unclear. The current study sought to examine the overtime association between externalizing behavior problems and academic performance with a cross-lagged model.

Both child- and family-related covariates were controlled. Participants were 311 children (52% girls), who participated in a longitudinal study from ages 11 to 13. During the study there was transition from elementary to middle school. Data pertaining to externalizing problems (teacher ratings) were collected yearly and the children were tested on their academic performance on 6th grade. Also, grade point averages (GPA) and other school-related data were gathered from school registers yearly. Some additional information, such as parental education level and family form, was collected from the parents each year. In line with many previous studies, results show that externalizing behavior precedes decrease in academic achievement. The separate subscales of externalizing behavior seemed to have different relationships to academic performance: loss in academic performance on 6th grade predicted conduct problems on 7th grade, but 6th grade hyperactivity/inattention predicted loss in academic performance on 7th grade. When child- and family –related covariates were controlled, conduct problems did not have an overtime association with academic performance. In stead, when the same covariates were controlled for the hyperactivity/inattention model, the negative over-time effect of H/I got stronger.

The results provide support for externalizing behavior preceding loss in academic performance during this transition period, but also that conduct problems have a different affect on academic performance than H/I. Despite the limitations, these results support the rationale for early screening for externalizing problems and suggest that screening should include multiple dimensions of externalizing behavior. Purposeful and effective behavior interventions are needed during this transition period and diverse interventions should be considered.

**Name of presenter**

PO9.5 Katariina Nuutila

**Title of presentation**

The consistency and longitudinal predictions of elementary school students' task motivation in mathematics

**Abstract**

In this study, we investigated the longitudinal dynamics of elementary school students' task motivation and performance and their relation to domain-specific motivation and achievement in mathematics. Interest (an affective state of heightened attention and enjoyment) and success expectancy (expected task outcome) are important motivational precursors of academic decisions and performance both in relation to a task and a domain. While the longitudinal dynamics of domain-specific motivation (e.g., intrinsic value and self-concept) and achievement are well-researched, most of the studies on task motivation have focused on the fluctuation of motivation during single task situation. Thus, we know little about the longitudinal changes in and the dynamics of task motivation, and how it is linked to domain-specific motivation and achievement. To address these issues, we examined the consistency in students' task interest, success expectancy and task performance across different mathematical tasks, and over time, their mutual longitudinal predictions, and their relation to domain-specific motivation and achievement. Gender effects were also examined. For the purposes of the present study, elementary school students (N=1099) filled out a test-booklet comprising sets of math tasks and self-reports of task interest, success expectancy, intrinsic value and self-concept in mathematics, first in the fourth grade, and again in the sixth grade.

A structural equation model was estimated to analyze cross-lagged predictive effects between the given constructs. Our findings suggest cross-task and longitudinal consistency in students' task motivation and performance. Only performance positively predicted change in success expectancy. Both task interest and success expectancy positively predicted domain-specific motivation, and task performance predicted achievement in mathematics. Compared to girls, boys displayed higher success expectancy.

The results imply that it is possible to identify predictive paths of task motivation leading to different motivational and achievement outcomes already in the elementary school years.

Keywords: motivation, interest, success expectancy, performance, longitudinal research

## PO9b Education and Society

### **Name of presenter**

PO9.6 Marcel Mierwald

### **Title of presentation**

“Is it just a matter of beliefs?”- The relationship between students’ epistemological beliefs and their argumentation skills in history

### **Abstract**

Pupils’ view of history can influence their interpretation of past and present topics and as research suggests, it also determines the students’ ability to construct historical arguments. However, studying epistemological beliefs and their impact on learning outcomes has been proven difficult. This study aims to explore the relationship between students’ epistemological beliefs and their argumentation skills in the domain of history. The sample consists of 40 students (11th /12th graders from German high schools), who took part in an extracurricular learning environment: a Reach out Lab. We used a one-group pre-test/post-test design to measure changes in students’ domain-specific beliefs after an intervention in the Reach out Lab. At a special learning setting, students worked with primary sources like a “real” historian in order to answer a central historical question in an argumentation task at the end of a historical inquiry course. The topic of their argumentative essays was the influence of emotions on Jews and Non-Jews coexistence in Nazi Germany. We developed and tested a valid and reliable questionnaire measuring students’ epistemological beliefs before and after the historical inquiry course. In addition, the text quality was assessed with an analytic coding scheme and scoring of the written historical arguments. Preliminary results suggest that epistemological beliefs in history can differentiate in two stances (naïve and developed epistemic stance). The exploration of students’ epistemic shift after participation in the historical inquiry course shows that their agreement with statements reflecting a developed epistemic stance becomes significantly higher. We also found significant correlations between particular epistemic stances and students’ argumentation skills in history.

Key words: history education, authenticity, epistemological beliefs, argumentation skills

### **Name of presenter**

PO9.7 Johanna Fee Ziemes

### **Title of presentation**

Formation of a political identity in the adolescence

### **Abstract**

Right-wing populism and nationalist tendencies experience a worrying renaissance in Europe (Lubbers, & Scheepers, 2010). Erikson (1973) states that the adolescence is a sensible phase for the identity formation and that democracies need citizens with developed identities to be stable and accepting towards diversity. Marcia (1996) proposed that exploration and commitment are key variables in the process of identity formation.

The International Civic and Citizenship Study (ICCS 2016) investigates the preparedness of students for their roles as citizens. 25 education systems (testing 150 schools and at least 3,000 students) in Asia, Europe, and South America participate in ICCS and assess civic knowledge and diverse attitudes and constructs, such as political self-efficacy. The assessment finishes in May 2016. In Europe, attitudes towards the European Union and its institutions are assessed additionally. In North-Rhine Westphalia, a federal state of Germany, a representative sample of students participates. Here, additional questions on Marcia’s model of identity formation are introduced in the questionnaire.

The analysis will consist of 1) confirmatory factor analysis of the scales “Exploration” and “Commitment”, 2) latent class analysis to identify the groups which Marcia proposed, and 3) multi-level analysis identifying

individual and structural variables connected to a successful identity formation.

Guidelines for teachers and school administrators will be developed to support a successful identity formation in students, leading towards healthier and happier citizens and a more stable and accepting society.

Keywords: identity formation, citizenship education, democratic citizenship, representative student sample

#### References

Erikson, E. (1973). *Identität und Lebenszyklus. Drei Aufsätze* [Identity and Life-Cycle. Three Essays]. Frankfurt am Main: Suhrkamp.

Lubbers, M., Scheepers, P. (2010): Divergent trends of euroscepticism in countries and regions of the European Union. *European Journal of Political Research*, 49(6), 787–817

Marcia, J. (1966). Development and validation of ego-identity status. *Journal of personality and social psychology*, 3(5), 551–558.

#### **Name of presenter**

PO9.8 Eleonora Esposito

#### **Title of presentation**

Language as a link between interpretative theory of mind and development of symbolic understanding of maps

#### **Abstract**

Numerous studies have reported a strong association between Theory of Mind and verbal ability (Astington & Jenkins, 1999; Watson, Painter, & Bornstein, 2001), but there is considerable controversy the nature and direction of causal relations between ToM and verbal ability. Symbolic understanding of maps is strictly related to children's development of iToM at about seven years (Myers & Liben, 2012). Intentional understanding is particularly important to interpret the graphic symbols of maps, because their meaning is assigned from the symbol's creator (Callaghan & Rochat, 2008).

This study examined the role of linguistic ability into the relation between symbol-communication and iToM, hypothesizing that there would be a mediating connection between the iToM and linguistic ability for symbol communication of iconic symbols map; and there would be a mediating connection between symbol communication and linguistic ability for iToM of iconic symbols map.

216 children of 7-to10-years-old were categorized into two age groups of Younger and Older and were invited to produce and evaluate maps. Doodle task and ambiguous figures task were chosen as iToM measure to assess children's understanding that different people may attribute different meanings to one stimulus. WISC-Vocabulary scale was used to test the children's language ability.

The medational analysis with WISC-Vocabulary as mediator were used to analyze the predictive impact of iToM on symbol-communication, and of symbol-communication on iToM.

The iToM predicted 7% of the variance in the Symbol-communication score when WISC-Vocabulary was inserted as a mediator; and Symbol-communication score predicted 7% of the variance in the iToM when WISC-Vocabulary was inserted as a mediator. The study helps to clarify the relationship between iToM, symbolic understanding, and language demonstrating the important role played by the language in the development of both.

