Session I 1
10 August 2019 10:30 - 12:00
ST 5
Single Paper
Assessment and Evaluation

Developing measures to assess learning

Keywords: Assessment methods and tools, Attitudes and beliefs, Competencies, Higher education, Motivation and emotion, Quantitative methods, Science education, Secondary education, Teacher professional development

Interest group: SIG 01 - Assessment and Evaluation, SIG 26 - Argumentation, Dialogue and Reasoning

Chairperson: Liu Hu, The University of Hong Kong, Hong Kong

Assessing the factorability of the eight-dimension nature of science

Keywords: Attitudes and beliefs, Quantitative methods, Science education, Secondary education

Presenting Author: Simon Ndadaleka Shakumure, University of Szeged, Namibia

The purpose of this study was to ascertain the factorability of the nature of science construct and assess its validity, in the quest to develop a questionnaire suitable for use in cross-sectional designs. A new questionnaire based on the eight dimensions of nature of scientific knowledge proposed by Lederman and others was developed. The reliability of scores on the questionnaire was good at α = .87. A purposive sample of 860 Grade 12 students in Namibia participated in the study, using the paper-and-pencil method. The mean age of students M = 18.3 and SD = 1.32. Data was analysed using Cronbach’s alpha, exploratory factor analysis and confirmatory factor analysis. Construct validity was assessed considering two criteria: convergent and discriminant validity. Exploratory factor analysis revealed a final interpretable five-factor structure consisting of 16 items and the factor solution accounted for 67.73% of the total variance. The five factors retained based on eigenvalues greater than or equal to one and the percentage of variance were: empirical (5.49, 34.30%), sociocultural (1.78, 11.13%), subjectivity (1.36, 8.50%), scientific methods (1.19, 7.44%), and tentativeness (1.02, 6.37%). However, parallel analysis revealed that only four factors had eigenvalues that were statistically significant. The measurement model was assessed by confirmatory factor analysis and the results showed that the model had largely poor statistical fit for the data with the following fit indices: χ²/df = 0.5024, TLI = 0.80, CFI = 0.85, RMSEA = 0.11, SRMR = 0.07. Reliability was good but construct validity was inadequate for five-factor model though it showed improvement with four-factor model. The findings indicate that the suggested eight dimensions of nature of science could not be confirmed. This could be attributed to the intricate similarities among the proposed dimensions of nature of science. Scientific epistemic beliefs’ implications for 21st century skills development is discussed.

Development of measurement models of teachers’ research mindset.

Keywords: Assessment methods and tools, Attitudes and beliefs, Motivation and emotion, Teacher professional development

Presenting Author: Wipawee Sirituk, Chulalongkorn University, Thailand; Co-Author: Suwimon Wongwanich, Chulalongkorn University, Thailand; Co-Author: Chayut Piromsombat, Chulalongkorn University, Thailand

Research mindset is a person’s belief in research that usually influences the enthusiasm of the researcher (Taraban & Ligue, 2012). This study aimed to develop two competitive measurement models of teachers’ research mindset. Based on the literature, the proposed model consisted of 12 indicators derived from the tricomponent (i.e., thought, feelings, and behavior) of Dweck, Walton, & Cohen (2014) and the four steps of classroom action research (i.e., plan, act, observe, reflect). The first competing model used the classroom action research process as latent variables, and the tricomponent as observable variables; the other model was vice versa. To examine the proposed models’ properties, a 5-point rating scale based on the model collected data from 502 Thai teachers in public schools. Results showed that both competitive models have satisfactory levels of construct validity (For model 1: Chi-square (33, N = 502) = 45.145, p = .077, CFI = .995, TLI = .990, SRMR = .028, RMSEA = .027; for model 2: Chi-square (35, N = 502) = 48.156, p = .069, CFI = .995, TLI = .990, SRMR = .029, RMSEA = .027). It seems that the competing models were not significantly different. This paper discusses both models and the scale in details later. Results of this study are helpful for understanding teachers’ research mindset and enhancing teachers to conduct classroom action research enthusiastically.