## **PO9c Learning & Professional development**

### **Name of presenter**

PO9.10 Linda Puppe

### **Name of co-presenter(s)**

Helen Jossberger, Birgit Eiglsperger, & Hans Gruber

### **Title of presentation**

Professional development of sculptors

### **Abstract**

The aim of the present study is to analyse and better understand the professional development of sculptors. There are different stages of expertise during the artistic development process. The present research project aims to identify important others, who accompanied the career of artists and their role will be illuminated. The research questions are: Which experiences and persons influence the career of professional sculptors? Which persons give advice and support to sculptors during their artistic development and professional career?

For this purpose, three instruments are developed. First, a questionnaire collects biographical information about study and apprenticeships. Second, a semi-structured interview is conducted to gain information about professional development and the influencing factors in the biography. Third, a timeline for professional development helps to visualise the individual life-time sections of career. The sample is divided into 3 expertise groups. 10 experts, 10 semi-experts and 10 amateurs will be examined. The experts have graduated at an academy or college for art. They have more than ten years' experience in the domain of sculpting and exhibit their artworks regularly. Semi-experts are bachelor students in the discipline of visual arts or art education. Amateurs have no qualification, they are hobby artists. A timeline allows a vivid visualisation of relating life events. In the planned interviews, we focus on artist's personal experience during their professional development. By means of the interviews, information about influencing factors on the individual professional history can be collected. First results of the interviews show that teachers play a crucial role for the artistic development. They help improving artistic skills, provide access to different workplaces, promote reflection or demonstrate various possibilities (for example material, technique).

### **Name of presenter**

PO9.11 Claudia Krille

### **Title of presentation**

Concept of a multi-method study to identify relevant aspects of teachers' training motivation

### **Abstract**

Lately, there has been a growing interest in research regarding teachers' professional development (PD) since it assumed to be essential for students learning. Several authors stress the importance of individual characteristics of teachers such as motivation for participation in PD as well as actively engaging in the learning activities. Several studies have been conducted using different motivational theories but only a few considered a more comprehensive view although it is assumed that training motivation should be multifactorial conceptualized. Also, most of these studies used questionnaires and did not differentiate what kind of PD was addressed – neither with regard to its organization nor its content. To get a more systematic and deeper insight into relevant motivational factors influencing teachers' attending and choosing a certain PD program, a multi-method approach with two steps is planned. First, a qualitative study with semi-structured interviews based on comprehensive models of training motivation will be realized to a) confirm already researched motivational factors, and b) identify further, so far not considered factors. Based on these results, it is aimed to develop a questionnaire considering a broad view on relevant motivational factors and to reach larger teacher sample. In addition, characteristics of teachers' PD behavior will be considered as

well as their individual characteristics that may influence PD behavior (e.g. age, teaching experience). The results of this study should help not only to design teacher training programs that fit their motivational preconditions but also to enable schools to provide teachers with an environment promoting teacher learning.

**Name of presenter**

PO9.12 Shannon Rushe

**Title of presentation**

Investigating the effect of physical spaces on learning perception: A case study of first year Business students

**Abstract**

Classroom design is an evolving area of higher education; specifically in how the classroom design affects student learning. Student perception of learning has been suggested as the way in which to determine if a classroom design is in fact increasing learning. In previous studies, researchers generally focused on student satisfaction regarding features of the room; furniture, lighting, air quality and visibility. However, these factors do not explicitly show the positive or negative impact on student learning. To try and better understand students' perceived learning while in different classroom settings, a survey was administered to a cohort of first year business students. These students have the opportunity to experience an innovative learner-centered, inquiry based learning space, and also a traditional lecture hall. The questions on the survey focused on students' interpretations of their learning in various settings, and as such included questions about concentration, level of comfort in contributing to class discussions, and other factors associated with improved learning. Findings from this research project suggest that students prefer smaller, interactive classes which allow for more participation and fewer distractions. The results of this initial case study are intended to inform future research projects that will explore the feasibility of designing new spaces or redesigning existing spaces on university campuses.

**Name of presenter**

PO9.13 Cecilie Enqvist-Jensen

**Title of presentation**

Learning to doubt: An analysis of law students' collaborative problem solving

**Abstract**

This study examines how second year law students collectively exert and maintain doubt as they engage in complex and open case-assignments. Previous research highlights doubt as a key feature of knowledge practices in the legal domain, where it is important to keep problems open as long as possible before one concludes (e.g. Latour 2010). However we do not know much about how students in legal education learn to master this aspect of practice. From a sociocultural theoretical perspective on learning and practice (e.g. Säljö 2009), doubt is investigated as performed in students' doings and sayings, which involves having a questioning attitude toward information. We followed students in a course in public international law, where students worked in colloquiums to resolve legal cases. Data consist of videotaped discussions in two student groups, as well as course documents, field notes from observations of teacher led sessions, and interviews with students and teachers. The analysis shows that doubt is constructed and maintained by the students' ways of raising questions and asking for justifications, and that these actions are mediated by their use of textual resources. The students' actions, interactions and the profession specific tools used in the group work constitute an exploratory dynamic, through which doubt is collectively maintained. Implications can be drawn from this study: Instead of understanding doubt as a personal capacity, educational programs should acknowledge and support the development of doubt as a collective responsibility in students work. The

findings are also of interest for the broader field of learning in higher education, as critical stances towards knowledge and information is seen as an important generic skill.

## **PO9d Motivation and Emotion**

### **Name of presenter**

PO9.14 Krisztina Nagy

### **Title of presentation**

The effect of structural changes in social relations on the development of school attachment in elementary school

### **Abstract**

Pupils spend a significant amount of their time in school, therefore it is important to examine school attachment. It is a higher level emotional connection to the institution that is continuously changing over the years. School attachment is determined by the quality of social interactions, attitude towards the school and learning, the perceived level of comfort within the pupils' physical environment, compliance with external expectations, and the variety of educational methods.

Besides examining the social structure of the participating school groups present empirical research also aims to investigate the factors influencing school attachment. Factors facilitating development of positive attachment perceived by students are studied, as well as the role of position within the observed class structure in influencing school attachment.

4th (N=84) and 8th (N=104) grade elementary school students from major Hungarian towns participated in the research. The examined groups filled out a partially adapted questionnaire about school atmosphere. The study has been completed with a multi-criteria sociometric method examining the inner structure of groups and peer-connections. The findings have been analyzed by statistically comparing the sociometric and survey results in order to define the correlation between survey indicators and the social structure of examined school classes.

Based on the outcome of the questionnaire, school attachment can be divided into four categories: Attitude towards lessons and teachers; Presence of friends; School environment and methods; and Expectations of teachers and parents. During the analysis significant correlation has been found between gender, classes and grades. Girls are more inclined to meet parental and teacher expectations and spend more time with study material. 4th graders (9-10 years) find the methods applied during classes more interesting and report having more friends in school, than 8th graders (13-14 years). Groups, where more pupils reported to enjoy going to school have a more complex sociometric structure.

### **Name of presenter**

PO9.15 Pauliina Parhiala

### **Title of presentation**

Learning difficulties, school motivation and well-being in adolescence

### **Abstract**

This study examined learning difficulties association to school motivation and well-being at the end of comprehensive school (age 15-16) in Finland. A person-centered approach (latent profile analysis) was utilized to identify profiles of school motivation and well-being in our sample (N = 1630). For getting a more comprehensive view on adolescent functioning than previously, various aspects of school motivation (math, motivation, literacy motivation, task focused behavior, school enjoyment) and well-being (school burnout, self-esteem, internalizing, externalizing behavior) were included. The division of learning disabilities were then examined in profile groups and the role of core academic skills were also studied. Analysis revealed seven distinct profiles. Two groups had low school motivation, Low\_Mot-Av\_WBproblems (n = 140)and

Low\_Mot-High\_WBproblems (n = 121) groups. Despite the low school motivation first group had average well-being whereas the other had high level of well-being problems. Three of the profile groups all had close to average level of school motivation and well-being. Therefore these groups were compiled and labelled as Av\_Mot-Av\_WBproblems (n = 1107) profile group. Two profile groups represented high or average school motivation; High\_Mot-Low\_WBproblems (n = 178) and Av\_Mot-HighWBproblems (n = 83). High\_Mot-Low\_WBproblems had low level of well-being problems, whereas Av\_Mot-High\_WBproblems group had high level of well-being problems. Learning difficulties and low academic skills were most common in Av\_Mot-Low\_WBproblems and in Low\_Mot-High\_WBproblems profile groups. Findings suggest a close link between school motivation and LD, and both school motivation and well-being together, but not solely with well-being and LD. Furthermore the findings demonstrate that most of the adolescent had average to high level of school motivation and well-being. However, many had also low levels in both, or in either one. The identification of the mixed groups shows that a versatile assessment of well-being and motivation is needed for understanding adolescence functioning.

**Name of presenter**

PO9.16 Szilvia Hegedűs

**Title of presentation**

New tendencies and developmental opportunities of prosocial behavior in early childhood

**Abstract**

Understanding basic emotions make strong effect on interpretation of social situations, determine individual's behavior and make decisions in interpersonal affairs. Recognize emotions activate mechanisms which can help to feel the same way as the observed person and achieve helping behavior if it is necessary. In the last years experiments focused on developing young children's helping behavior in different ways as earlier (e.g. Acar & Torquati, 2015). Acquirement of prosocial behaviors (e.g. helping, sharing) is one of the most important task in social development (Grusec & Sherman, 2011). In pedagogical environment harmful effects can influence children's behavior and these are necessary to develop a standardized, collective intervention which can result the subsistence of positive mechanism and children have the same knowledge about social norms adopted by community.

Hungarian experiments focuses especially on cognitive domains. The prior developmental task should be to decrease progressively antisocial grains and help to form more acceptable prosocial skills and capacities. In Hungary there are some intervention programs which develop children's social skills but there aren't any appropriate pedagogical methods which can help to develop children's prosocial behavior successfully. In kindergarten, tales and also dramagames are the best methods to show the appropriate solutions in a wide range of different situations because this method is suitable for children's spontaneous learning. The aim of the presentation is to show our plans of a tale-based program. Designing the program for preschool-age children is in process. We are working on a program which can help children to realize different emotions through stories, story-telling occasions so they can learn how to behave in different problematic situations. We make different tales for different situations which can happen with children in their everyday life. With these tales children will get a repertoire sample of prosocial behaviors which is more acceptable behavior in society.

## **PO9e Regulation and Development**

### **Name of presenter**

PO9.17 Marta Sobocinski

### **Name of co-presenter(s)**

Jonna Malmberg, Sanna Järvelä

### **Title of presentation**

Recognizing social regulation during collaborative learning using physiological data

### **Abstract**

This study explores how cardiovascular data can be used to detect sequences of co- and socially shared regulation in computer supported collaborative setting. Video and physiological data was collected from 24 high school students who worked in groups of 3. The video data was analyzed using qualitative methods, and types of regulation used (co-and socially shared regulation) were coded. Physiological compliance indexes were calculated from the mean heart rate values for the sequences which contained instances of co- or socially shared regulation and the following two minute windows. Results show a difference in the directional agreement of heart rate values between situations of co- and socially shared regulation in the situations analyzed.

### **Name of presenter**

PO9.18 Sabrina Uldry

### **Title of presentation**

Environmental self-regulated strategies at school, the role of open learning, presence, and academic goals

### **Abstract**

Little work studied environmental self-regulated strategies in social interaction situations of pupils in initial education. This present quasi experimental research aimed at contributing to this matter by showing the potential of an open learning, the teacher and peers presence (Jézégou, 2012). According to socio-cognitive approach (Bandura, 1986), the main goal of this research, done in the context of a primary school class (17 pupils), is to verify the way in which they managed the components of their learning and the indirect influence of academic goals on the relation between the environment and pupils self-regulated behaviors. The question of adjustment to the environment characteristics has been investigated in the field of distance education (Carré, 1993) but remains unexplored in the field of school. A single case experimental design allowed us to observe the environmental self-regulation strategies since novembre 2015: adjustment and creation strategies (Zimmerman, 2002). An instrumented collective learning situation (ICLS) has been designed with a teacher on the basis of the characteristics of the an open learning and the presence to develop and improve new learning environments. In this poster we present our theoretical and methodological frame and our first questionnaires results.

**Name of presenter**

PO9.19 Dorothy Duchatelet

**Title of presentation**

Simulations of decision making: What makes worth the effort? Identifying their impact on students' interest development.

**Abstract**

Academic teaching in political science has been increasingly changing from more teacher-centered towards more student-centered teaching. This trend entails the increasing use of simulations, which challenge students to deal critically with various aspects of decision-making, the content of policies, and the interactions between multiple actors and levels. Advocates of simulations make a number of claims about the effects on learning results and dimensions of affective learning. However, substantive evidence of the effects is up to now rather anecdotal and methodologically poor, sometimes even contradictory.

Hence, the main aim of this research is to investigate the effect of simulations of decision-making on one of the most important affective components of student learning: student's situational interest. The latter has been shown to be triggered by factors in the learning environment and to be an important predictor of academic performance. This research starts from the assumption that variation in active-learning environments, in this case the use of simulations, will have an impact on students' situational interest. The research questions in this project therefore deal with how simulations influence situational interest of students. Do simulations of decision-making enhance student's situational interest? How does situational interest develop during a simulation of decision-making? Which conditions make simulations of decision-making more or less effective? What are the prohibiting and stimulating factors?

Methodologically the project uses a quasi-experimental study in an ecological valid setting combining repeated measurement survey data with qualitative data from interviews and focus groups with students.

The generated knowledge about the conditions under which simulations have effect will enable academic teachers to optimize their simulation exercises and strengthen the development of students' situational interest (and, as a consequence, students' learning).

# FRIDAY July 8th 2016

## Paper Session (PA10)

### PA10a Assessment and Evaluation

**Name of Presenter**

PA10.1 Pihel Hunt

**Title of presentation**

Using a rubric for the performance-based assessment of student teachers

**Abstract**

In the recent decades, performance-based assessment of teachers as well as students teachers has gained considerable attention. The aim of this study is to analyse the performance-based assessments of student teachers' classroom activities in their internship by their supervisors using a rubric. The rubric was developed by Estonian and Dutch teacher educators, the process included focus group meetings and a validation study. The final rubric in Estonia consisted of 12 crucial professional activities that students carry out during their internship. In this study, only the first five activities were assessed, because these were seen as the most crucial ones since they directly relate to the teaching responsibilities of the student teachers. Thirteen student teachers of class teacher curriculum gave 18 lessons each during their internship of six weeks. Altogether 226 assessment forms were filled in by the school supervisors and university supervisors based on the lesson observations and the rubric. The results of the research indicate that the supervisors gave the highest scores to the activities about choosing the learning materials and methods and planning the execution of the learning activities; the lowest scores were given to the activity of the evaluation of the students. The observed and scored five professional activities yielded positively and had moderate correlations with each other. The results also show that the developed assessment rubric allows to detect student teachers' professional development during their internship.

**Name of Presenter**

PA10.2 Jerich Faddar

**Name of co-presenter(s)**

Jan Vanhoof, Sven De Maeyer

**Title of presentation**

Are respondents thinking what the instrument developer intended? A study on the cognitive validity of school self-evaluation instruments' results

**Abstract**

School self-evaluation (SSE) aims to describe the functioning of a school, often done by administering questionnaires with staff members. The validity of results from these questionnaires depends on how respondents cognitively process the questionnaire's items. Nevertheless, it is readily assumed that respondents can interpret and answer items in line with the intention of the instrument developers, which is referred to as cognitive validity, but up till now it is unsure whether they do. In this study the results of an exemplary SSE-instrument are tested for their cognitive validity, and on the extent to which respondents and/or items can explain differences in cognitive validity. Therefore, cognitive interviews with 20 participants were conducted in order to map out respondents' answering processes. It is found that fewer than

50 % of the respondents interpret items and elaborate on them cognitively validly. Cross-classified multilevel analyses show that differences in cognitive validity of SSE item results can be attributed to the hierarchical levels, respondents and items, but not for all stages of the answering process.

**Name of Presenter**

PA10.3 Tauno Palts

**Title of presentation**

Assessing components of the model of developing computational thinking

**Abstract**

Computational thinking (CT) has gained a lot of attention recent years and is becoming an essential part of the education in a dynamic world when facing the future. There are no models to describe systematic approach to teach CT at school that can be practically used to create lesson scenarios and assess development of computational thinking. This paper presents the model of learning CT and methods to assess aspects of CT in a comprehensive school lessons.