Research skills in upper secondary education and in first year of university

Keywords: Assessment methods and tools, Competencies, Higher education, Secondary education

Presenting Author: Louise Maddens, KU Leuven, Belgium; Co-Author: Fien Depaepe, KU Leuven, Belgium; Co-Author: Rianne Janssen, KU LEUVEN, Belgium; Co-Author: Annelies Raes, KU Leuven, Belgium; Co-Author: Jan Elen, KU Leuven, Belgium

In recent decades, strengthening students’ research skills is considered an important goal of secondary education. Hence, there is a considerable body of literature on the theme of assessing and fostering students’ research skills. Still, little is known about what learner characteristics stimulate and hamper students’ research skills proficiency. Therefore, this study aims to investigate the relationship between students’ research skills and their specific learner characteristics (i.e., gender, educational track, grade, autonomous motivation and controlled motivation). In order to cross-validate the findings, the Leuven Research Skills Test (LRST) was administered to 405 students in 11th and 12th grade, and to an independent cohort of 156 first-year university students. Multiple regression analysis reveals significant regression weights of grade and educational track in upper secondary education. Also in higher education, a significant association was found between students’ educational track (followed in upper secondary education) and students’ research skills proficiency. In both groups, no significant differences were found in students’ LRST scores based on gender, nor on students’ controlled and autonomous motivation. In the paper presentation, important practical and theoretical implications of the findings will be discussed.

Session I 2
10 August 2019 10:30 - 12:00
ST 1
Single Paper
Assessment and Evaluation, Teaching and Teacher Education

Teachers and their teaching context

Keywords: Assessment methods and tools, At-risk students, Attitudes and beliefs, Design based research, Motivation, Quantitative methods, School effectiveness, Secondary data analysis, Self-efficacy, Teacher Effectiveness, Teaching/Instruction

Interest group: SIG 11 - Teaching and Teacher Education, SIG 23 - Educational Evaluation, Accountability and School Improvement

Chairperson: Mar Martinez, Universitat Oberta de Catalunya, Spain

Development of a school climate scale based on school members’ shared experiences

Keywords: Assessment methods and tools, Design based research, School effectiveness, Teacher Effectiveness

Presenting Author: Watcharasak Sudia, Chulalongkorn University, Thailand; Co-Author: Suwimon Wongwanich, Chulalongkorn University, Thailand; Co-Author: Kanit Srikaul, Chulalongkorn University, Thailand

School climate, a shared experiences of all school members, influences stakeholders in several aspects such as administrators’ management, teachers’ effectiveness, and students’ achievement. Measuring school climate also provides beneficial evidences for administrator to promote school improvement. Previous studies have developed school climate scales in various ways; however, most of them were variable-centered measures, not person-centered (Wang & Degol, 2016). Our study aimed to develop a school climate scale by means of User eXperience (UX) research. The UX in this study focused on teachers’ and
student’ roles, emotions, perceptions, attitudes and behaviors relevance school climate; therefore, this approach would assist us to obtain more insights from school members. The school climate scale based on UX research results covered four dimensions including safety, academic, community, and institutional environment. Based on the responses of Thai teachers from over 70 schools in Bangkok and metropolitan region (N = 220), the proposed school climate scale showed appropriate levels of both reliability and validity. The construct validity examined using second-order confirmatory factor analysis was satisfactory (Chi-square 65, N =220) → 46.519, p = .092, CFI = .990, TLI = .984, RMSEA = .039, SRMR = .053). As for the measure’s reliability, evidence for internal consistency was founded, the Cronbach’s alpha coefficients of four dimensions ranged from .679 to .905, and the McDonald’s omega coefficient was .925. Therefore, the school climate scale developed in the present study might contribute a beneficial instrument of stakeholders in measuring and promoting school climate. **Advanced Secondary School Teachers Perceived and Actual Use of DI – A Quantitative Approach**

**Keywords:** Attitudes and beliefs, Quantitative methods, Self-efficacy, Teaching/instruction

**Presenting Author:** Verena Letzel, University of Trier, Germany

Diversity, among students, is constantly increasing due to migration, inclusion, and structural changes within the school tracks in the German educational system. If teachers want every student to benefit from their lessons, teachers must adjust their instruction in order to address students’ various needs. Differentiated Instruction (DI) is considered to be an effective mean through which teachers can appropriately cater to students’ prerequisites and ensure successful learning (e.g. Kläfki & Stöcker, 1976). Studies on teachers’ use of DI show that teachers working in advanced secondary schools use less DI than teachers working in lower secondary school types (e.g. Letzel, 2018). Preliminary analyses within this dissertation project, that are supposed to give reasons for advanced secondary school teachers’ relatively small use of DI, show, that there is no association between advanced secondary school teachers’ subjective perception and their actual use of DI. Thus, the subjective perception is influenced by variables such as, readiness to differentiate, the feeling of being prepared to deal with heterogeneity, teacher self-efficacy and collaboration and their actual use of DI by variables such as their readiness to differentiate and self-efficacy. Variables such as beliefs that were expected to influence teachers’ use of differentiated instruction did not have an effect in advanced secondary schools teachers’ use of DI in this study.