Cognitive model of learning computational thinking has three main layers: human and computer interaction of CT, cognitive concepts of CT and problem solving cycle of CT.

In order to analyze the development of CT, tools can be used to assess the activities for developing CT. This article includes three categories of methods for assessing CT: project analysis; questionnaires and tests; and interviews and observations. Categories are described with the tools that can be used assessing various aspects of the CT.

## PA10b Motivation and Emotion

**Name of Presenter**

PA10.4 Stijn Van Laer

**Name of co-presenter(s)**

Jan Elen

**Title of presentation**

Adults' self-regulatory behaviour profiles in blended learning environments and their implications for design

**Abstract**

Blended forms of learning have become increasingly popular. Learning activities within these environments are supported by large varieties of online and face-to-face interventions. However, it remains unclear whether these environments are successful, and if they are, what makes them successful. Studies suggest that blended learning challenges learners' self-regulation. Yet little is known about what self-regulatory behaviour learners exhibit within these learning environments. This limited understanding is problematic since this insight is needed to be able to make an effective design, suitable for its target group. Therefore, the aim of this study was to identify learners' self-regulatory behaviour profiles in blended learning environments and to relate these profiles to the design of these environments. To do this, we first captured learners' (n=120) self-regulatory behaviour in six blended learning courses from two institutions. As self-regulation in this study was seen as a continuously evolving event, ecological trace data was used to describe learners' behaviour. The trace files were analysed for frequency, timing, patterns, and sequence of events. Three main user profiles were identified (internal regulator, external regulator, and miss-regulator). We described the design of each of the learning environments, using a framework consisting of seven blended learning environment attributes that support self-regulation. Although this study focuses mainly on the online component of the learning environment, the results do indicate that fewer miss-regulators are identified in courses, which have more integrated self-regulatory design features. This finding highlights the value to

integrate features that support self-regulation in the design of blended learning environments. The contribution will elaborate further on the roles identified and their relation to the design of blended learning environments.

**Name of Presenter**

PA10.5 Silke Vanslambrouck

**Title of presentation**

Predicting adult learners' intent-to-persist, satisfaction and performance in online and blended learning environments

**Abstract**

Online and blended adult education offers learners autonomy which makes them responsible to shape their own learning. Considering the increased responsibility over learning, learner characteristics are important factors to consider in function of educational success. With this in mind, the current study examines the predicting effect of different learner (background) characteristics on their intent-to-persist, satisfaction and performance. We appeal to the expectancy-value theory of Wigfield and Eccles (2000) for a selection of learner characteristics and explore the mediating role of the two key concepts of this theory. Data were collected using a survey among 264 learners in online or blended adult education. Multivariate linear regression shows that most significant relations are found for the outcome 'satisfaction'. Self-efficacy, value, gender, employment status and having children are found to be significant predictors for satisfaction. Self-efficacy fully mediates the effect of current educational level and partly mediates the effect of the passive learning approach. Intent-to-persist only shows relationships with controlled and passive learning approach. The last outcome variable - expected performance - is predicted by the students' self-efficacy, value and the autonomous learning approach. Hereby, the self-efficacy partly mediates the relationship of current educational level. The significant results in current study show that in OBL environments, learner characteristics are important to consider. In this respect teachers and institutions should pay attention to the learner individual characteristics since these can serve as an indicator for learners at risk. This study is explorative and instigates further in depth research on other predictive characteristics that indicate at risk learners and how to deal with these students.

**Name of Presenter**

PA10.6 Seraina Leumann Sow

**Title of presentation**

Mental representations of domain-specific conceptions of financial literacy: The case of Swiss VET teachers

**Abstract**

Financial literacy is becoming an indispensable competence in everyday life and should be a core concern for every educational system with respectively organized learning and education processes. In Switzerland, issues around money and financial matters are an integral component of the curricula in Vocational Education and Training (VET). However, the planned and implemented classes which lead to differences between the students' knowledge and competences are not only determined by curricula, but by multiple, complex and interrelated factors. One key factor are teachers' characteristics supporting (or hindering) targeted and successful learning and instruction processes. Particularly teachers' mental representations with respect to general or domain-specific aspects of teaching-related phenomena and processes play an important role. In contrast to subjects such as mathematics, little is known about teacher's conceptions in the domain of economics in general and in the subdomain of financial literacy in particular. Hence, this study intends to describe and analyse content and structure of domain-specific conceptions of financial literacy of Swiss VET teachers applying concept maps for data collection. The data are analysed categorically and structurally

based on conventional content-analytical approaches as well as proposals specifically designed for the analysis of concept maps.

Keywords: Teachers' Conceptions, Vocational Education and Training, Financial Literacy, Concept Maps

## **PA10c Motivation and Emotion**

### **Name of Presenter**

PA10.7 Solveig Cornér

### **Title of presentation**

Doctoral students' experiences of supervision and study-related burnout in the doctoral journey

### **Abstract**

Both the quality and the quantity of doctoral supervision have been identified as a central determinant of the doctoral journey. The present study focused on exploring the interrelation between the doctoral students' perceptions of various attributes of doctoral supervision, perceptions of primary actors involved in supervision, the frequency of supervision, the satisfaction with supervision, and experienced exhaustion and cynicism. Altogether 248 doctoral students from three Finnish universities representing social sciences, arts and humanities, and natural and life sciences responded to an online survey. The results showed that the doctoral students emphasized the role of the main supervisor as the primary sources of supervisory support. The frequent supervision was associated with student's satisfaction with supervision. Students who reported high levels of support from the research community and who felt that they received constructive supervision, also felt that they were treated equally and were more satisfied with their supervision than others. However, the students who reported being dissatisfied with supervision felt more stressed, they perceived exhaustion and cynicism to a greater extent, than those who reported satisfaction with the supervisory support. We conclude that supervision contributes in important ways not only to student experiences of their doctoral journey and its completion, but also to their experienced well-being.

Keywords: Doctoral student, doctoral education, supervisory activities, study-related burnout.

### **Name of Presenter**

PA10.8 Gabriela Gonzalez-Ocampo

### **Name of co-presenter(s)**

Montserrat Castelló

### **Title of presentation**

Supervisors' perspectives about doctoral writing in the social sciences and humanities

### **Abstract**

The purpose of this study was to analyse the role of doctoral supervisors in supporting writing by addressing three aims: a) identifying and describing the role that supervisors attribute to writing, b) analysing the type of writing support that supervisors provide to their students, and c) identifying the relation between the role that supervisors attribute to writing and the type of writing support that they offer to students. Participants were 61 supervisors of Social Sciences and Humanities with diverse level of expertise. Using a cross-sectional interpretative design, we collected qualitative data through an online open-ended survey and established content analysis-based categories following the principles of grounded theory (Glaser & Strauss, 1967). Results showed that supervisors considered doctoral writing consists of: 1) producing good and appropriate academic texts; 2) an epistemic activity; 3) promoting students' communication and socialisation, and 4) an important and neglected activity. Furthermore, results indicated that the writing support offered by

supervisors addressed three categories of activities: 1) telling what to do, 2) reviewing and editing students' texts, and 3) discussing collaboratively the text with the students.

Keywords: doctoral education; supervision; writing

## **PA10d Teaching and Teacher Education**

### **Name of Presenter**

PA10.9 Jolien Maes

### **Title of presentation**

Can physical education teachers be trained to assess students in a more motivating way?

### **Abstract**

Background: Ideally, assessment is used as a means to enhance students' motivation and learning. However, assessment methods involving grading or norm-referenced comparisons might hamper rather than foster students' motivation, and may even elicit negative emotions. As such it is important to train teachers on how to assess in a more motivating way.

Research questions: It was investigated whether participation in a Continuous Professional Development (CPD)-program on motivating assessment strategies based on the principles of Assessment for Learning (AfL) and the Self-Determination Theory (1) effectively increases physical education (PE) teachers' implementation of motivating assessment strategies, and (2) positively affects students' motivational and affective outcomes?

Method: A sample of 14 PE-teachers (53.30% men) and 222 students (25.70% boys) out 12 different secondary Belgian schools agreed to participate in this quasi-experimental multi-method, multi-informant study. Validated questionnaires measured teachers' application motivating assessment strategies, students' motivational experiences, learning progression, engagement and levels of fear. To evaluate the effectiveness of the CPD-training repeated measure MANOVA's were conducted for the teacher data, and multilevel repeated measures were deployed with the students' data.