**Student characteristics and how they influence teacher perception of student motivation and behavior**

**Keywords:** At-risk students, Attitudes and beliefs, Motivation, Secondary data analysis

**Presenting Author:** Cornelius Brandmiller, DIPF | Leibniz Institute for Research and Information in Education, Germany; **Co-Author:** Hanna Dumont, DIPF | Leibniz Institute for Research and Information in Education, Germany; **Co-Author:** Michael Becker, DIPF | Leibniz Institute for Research and Information in Education, Germany

A teacher’s perception of a student’s shown achievement, motivation or behavior in school may have a great influence on the way the teacher interacts with the student. Whether the student is encouraged or not or what grade is given. Research on teacher perception so far has mainly focused on the perception of student achievement. Factors like student motivation and behavior have usually been left out of the picture. However, these factors may be relevant, since teacher perceive students not solely on the basis of their achievement, but also with respect to their shown effort and conduct in class. Research has shown, that the perception of student achievement is influenced by student characteristics, therefore the perception of student motivation and behavior may be as well. The present study investigates whether the student’s social background (SES), immigrant background and gender influence teachers’ perception of students’ learning motivation and behavior in school. Data from N = 4,746 German fourth graders along with data from their parents and teachers was analyzed using structural equation modeling. We controlled for student achievement and motivation. In a first step we were able to replicate previous research by finding high SES students and girls to be perceived more capable by the teacher with regard to their cognitive skills. Further analyses revealed the teachers’ perception of the students’ learning motivation as well as their behavior in school to be related to all three student characteristics. High SES, no immigration background students and girls were perceived to have a higher learning motivation and to behave better in school. In our final analysis we found the perceived learning motivation and behavior in school to mediate the relation between student characteristics and perceived cognitive skills by the teacher.

**Session I 3**

10 August 2019 10:30 - 12:00

ST 4

Single Paper

Learning and Social Interaction, Teaching and Teacher Education

**Language (in) Education**

**Keywords:** Bilingual education, Cultural diversity in school, Educational Psychology, Higher education, Language (Foreign and second), Literacy, Mixed-method research, Qualitative methods, Self-efficacy, Social interaction, Teaching/Instruction

**Interest group:** SIG 04 - Higher Education, SIG 09 - Phenomenology and Variation Theory, SIG 11 - Teaching and Teacher Education

**Chairperson:** Yingmin Wang, The University of Auckland, New Zealand

The multilingual classroom tomorrow – lessons to be learned from an intervention study

**Keywords:** Bilingual education, Mixed-method research, Self-efficacy, Teaching/Instruction

**Presenting Author:** Lena Schwarz, University of Vienna, Austria

This contribution draws on the preliminary results of an intervention study (doctoral thesis) in which translanguaging in general, and multilingual texts in particular, were regularly used from September 2017 to February 2018 in a primary (4th grade) and in a lower secondary school class (6th grade) in Vienna. The aims of the study were twofold: I wanted to know how the use of translanguaging and multilingual texts affects classroom work and how this was related to pupils’ self-efficacy beliefs and class atmosphere. The intervention was evaluated using a mixed-methods design. Data was gathered from a pre- and a posttest questionnaire survey with the pupils, consisting mainly of self-efficacy scales, variables measuring class atmosphere, and variables focusing on the pupils’ perception of the intervention. The intervention was observed using an ethnographic approach, allowing a deep understanding of the research field. At the end of the intervention, interviews with one teacher of each class provided insights into their perspective and positioning. A range of methods were used for data analysis: the questionnaire was analyzed with SPSS (mostly descriptive analyses and T-Tests), the ethnographic fieldnotes were coded with categories and transformed into a thick description following Geertz (1976, 2006), and Critical Discourse Analysis was used for the interviews. Initial results support the conclusion that the highly diverse linguistic resources of pupils strongly challenge the implementation of translanguaging pedagogy, because pupils who know languages many of the pupils know and in which many texts are available, socio-emotionally benefit most from the intervention. Pupils who do not know those languages, however, barely get the chance to use their linguistic resources in class and some of them react with strong frustration. As a next step, teaching guidelines based on the results will be developed to support teachers in dealing with such high linguistic heterogeneity.

**A Learning Study on L2 Chinese Lesson in Hong Kong Primary School**

**Keywords:** Cultural diversity in school, Language (Foreign and second), Literacy, Mixed-method research

**Presenting Author:** Wan Yi Eva Liu, The University of Hong Kong, Hong Kong; **Co-Author:** Wai Ming Cheung, The University of Hong Kong, Hong Kong; **Co-Author:** Serene Chan, The University of Hong Kong, Hong Kong

In Hong Kong, Chinese is one of the official languages alongside English. In local schools, linguistically diverse pupils (LDP) from ethnic minority families have to learn and use Chinese just like other local Hong Kong students. There are many challenges for LDP to learn Chinese. It is thus important for teachers to be able to teach Chinese effectively in schools so that LDP can learn Chinese better from a young age.

This study aimed to find out how to teach a Chinese sentence structure more effectively in grade one of a Hong Kong primary school. The study adopted
Learning Study to support the teaching and learning in two Chinese classes with 20 LDP in each class. Given that these LDP had been learning a picture book designed for their school during the week of Chinese classes, teachers together chose “Is (an object) in (a place)?” as the object of learning in the studied 30-minute lesson, and they planned the lessons together prior to that lesson. The two classes were video recorded, transcribed, and analysed through Variation Theory. It was found that even though the two teachers developed the same lesson plan together, the variation in their execution led to different outcomes in their classes. Although the study is limited to one school, it revealed insights about planning for a lesson and how to teach LDP more effectively. Such strategies can be applied to many other second language classrooms.

**Foreign Language Learners’ Acculturation Experiences in Chinese and British Study Abroad Programmes**

**Keywords:** Educational Psychology, Higher education, Qualitative methods, Social interaction

**Presenting Author:** Rui He, University of Glasgow, United Kingdom

Abstract Within the context of Higher Education Internationalisation, a one-term or a one-year Study Abroad Programme is now embedded in foreign language programmes in many universities all over the world. Nevertheless, the literature reveals still somewhat limited research into the acculturation aspect of foreign language learners’ education abroad, and the comparison between the top students outgoing and incoming countries, China and the United Kingdom. This research aims to investigate and compare ‘mirror-image’ experiences of foreign language major students: a) English language learners in China who come to the UK, and b) British learners in Chinese Studies who go to China for one-year Study Abroad Programmes. It also aims to gain a better understanding of these valuable experiences as learning the target language and culture in the host country is expected to impact upon foreign language learners in many different ways. Understanding this dimension will contribute towards assisting the increasing requirements for intercultural support before, during and after future students’ educational experiences abroad, and in improving future intercultural pedagogy. A qualitative research method utilising semi-structured individual interviews using metaphors and vignettes was employed as part of this study. The Thematic Analysis as a deductive data analysis approach using NVivo software was utilised. Preliminary findings from this study indicate emergent significant factors for foreign language learners’ acculturation experiences in both China and the United Kingdom with respect to: a) the original cultures, b) local communities in the new environment, c) changes over the life course, and d) distinct roles played in the Study Abroad Programmes. Key words: International students; foreign language learners; acculturation; Study Abroad Programmes

**Session I 4**

10 August 2019 10:30 - 12:00
ST 8
Single Paper
Learning and Instructional Technology, Learning and Social Interaction

**Learning and Instructional Technology**

**Keywords:** Achievement, Artificial intelligence, Cooperative/collaborative learning, E-learning/ Online learning, Educational technology, Inquiry learning, Learning analytics, Motivation, Science education, Secondary education, Social aspects of learning and teaching, Social interaction

**Interest group:** SIG 10 - Social Interaction in Learning and Instruction, SIG 20 - Inquiry Learning, SIG 27 - Online Measures of Learning Processes

**Chairperson:** Solicz Le Courtis, University of Cambridge, United Kingdom

**Designing experiments using mobile devices in chemistry classroom**

**Keywords:** Educational technology, Inquiry learning, Science education, Secondary education

**Presenting Author:** Kalli Kallas, University of Tartu, Estonia; **Co-Author:** Margus Pedaste, University of Tartu, Estonia