Results: Favorable intervention effects concerning implementation of the motivating assessment strategies were found in the student reports. Students in the intervention group reported that their teachers more often set achievable goals, provided more feedback and feedforward, and stimulated more self-regulation. Encouraging effects on students' quality of motivation and engagement and levels of fear were also notified.

Conclusions: An effective CPD-program was established to train PE-teachers in assessing students in a more motivating way.

**Name of Presenter**

PA10.10 Maria Gaetana Catalano

**Name of co-presenter(s)**

Paola Perucchini

**Title of presentation**

The use of a standardized instrument to promote reflective processes in pre-service teachers

**Abstract**

International literature on teacher professional development have highlighted the importance to promote reflective processes on educational practices, both for in-service and pre-service teachers. Specifically, self-evaluation through the use of standardized instruments can help teachers to identify issues within teaching practices and inform on any potential barriers to the achievement of an effective learning and the creation of a positive school climate. On this purpose, a new self-evaluation instrument named Teachers' Educational Practices Questionnaire (TEP-Q; Catalano et al., 2014) was created. The 36-item questionnaire assesses educational practices for classroom management, a key-factor for the creation of a positive learning environment. The psychometric properties of the instrument were examined, administering the questionnaire to two different samples of Italian in-service teachers.

The present work describes the application of the TEP-Q during the initial teacher training. Specifically, the instrument is used with Italian pre-service teachers attending the Course of Primary Education. Different versions of the questionnaire are administered in more moments of the internship activities to develop reflective processes about classroom management beliefs and educational practices.

A first adapted version -named BTEP-Q (Beliefs on Teachers' Educational Practices Questionnaire)- is used by the same group of pre-service teachers to evaluate their classroom management beliefs at the 2nd and 4th years. During the 3rd year, a short version of the TEP-Q is used by pre-service teachers to evaluate tutors' communicative practices. Finally, the TEP-Q is used at the 5th years in order to develop mutual evaluation processes between pre-service teachers and their tutors.

The use of a standardized instrument during the initial teacher training has the merit to develop systematic reflective processes, providing wide opportunities to explore, discuss and change pre-service teachers' beliefs and developing skills on educational practices.

**Name of Presenter**

PA10.11 Christin Siegfried

**Title of presentation**

Teaching teachers to teach economics – development of a questionnaire to evaluate economic pedagogical content knowledge

**Abstract**

Economic competence is a basic and central competence necessary for individual chances in life and the development of societies. However, studies show that young adults lack adequate knowledge in economics, which might be attributed to a lack in education and probably to deficits in teachers' domain-specific professional knowledge. Therefore I developed training programs in economic content knowledge and economic pedagogical content knowledge in order to improve the teachers' professional knowledge in economics. Since there are only instruments available measuring the facet of economic content knowledge instruments are still missing for the facet of economic pedagogical content knowledge. To close this gap a questionnaire was developed.

## Paper Session (PA11)

### PA11a Education and Science

#### **Name of Presenter**

PA11.1 Popi Anastasiou

#### **Title of presentation**

Digital storytelling in science class: a lesson to be learned

#### **Abstract**

This study explores the use of digital storytelling as an instructional tool in a science class. In particular, a digital story was created and used to introduce students to new science content, that of solar energy. The sample consisted of 23 primary children, aged 6-8 years old – in their first and second year of primary schooling – who were divided into three groups. One group was read a text-only story about the Sun and its attributes as solar energy. The other two groups watched a digital story of the same context, with one of the groups having contributed to the creation of the story. At the end of each session all three groups were asked to make a drawing about their favourite part of the story. Then, each child presented his/her own drawing to the rest of the group and narrated about it showing their understanding of what solar energy is. The sample was recruited from a primary school in Paphos, Cyprus. Data collection took place in May and June 2015, during school hours and methods included children's drawings, narrations about the drawings, semi-structured interviews and classroom observation during the whole process. Children's drawings and the semi-structured interviews were analysed using the method of content analysis, in order to identify the presence or absence of certain themes or ideas. The findings suggested that the use of digital storytelling to introduce new science content was more beneficial to students' learning about solar energy than a text-only story was. Digital storytelling helped students remember, recall and 'reconstruct' parts of the story with greater ease than did the text-only story, enhancing thus their understanding of solar energy.

#### **Name of Presenter**

PA11.2 Kaisa Jokiranta

#### **Title of presentation**

Qualitative methodology for analysing classroom argumentation in physics education

#### **Abstract**

This paper presents methodology and a pilot study on argumentation in the physics classroom. The pilot is preparation for a longitudinal study on argumentation as a learning and teaching strategy for lower secondary physics education. In this paper I will concentrate on the qualitative methodology related to the analysis of classroom, and mainly student, argumentation. These methods will eventually be used to examine how the students' argumentative skills evolve over a two-year period in the longitudinal phase of the study.

During the academic year 2015–2016 different sorts of argumentation-enhancing activities and teacher guidance are being developed and tested in classrooms at one lower secondary school in Finland. The lessons are videotaped and used to test the qualitative analysis methods. The structure, content and scientific validity of the students' arguments as well as the dialogical aspects of the argumentation are analysed.

Preliminary results indicate that using well-prepared activities and purposeful teacher guidance it is possible to generate simple but valid argumentation in the classroom even in a single lesson. Additionally, students mainly offer simple claims with examples as the grounds, i.e. inductive support. However, some students are able to form well-justified and scientifically accurate arguments with a variety of reasoning, both inductive and deductive. Furthermore, students react to each other's arguments by questions or critique, or use each

other's arguments as stepping stones for their own.

#### Keywords

Qualitative methodology, Classroom argumentation, Lower secondary school, Video study, Pilot study

#### **Name of Presenter**

PA11.3 Gamze Türkmen

#### **Name of co-presenter(s)**

Murat Perit Çakır

#### **Title of presentation**

Visuospatial problem solving: A simultaneous observation via eye-tracking and functional near infrared spectroscopy (fNIRS)

#### **Abstract**

This study examines the neural and ocular correlates of visuospatial reasoning processes through simultaneous recordings of brain activity and eye movements. Functional near-infrared spectroscopy and eye tracking data from 17 participants were analyzed to determine if there is a difference between three different types of visuo-spatial problems, namely block-copying, mental imagery and tangram task, in reference to fixation patterns and changes in blood oxygenation in the prefrontal cortex. While block-copying and tangram tasks involved dynamic/interactive environments where subjects actively manipulated objects, in the mental imagery tasks they performed comparable tasks in a static environment without acting on the puzzle pieces. Results revealed that there are significant differences among these visuospatial tasks in terms the overall cognitive load and fixation related patterns they elicit on the subjects.

### **PA11b Motivation and Emotion**

#### **Name of Presenter**

PA11.4 Sandra Becker

#### **Name of co-presenter(s)**

Reinhard Pekrun, Stefan Ufer

#### **Title of presentation**

How emotions affect mathematical reasoning in differential ways

#### **Abstract**

It is well established that learner emotions have an impact on the quality of learning and performance (Pekrun & Linnenbrink, 2014). While positive-activating emotions promote reliance on heuristic knowledge structures (Huntsinger, Clore, & Bar-Anan, 2010), negative-activating emotions pertain to cognitive rigidity and increases in item-specific processing (Clore & Huntsinger, 2007). Further, deactivating emotions may cause cognitive disengagement and non-analytical information processing (Pekrun, 2006). In sum, these findings suggest that positive-activating emotions should support flexible thinking, while negative-activating emotions may foster more analytical thinking. Deactivating emotions, in contrast, may cause superficial thinking which would consequently lead to differential performance effects depending on the task format. Currently, data are being collected to investigate if the effects of positive-activating emotions support mechanisms for a creative knowledge driven top-down task while, on the other hand, negative states may be more beneficial for learning formats relying on a task-specific performance. Preliminary analyses show the effectiveness of the autobiographical recall method to successfully induce different emotional states based on valence and arousal ratings. Moreover, both task types were piloted to reveal emotionally sound

experimental tasks proving to be identical with respect to epistemic emotions experienced while solving the task, perceived task difficulty, as well as self-reported achievement. This study and its findings will greatly contribute to the frequently asked question of whether learning is generally more effective in positive or negative emotional states. We hope to answer this question with findings that will support our hypotheses stating that the answer relies on the type of learning task. In the current paper, we have argued that the cognitive processing required to optimally perform either task may be amplified by functional differences of affective states. Accordingly, our study will greatly contribute to our understanding of causal influences of emotions and their differential cognitive effects.