Inquiry-based learning is widely used method to teach science at schools in order to develop students’ inquiry skills, however students still struggle with designing experiments, which is an essential element of an inquiry learning cycle. Previous research suggests that activation of prior knowledge is beneficial to learning. During inquiry-based learning methods also benefit from collaboration and specific guidance during an assignment. Since providing individual guidance in regular classroom settings is difficult, we used an application “Laborant” to find out, how to support the development of students’ experiment designing skill with the experiment designing application. The application was used to design nine experiments in 9th grade chemistry classroom during a two-month period. Pre- and post-test were conducted to evaluate if using the application would improve students experiment designing skills more, compared to traditional paper-and-pencil learning method. Moreover, we found out if and how activation of prior knowledge in the application and collaboration are influencing development of students’ experiment designing skill. In the end we propose a model which describes which factors influence development of experiment designing skill while using experiment designing application.

**Online self-directed learning in a 4C/ID-based online learning environment**

**Keywords:** Achievement, E-learning/ Online learning, Learning analytics, Motivation

**Presenting Author:** Charlotte Larmuseau, KU Leuven, Belgium

Differences in use of a virtual learning environment can be influenced by student-related characteristics. In this study, a virtual learning environment was developed in line with the four component instructional design (4C/ID) model. The four components consist of authentic problem-based tasks (i.e., learning tasks), various support (i.e., supportive and procedural information) and additional drill-and-practice exercises (i.e., part-task practice). This study firstly investigates the influence of students’ prior knowledge, task value and self-efficacy on students’ use of the components. Secondly, it examines the influence of students’ use of the components on their learning gain, taking into account their characteristics. Results of 161 students reveal that students with a lower prior knowledge consulted more learning tasks and part-task-practice. Moreover, students’ task value had a significantly positive influence on the use of learning tasks and supportive information. Furthermore, the combination of consulting learning tasks and procedural information had a significant positive influence on students’ learning gain.

**A computational approach to the Collective Intellignece in the Educational field.**

**Keywords:** Artificial intelligence, Cooperative/collaborative learning, Social aspects of learning and teaching, Social interaction

**Presenting Author:** Federica Stefanelli, University of Florence, Italy; **Co-Author:** Enrico Imbimbo, University of Florence, Italy; **Co-Author:** Andrea Guazzini, University of Florence, Italy

The ability of groups to solve problems more effectively than a single individual has been called Collective Intelligence (CI). The most up-to-date research in the field of CI found a correlation between group performance and their members’ Social Abilities. The principles of CI have been applied to diverse areas within the educational context. The educational models of CI are based on the proved efficacy of peer learning and start from the evidence that students are able to create useful knowledge for themselves. Starting from the results obtained by recent research, we propose a computational simulation to understand what is the optimal complexity of a task, for CI to emerge while a working group is solving it. For the simulation, we used a population composed of agents with individual IQ (Intelligence Quotient) and Social Abilities related to each other. We conceived the Social Ability like the agent's probability to provide to its group the knowledge necessary to solve a task, while the problems have been considered in relation to their difference in complexity. Our results show how the correlation between the average of members' Social Abilities and CI increases with the increase of the task's complexity. When the task becomes too complex, however, the same correlation starts to decrease quickly. According to our results, in order to favor the emergence of CI in the classroom, a group of students should solve a problem with an low perceived difficulty and high complex. In this way, it could be possible to stimulate the group's zone of proximal development. If the task is medium complex, the contribution of each participant is fundamental for the resolution and the members’ Social Abilities appear in all its importance due to its capability of favoring communication and learning among participants.

**Session I 5**
Education Beyond the Classroom

Keywords: Assessment methods and tools, Attitudes and beliefs, Computer-assisted learning, Culture, E-learning/ Online learning, History, Learning approaches, Lifelong learning, Metacognition, Motivation, Self-regulation, Technology

Interest group: SIG 16 - Metacognition

Chairperson: Kia Puay Lim, Technical University of Munich, Germany

Creativity, metacognition and intrinsic motivation: a new perspective on self-regulated learning

Keywords: Learning approaches, Metacognition, Motivation, Self-regulation

Presenting Author: Marek Urban, Jan Evangelista Purkyné University, Czech Republic; Co-Author: Kamila Urban, Institute for Research in Social Communication, Slovak Academy of Sciences, Slovakia

Previous research has shown that self-regulated learning (SRL) fosters both intrinsic motivation and creativity. However, we have yet to discover the underlying mechanism whereby SRL influences both. The present study asks whether there is any correlation between vital parts of SRL – metacognitive knowledge and metacognitive regulation – and creativity and intrinsic motivation. Ninety-two university students solved three divergent thinking tasks and completed the Metacognitive Awareness Inventory and Scale of Intrinsic versus Extrinsic Orientation in the Classroom adapted for university use. The results indicated that metacognitive knowledge was positively correlated to intrinsic motivation, and that metacognitive regulation was positively correlated to both creativity and intrinsic motivation. The more students regulate their learning, the greater their creativity and their intrinsic motivation to learn.

Epistemological Beliefs concerning History: Questionnaire Adaptation and Validation

Keywords: Assessment methods and tools, Attitudes and beliefs, Culture, History

Presenting Author: Maja Kósa, University of Szeged, Hungary

The study aims to adapt and validate the questionnaire developed by Stoel and his colleagues (2017, Hungarian translation by László Kojanitz) into a Hungarian context that measures epistemological beliefs about history. The international research suggests that the understanding of the discipline’s nature affects learning history (e.g., Maggioni, VanSledright, & Alexander, 2009). Van Drie and van Boxtel (2018) emphasize that epistemological beliefs are relevant factors that influence historical reasoning. Although the importance of this field has been stressed in Hungarian history teaching, measuring epistemological beliefs is a marginalised area. In the pilot studies, 1st year university students (n=136) from the 2017-2018 and 2018-2019 academic years, and 9th, 10th grade secondary school students (n=197) have been involved. In the large-scale assessment, 342 11th and 12th grade grammar school students have completed the questionnaire. The pilot studies reveal that the questionnaire works reliably and sensitively in Hungarian. In the case of the large-scale assessment, exploratory factor analysis has confirmed the existence of 3 similar factors which have been identified in the original study, too. The results contribute to identifying cultural similarities and differences and underpin the potential usage of the Likert-scale in measuring epistemological beliefs.

Meeting the challenges of digital transformation through lifelong learning and resilience

Keywords: Computer-assisted learning, E-learning/ Online learning, Lifelong learning, Technology

Presenting Author: Marko Ott, TU Dresden - LS WiPād, Germany

Increasing digitalization in all areas of society is changing the way people live and work. In addition to numerous advantages such as work facilitation through automation or flexible working hours and locations, there are also challenges such as adjustment problems involved. It is precisely this change in the world of work in particular that is causing some sections of the working population to fear for the security or the scope and form of their jobs. Not only companies of all sizes have to deal with these changes, but also educational institutions such as schools and universities. The construct of resilience, which originates in materials science and is anchored in psychology in particular, can enable individuals and organizations to cope with critical situations and challenges. Due to the possibility to meet the named challenges with resilience and in order to show the state of research, a systematic literature review (Kitchenham & Charters, 2007; Webster & Watson, 2002) was prepared for the present work. In this way, 21 scientific works of the last ten years were identified, which are dedicated to the concrete connection between resilience and digitization. By this analysis, numerous definitions and characterization of the term resilience could be determined and furthermore connected to the development of the digitalized world. The results provided in this paper can help to identify existing research gaps from an economic and educational point of view and open up space for further research.

Session I 6

10 August 2019 10:30 - 12:00
ST 2
Single Paper
Higher Education, Instructional Design

Blended learning in higher education

Keywords: E-learning/ Online learning, Educational technology, Higher education, Instructional design, Motivation, Self-regulation, Teacher professional development, Teaching/Instruction, Technology

Interest group: SIG 04 - Higher Education, SIG 06 - Instructional Design, SIG 08 - Motivation and Emotion

Chairperson: Petia Begoć, Bergische Universität Wuppertal, Germany

Evaluating blended learning professional development initiatives in higher education

Keywords: Educational technology, Higher education, Teacher professional development, Technology

Presenting Author: Anja Garone, Vrije Universiteit Brussel, Belgium; Co-Author: Jo Tondeur, Vrije Universiteit Brussel, Belgium; Co-Author: Bram Bruggeman, Vrije Universiteit Brussel (VUB), Belgium; Co-Author: Céline Coopuyt, Vrije Universiteit Brussel (VUB), Belgium; Co-Author: Katrien Struyven, Vrije Universiteit Brussel (VUB), Belgium