**Name of Presenter**

PA11.5 Rossana Barros

**Title of presentation**

Multiplicative reasoning and arithmetic help children understand fractions

**Abstract**

The aim of this study was to investigate how children reason about fractions, before they are taught systematically about fractions in school. We assessed two different skills, multiplicative reasoning and arithmetic, as predictors of children's learning of fractions. Reasoning focuses on mathematical relations, for example knowing that if a pizza is shared into 4 equal parts between friends, each friend gets  $\frac{1}{4}$  of the pizza. Arithmetic involves procedures and rules, such as carrying out multiplication and division. We report the results of two data collection points of a longitudinal study 7 months apart. In total 124 9-year old children participated, who were at the end of Year 4 when they started to receive formal instruction on fractions. At the first data collection point, they completed a reasoning task, an arithmetic task and a non-verbal intelligence test. At the second data collection point, 109 children participated, who were in Year 5. They completed the same reasoning and arithmetic tasks, and a fractions test. Results from factor analyses confirm these two abilities should be treated as different skills, while analyses of covariance between schools suggest a school effect on children's arithmetic scores. Regression analysis confirm that reasoning and arithmetic, both have independent contributions to predicting success in learning fractions, however reasoning showed higher scores.

**Name of Presenter**

PA11.6 Emmanuel Adu-tutu Bofah

**Title of presentation**

The role of social support network and motivational beliefs on mathematics achievement: Mediation by motivational beliefs and moderation by gender

**Abstract**

Research have shown that perceived social support network (PSS) (from parents and teachers) influences achievement. However, little is known about the process through which this relationship operates, especially in the African context. The sample included all the five African countries (Ghana, Botswana, South Africa, Morocco and Tunisia) that participated in the 2011 Trends in International Mathematics and Science Study (TIMSS 2011). The purpose of the study is to examine the multiple mediational effect of students' motivational beliefs (intrinsic motivation—student like learning mathematics, and extrinsic motivation—students' value for mathematics) in relationship to the empirical association between PSS and mathematics achievement. The study also sort to find if gender moderates the mediational effect. A bootstrap analysis indicated a unique pattern of the role of motivational belief in mediating the relationships between PSS and achievement. Moreover, gender was found to moderate the indirect effect PSS on achievement through students' motivational beliefs

in some countries. The findings indicates that total mediation effect of students' motivational belief on the relationship between PSS and achievement is "culture-fair but not culture-free".

## **PA11c Teaching and Teacher Education**

### **Name of Presenter**

PA11.7 Prisca Paulicke

### **Title of presentation**

One classroom one interpretation? – How the camera-perspective of the observers affect on the evaluation of the quality of teaching

### **Abstract**

Findings in video studies have long served empirical classroom research as a measuring instrument for instructional teaching quality (cognitive activation, supportive climate, classroom management, individual assistance). The ratings in these measurements are usually provided by students, teachers or external observers. They rate lesson videos, which are produced with a teacher camera or an overview camera. This leads to the question how observer ratings may differ, when rating teaching quality in videos with more than one camera perspective. This study investigates observer ratings from students, who watched videos with seven camera perspectives in one classroom. The results show that teaching quality cannot be enough described and adequately evaluated with only one camera perspective. With more camera angles, however, detailed results for separate teaching dimensions can be achieved. Observer ratings depend significantly on camera perspective. Further research should focus on the opportunities of these findings for professional pre-service teacher education.

### **Name of Presenter**

PA11.8 Sebastiano Cincinato

### **Title of presentation**

How need-supportive teaching practices can be promoted: A Self-determination approach

### **Abstract**

This research study focuses on how supportive teaching practices in adult education can be predicted because supportive teaching practices are argued to improve learning. More in particular, we investigate the teacher- and institutional-level characteristics that affect teaching practices. To this end, we implement the conceptual framework of Self-Determination Theory. Thus, supportive teaching practices are interpreted as need-supportive teaching practices, i.e. autonomy-support, structure, and involvement. On the level of the teacher, we identify basic psychological needs (i.e., autonomy, competence and relatedness) and motivation (i.e., autonomous and controlled) as important components. Finally, on the level of the institution, we identify need support as an important component. We hypothesise that: (1) satisfaction of basic psychological needs is affected by need support, (2) motivation to teach is affected by satisfaction of the basic psychological needs, and (3) adoption of need-supportive teaching practices is affected by the motivation to teach. Participants in the study are teachers active in Flemish (Belgium) adult education (N = 510). The online questionnaire contained validated instruments to measure need support, need satisfaction, motivation, and teaching practices. Analysis consisted of Structural Equation Modelling. Findings indicate that need support by the educational institution increases the satisfaction of psychological needs, which in turn has a positive effect on the emergence of autonomous motivation. Furthermore, autonomously motivated teachers are more likely to adopt need-supportive teaching practices. The fact that the institutional-level characteristic 'need support' is important, points to the need to carry on with research analysing the association of institutional characteristics with educational outcomes. Educational research should acknowledge teachers as being part

of a social system (i.e., the educational institution) and should consider institutional characteristics, such as need support, as vital components of the educational environment.

**Name of Presenter**

PA11.9 Sanni Pöysä

**Name of co-presenter(s)**

Kati Vasalampi, Joonas Muotka, Marja-Kristiina Lerkkanen, Anna-Maija Poikkeus, & Jari-Erik Nurmi

**Title of presentation**

Quality of teacher-student interaction contributes to students' situational engagement

**Abstract**

The present study aims to expand current knowledge on lower secondary school students' engagement by examining variation in students' situational engagement and by analyzing the extent to which this variation is associated with the quality of teacher-student interaction (i.e. emotional support, instructional support, and classroom organization). The data consisted of video-recordings of a total of 155 lessons (90 literacy and 65 mathematics lessons) coded using the Classroom Assessment Scoring System – Secondary (CLASS-S), and students' self-ratings of situation-specific engagement with a mobile-based InSitu instrument (a total of 1,660 time-stamped ratings). The data were analyzed with hierarchical modelling (Bayes estimation). The results showed that students reported higher situation-specific engagement in lessons where emotional support and classroom organization were high as assessed with the CLASS-S. Furthermore, the results indicated that' situational engagement of girls was significantly higher than that of boys, and girls appeared to benefit more from the classroom interaction with high-quality emotional support than boys. Overall, the results indicated that students' situation-specific engagement in lessons can be fostered by supportive teacher-student interactions.

Keywords: situation-specific engagement; teacher-student interaction; lower-secondary school

## **Paper Session (PA12)**

### **PA12a Assessment and Evaluation**

**Name of Presenter**

PA12.1 Yves Blicq

**Title of presentation**

Consensus among stakeholders about critical indicators for quality of online and blended learning in adult education: Preliminary results of a Delphi study

**Abstract**

Educational Institutions in Flanders (Belgium) need to examine and monitor quality of their provision. However a common quality framework for Online and Blended Learning (OBL) is lacking for this context. Institutions need to contextualize their approach. This need is in line with the discourse in HE. That states that the accreditation, audit and assurance processes should not be evaluated separately (Grifoll et al., 2009; NAHE, 2008). Methodologies that permit the contextualization of existing frameworks used by accreditation bodies or educational institution are needed. To achieve this a study to identify a quality framework for OBL in Adult Education (AE) was conducted. Findings from exploratory research in five institutions for AE and literature resulted in a set of 7 critical success factors (Credibility, Accessibility, Transparency, Flexibility, Interactivity, Personalisation, Productivity) and 74 indicators related to quality dimensions and areas.

This research aims to contribute to scientific knowledge by validating this framework. The Delphi technique is opted as method. This is a survey technique that facilitates group communication aimed to reach consensus between experts. These were selected from several key stakeholders: external accreditation (inspectorate), professionals working at policy level or program level in institutions and students. Respondents were asked to indicate on a 7-point Likert scale to what extent indicators add to quality of OBL to meet learners expectations, demands and rights. For the design a priori criteria for: inclusion of participants, consensus, when to drop items and stop the Delphi were defined.

After the second Delphi round (group) stability of responses was reached for 66 indicators. Respondents agreed that 44 indicators to meet students' needs and expectances are critical. Students faced difficulties to answer indicators related to 'Credibility', therefore their answers were not included for this factor. This paper focuses primarily on indicators agreed upon at the group level.

**Name of Presenter**

PA12.2 Anh-Nguyet Diep

**Name of co-presenter(s)**

Celine Cocquyt; Chang Zhu; Tom Vanwing

**Title of presentation**

Understanding the effects of core self-evaluation and online interaction on adults' learning performance and social capital

**Abstract**

Emphasizing adult learners' characteristics as being different from traditional students, few studies have taken into account a broad personality trait, i.e. core self-evaluation (CSE), when explaining their learning performance, notwithstanding. As for motivation to participate in educational programs, adult learners have been portrayed as more professionally and socially oriented. Concerning the latter, existing studies are confirming the vital role that adult education plays in the social integration process of marginalized learners in traditional modes of training. However, questions remain unanswered as to the specific factors of the learning environment or instructional design that contribute to these social outcomes, except in educational programs that are explicitly directed at social inclusion. To fill this literature gap, the present study investigates the effect of CSE and online interaction on adults' learning performance measured by self-reported grade point average and scrutinizes how online interaction affects learners' perception of increased bonding and bridging social capital. Participants (N=176) are learners from a blended learning program in different centers for adult education in Belgium. The results show that CSE, together with gender, significantly predict adults' learning performance. Online interaction was found to have a significant effect on learners' bonding and bridging social capital. To this end, the findings coincide with literature on adult learners' motivation and highlight the potential of ICT-supported programs in enhancing one's social outcomes in addition to cognitive gains.

Keywords: core self-evaluation, adult education, online interaction, social capital

**Name of Presenter**

PA12.3 Celine Cocquyt

**Name of co-presenter(s)**

Diep Anh Nguyet, Chang Zhu, Tom Vanwing

**Title of presentation**

Examining social inclusion and social capital development among adult learners in blended and online learning environments

## **Abstract**

In a societal context of persistent poverty and social exclusion, lifelong learning is regarded as contributing to adults' social inclusion and social capital. However, lifelong learning practices are evolving due to the emergence of technologies for educational purposes. To date, there is no clear evidence on how participation in online or blended adult learning contributes to adults' social inclusion and social capital. As vulnerable adults are at risk of social exclusion, the current study pays specific attention to adult learners' socio-demographic background in predicting social inclusion and social capital development. Therefore, this quantitative study examines to what extent educational participation enhances social inclusion and social capital among two samples of adult learners, being blended learners in adult education centres (n=139) and online learners from the Flemish Employment Agency (n=167). The results show that both groups perceive a decrease in social participation since they have started to follow the course. Blended learners experience enhanced social connectedness and social capital, whereas online learners' social inclusion and social capital does not seem to be affected by educational participation. Hence, comparative analyses have shown that blended and online learners differ significantly from each other with respect to perceived change in social inclusion and social capital. Although engaged in different learning environments and contexts, similar findings on the effect of native language in supporting social inclusion and social capital have been reported in both samples. Non-natives experience remarkably higher increases in social inclusion and social capital compared to native adult learners. These findings suggest that participation in blended and online learning is especially valuable for non-natives' social inclusion and social capital, therefore combatting social exclusion and social inequality. However, for fully online courses to enhance social inclusion and social capital, the condition of online social interaction should be fulfilled.

## **PA12b Mathematics**

### **Name of Presenter**

PA12.4 Elena Soto-Calvo

### **Name of co-presenter(s)**

Fiona R. Simmons; Catherine Willis; Anne-Marie Adams

### **Title of presentation**

Counting counts: Sequential and cardinal counting at school entry predict growth in early mathematical attainment

### **Abstract**

Children normally start learning to count before they start school. These early counting skills are good predictors of their later mathematical competence. However, there is currently limited evidence of whether early counting skills predict mathematical attainment over and above cognitive abilities that have been associated with early mathematics development. The present study examined whether sequential and cardinal counting at school entry (M age 4:8) explain significant variance in two distinct measures of mathematics attainment 14 months later (M age 5:10) after controlling for a range of cognitive skills in sample of 125 UK children. Sequential counting refers to the ability to recite the number-word sequence whilst cardinal counting requires the mapping of each number-word onto each item to correctly enumerate a collection of items. Children's speed of processing, quantitative skills, visual-spatial STM, phonological awareness, and counting skills were assessed at T1 using standardised or novel tasks. Their vocabulary and non-verbal abilities were assessed at T2 using standardised tests. Participants' mathematical attainment was assessed with standardised tests at both time points. Two hierarchical regression analyses were conducted controlling for autoregressive effects of the criterion variable at T1 in the first step and for age, and cognitive, vocabulary and non-verbal abilities measures in the second step. Both counting skills predicted additional significant variance in the mathematical attainment tests but had different relationships with the different aspects of mathematics attainment. Sequential counting predicted children's growth in mathematical reasoning whilst

cardinal counting predicted children's growth in written arithmetic. Results suggest that these counting skills are causal predictors of mathematical attainment. Findings indicate that efforts should be made to develop both of these counting skills in preschool children. Assessing and training both counting skills at school onset could serve as a screening and intervention strategy for the prevention of early mathematics learning difficulties.

**Name of Presenter**

PA12.5 Gabriela Rodríguez-Aflecht

**Title of presentation**

Digital mathematics game number navigation: Predictors, outcomes, and trajectories of situational interest

**Abstract**

This investigation examined the situational interest trajectories of 5th graders ( $n = 212$ ) during a five week intervention with a digital mathematics game called Number Navigation. The aims of our study were to explore how situational interest developed while students played the game, and to describe its relationship with individual math interest, game performance, and learning outcomes. Our results showed that situational interest remained stable within play sessions but decreased across sessions. Three different situational interest trajectories were found, and these played a role on students' game performance. While situational interest did have an effect on learning outcomes, this was indirect and mediated by the quality of game performance. Growth curve models indicated that prior individual math interest predicted the level of situational interest but not its trend, and that only the trend predicted individual math interest after the intervention.

Keywords: individual interest, situational interest, motivation, game-based learning, mathematics

**Name of Presenter**

PA12.6 Jani Hannula

**Title of presentation**

Prospective mathematics teachers' conceptions of the relationship between university mathematics and school mathematics with relation to mathematical thinking and teacher knowledge

**Abstract**

Teacher knowledge consists of many parts (e.g. content knowledge, pedagogical knowledge and pedagogical content knowledge). Even though the nature of the content knowledge needed for effective teaching is controversial, it is evident that in both prospective and in-service mathematics teachers' point of view school mathematics and university mathematics differ in terms of content and methods. That is, prospective and in-service mathematics teachers may find school mathematics and scientific mathematics as somewhat distinct entities. A deeper understanding of the nature of this gap, especially from the prospective teachers' point of view, could be a starting point for further development of mathematics teacher education and educational practices. In this study, four prospective mathematics teachers were interviewed in order to make an interpretation of the phenomenon. The interview focused both on interviewees' mathematical thinking and their beliefs and experiences of mathematics as a school and university subject. The interviewees had different backgrounds in terms of years of studies and mathematics self-efficacy. The findings of this study show that the gap between school mathematics and university mathematics include several aspects that may be present in prospective teachers' experiences and thinking. On the one hand, the interviewees reported problematic aspects of school mathematics as a base for university mathematics. On the other hand, the interviewees reported problematic aspects of university mathematics as a base for teacher knowledge. In addition, according to the findings of this study, these different aspects may be present in prospective

teacher's thinking even if she has extensive content knowledge and can produce rich mathematical concept images. Consequently, a special educational challenge is emerging: how to support prospective mathematics teachers in producing connections between university mathematics and school mathematics?

## **PA12c Motivation and Emotion**

### **Name of Presenter**

PA12.7 Johanna Fee Ziemes

### **Title of presentation**

Stages of gifted identity formation

### **Abstract**

The Minority Stress Model (MSM) posits that identity formation can be a difficult and taxing task for homosexuals and other minority groups. Minorities fight with discrimination and (internalized) stereotypes. There is evidence that gifted identity development can be better understood by applying this model, even if their status in society is not seen as negative, but ambiguously. The Cass Identity Model (CIM) posits that earlier stages of the development are connected to greater internalized negativity and denial and that later stages are connected to a positive integration. This study aims to apply the CIM on gifted individuals. A questionnaire based on the CIM was filled by 742 members of a high-IQ society. Identity stages in line with the CIM could be reliably measured. To identify groups predicted by the CIM, latent class analyses were conducted. With some exceptions, it was possible to identify groups according to the CIM stages. Ordinal logistic regressions were used to predict self-esteem, active coping and extraversion as indicators of higher stages, while internalized negativity, denial and neuroticism were connected to earlier CIM stages. Internalized negativity and its resolution by minority-specific identity formation pathways revealed to be a relevant topic for giftedness. Counselors should be aware of this and experts should disprove stereotypes to improve the situation. Further representative, longitudinal, and qualitative studies are necessary.

Keywords: minority stress, giftedness, identity formation, Cass Identity Model, psychosocial adjustment

### **Name of Presenter**

PA12.8 Manuel Längler

### **Title of presentation**

Peers, parents, and teachers: Different persons in the shadow of expert guitarists

### **Abstract**

Persons in the shadow play a crucial role in the acquisition of expertise, through guiding deliberate practice. Variances in the impact of different groups of persons in the shadow have not been examined so far. During their careers in popular music individuals are accompanied by peers, parents, and teachers. This study investigates the impact of those groups of persons in the shadow on professional guitarists in the domain of popular music. Case studies (using interviews) of nine guitarists at different levels of expertise (called "experts", "professionals" and "semi-professionals") were implemented. The roles of persons in the shadow concerning practising, learning and motivation were investigated. In particular peers and, concomitantly, the formation of bands strongly impacted the learning process and the motivation. This was distinct with most expert players. Surprisingly, the contribution of parents and teachers on the acquisition of expertise in guitar playing revealed to be more ambiguous and less important in the expert group. In conclusion, the impact of persons in the shadow is applicable to experts, professionals, and semi-professionals and depended on the individuals' perception. Therefore more research about the impact of persons in the shadow on individual musicians in different career stages is needed.

**Name of Presenter**

PA12.9 Tim Post

**Title of presentation**

Towards an interdisciplinary, psychological framework of learning ability

**Abstract**

Widespread education policies call for more innovative and driven learners. Ongoing efforts to operationalize related qualities of mind precisely have not yet been successful and thereby slow down educational reform. In the present study, we propose a preliminary framework that (a) describes the multidimensional qualities of mind that – based on a multidisciplinary synthesis of the scientific literature – are considered most relevant to learning; (b) classifies selected qualities based on their psychological nature (i.e., thinking skills, attitudes, self-conceptions, and goal-orientation motivations; and (c) includes only those qualities of mind that we know can be largely developed and assessed in students through ordinary teaching interventions and across learning contexts and domains (Talent Feeding framework). The distinction between the four quality dimensions are reflected in how constituent qualities are studied, stimulated, and measured. Based on the framework, teaching interventions and measuring instruments can be developed that help teachers to identify, stimulate, and assess students' learning development over time. In these respects, we believe that our framework adds both theoretically and practically to current discussions on the further operationalization of student learning ability.

## PA12d Teaching and Teacher Education

**Name of Presenter**

PA12.10 Mei Lan Chan

**Title of presentation**

A phenomenographic study of medical students' strategies in learning English

**Abstract**

Although many studies have used various methods to explore students' Language Learning Strategies (LLS), very few of them have looked into the LLS of various medical majors and how they experience their English learning through phenomenography, which is a theoretical framework that explores how students think and learn. There are many research studies that have suggested that LLS are related to English proficiency. It is only through a thorough understanding of students' LLS that better teaching and learning can take place. In this study, in-depth oral interviews were used to discover how students experience their English language learning, and to understand what strategies students use in learning English. Participants in the study include 12 freshmen entering a higher education institution in Macao. There are three majors (laboratory technology, pharmacy technology and nursing), with a total of 104 freshmen. In order to maximize the conceptual variations of the participants, learner variables, including gender, majors, places of birth, age, English proficiency and their attended high schools were taken into consideration when students were chosen. It is suggested that these students used some strategies for learning English and most of the strategies were depending on others, other things, the learning contexts and the learning environment. The strategies were presented as hierarchical categories: (A) Individual learning strategies; (B) Learning strategies with tools/others; (C) Learning strategies from the environment. The different understandings of how students learned English indicate that their strategies used are closely related to their learner variables, learning contexts and their learning environment. This study contributes to the fields of English as a Foreign Language (EFL) teaching and curriculum development as knowing their LLS could better help students in their learning of English and improve the planning of strategy-based instruction in the second phase.

**Name of Presenter**

PA12.11 Iina Männikkö

**Title of presentation**

How Teachers Combine Their Student- and Content-Related Notices of Teaching Practices in Attention Demanding Situations

**Abstract**

Teachers' knowledge influences strongly teachers' actions. This is revealed through teachers' ability to transform their practical knowledge into on-task decisions for teaching practice. During decision making in the midst of teaching, teachers should be able to combine different ways of knowing both in form and in content. The literature reviews show that more research is needed about the connections between different forms of teachers' practical knowledge, on-task actions and dispositions. This study focuses on teachers' knowledge of students and subject content and how they are linked together in teaching actions. Structured interviews were conducted with 10 primary school teachers who were teaching students between the ages of seven and twelve. The data were analyzed using an inductive coding scheme. The results indicated that teachers' knowledge of students focused on their needs for emotional support but also describing their personal characteristics and understanding the reasons for student behavior. Instead, teachers' knowledge of the subject content focused on the ways to implement the content (i.e. learning aims and activities, teaching methods) in practical actions. Additionally, the five different combinations to implement student-related and content-related knowledge within teaching actions were detected. The findings confirm the multidimensional nature of teachers' practical knowledge involving delicate interplays between social and intellectual features of teaching and student learning. The results help us better understand how pedagogical and didactical solutions go hand in hand and support each other in teaching.

**Name of Presenter**

PA12.12 Xuying Fan

**Title of presentation**

Teachers' understanding of thinking skills in EFL (English as a Foreign Language) classrooms

**Abstract**

The ability to think – to see connections, to reason, to be active in one's learning – is an essential feature of education that enables learning at all stages of life and within and across different contexts. The teaching of thinking skills, however, although it has received extensive attention in mainstream education, remains under-researched in TESOL (Teaching English to Speakers of Other Languages) and is therefore a major challenge currently, given the prominence of English in the globalised world. The research in the literature, limited though it is, emphasises the importance of teaching thinking skills but very little attention has been given to EFL teachers' conceptions of them. Guided by Vygotsky's sociocultural theory of learning and development, the primary purpose of this case study research is to investigate Chinese primary school teachers' conceptions of, and practice of, the teaching of thinking skills in order to ascertain the opportunities and challenges they meet in their attempts to develop thinking skills in their EFL (English as a Foreign Language) classes. The participants were four Chinese EFL teachers from a primary school in China. They were interviewed and video recordings of their lessons were made. Interview data were gathered and analysed using thematic content analysis, and the classroom data were analysed using a discourse analysis framework. The research findings from the interviews showed that the teaching of thinking skills was a challenge for these EFL teachers; the practical issues they confronted in their teaching (such as professional development in the area of thinking skills) as well as the obstacles to students' learning (including the exam-oriented system and support from their parents) were evident.

**Name of Presenter**

PA12.13 Marina Casadellà

**Title of presentation**

Language teachers' training. A longitudinal case study about teachers' conceptions of teaching written composition in a learning community context

**Abstract**

Teachers must receive continuous education during their professional trajectory. Therefore, it is important to consider which mechanisms should be used to develop those formative processes. In this study, using a sociocultural framework, we investigate the role of the dialogic exchanges in teachers' training. In particular, we focused on language teachers and, more concretely, on the teaching of written composition.

From a constructivist viewpoint, dialogic exchanges should be a necessary tool for teachers' training. Thus, learning communities -- defined as the space where teachers live a formative process based on the dialogic exchange -- become a very useful resource for their training. In the case of language educators, this kind of education allows them to share different visions about written composition. In addition, writing is a topic that raises uncertainties and controversies among teachers.

We present a case study about a discussion group composed of secondary language-teachers who met monthly to learn through collective reflection. The goal of the study is twofold: (1) to determine whether this discussion group can be considered as a learning community, and (2) whether any learning processes take place. For our first goal, we analyze the reflections of eight sessions (one academic year) in order to characterize this community. For our second goal, we analyze longitudinally the interventions of one teacher, focusing on the changes around her own conceptions about learning and teaching written composition as a function of participating of this learning community.

Preliminary results indicate that these discussion groups do function as learning communities and are an effective tool for teacher continued education. This research thus opens doors to a new model of teacher training based on dialogue and reflection. Therefore, it calls at an institutional reconsideration of how continuous education programs are organized and of the current demands to teachers.