The current study presents preliminary results of the systematic review on the subject professional development initiatives (PDI) on blended learning in higher education. The aim is to explore the connections between the design, context, and outcomes of professional development initiatives for blended learning by connecting the TPACK dimensions with the design and approach of the PDIs. Twenty-three empirical research articles were coded with the aim to understand which of the domains from the Technological Pedagogical Content Knowledge (TPACK) framework match with the approaches described in the articles. Furthermore, the evaluation methods described in the articles were examined and matched with the 5-level (Guskey) framework for evaluating PDIs. Initial results show that the dimension of content knowledge was most often not addressed, while contextual factors such as participants educational background seem to play a significant role in the design of the PDIs. Further results show that the fourth level of the Guskey framework (Participants’ Use of New Knowledge and Skills) was most often discussed while the fifth (Student Learning Outcomes) is mentioned the least.

E-Learning in higher education. An empirical comparison of scenario-based learning environments

Keywords: E-learning/ Online learning, Instructional design, Teaching/Instruction

Presenting Author: Lisa Holzer-Schulz, University of Regensburg, Germany; Co-Author: Silke Schworm, University of Regensburg, Germany

Interest and acceptance of college students can be increased by designing individual learner-centred teaching arrangements including means of practical
Exploring nursing students' motivation regulation in blended learning

Keywords: E-learning/ Online learning, Higher education, Motivation, Self-regulation

Presenting Author: Katl Mäenpää, University of Oulu, Finland; Co-Author: Hanna Jarvenoja, University of Oulu, Finland; Co-Author: Kirsipihlätö, University of Oulu / University of Helsinki, Finland

This qualitative study explores nursing students' motivation regulation by utilizing a retrospective interview data. The focus was on analyzing the use of different motivation regulation strategies and factors enhancing and maintaining the students' motivation regulation. During three-year studies nursing students face challenging and stressful situations that provide for self-regulation of learning, particularly motivation regulation. However, there is a lack of studies exploring motivation regulation in this field. Even less is known about what enhances and maintains nursing students' motivation regulation in different phases of their studies. This study aims to bridge the gap in the literature by exploring the use of nursing students' motivation regulation strategies during their study path in blended learning environment. The interviewed participants of the study were 12 nursing students representing different motivation regulation profiles detected in the earlier longitudinal studies. A qualitative content analysis was employed to gain deeper understanding of the factors supporting students' regulation of motivation and the use of motivation regulation strategies. The results show that students faced frequently events which positively enhanced and maintained motivation regulation and the use of different motivation regulation strategies during their studies. Seven frequently used motivation strategy categories were revealed and enhancing factors related to them. These aspects should be considered in developing nursing education and supporting students' learning.

Session II 1
10 August 2019 12:15 - 13:15
ST 4
Poster Presentation
Higher Education

Higher Education - Student Focus

Keywords: Achievement, Attitudes and beliefs, Cognitive skills, Culture, E-learning/ Online learning, Educational Psychology, Higher education, Learning approaches, Learning Technologies, Mathematics, Mixed-method research, Motivation, Motivation and emotion, Self-efficacy, Self-regulation, Survey Research, Writing/Literacy

Interest group: SIG 04 - Higher Education

Chairperson: Charlotte Larmuseau, KU LEUVEN, Belgium

Basic mathematical skills as a predictor of (non-)completion in distance education

Keywords: Achievement, Cognitive skills, E-learning/ Online learning, Mathematics

Presenting Author: Laurie Delnoij, Open University, Netherlands; Co-Author: Kim Dirkx, Open University, Netherlands; Co-Author: Jose Janssen, Open University of the Netherlands, Netherlands; Co-Author: Rob Martens, Open University of the Netherlands, Netherlands

Non-completion is a complex problem, especially in higher distance education (HDE). Understanding the problem, seeking for predictions with the aim to gain insight for remedies has been the focus of many studies. One of the factors of interest in research on explaining the problem is basic mathematical skills. There seems to be a consistent positive relationship between students' basic mathematical skills and completion in higher (distance) education (Lee & Choi, 2011; Fonteyne et al., 2015). However, information is lacking with respect to two elements in this relationship. First, as HDE is characterized by a highly heterogeneous student population due to open access, prior level of education should be controlled for. Second, in prior research on the relationship between basic mathematical skills and completion in HDE, basic mathematical skills are measured by standardized tests (e.g., SAT math score). A rather general operationalization of basic mathematical skills (i.e., 'numerical problems') might be promising in light of the heterogeneity of the student population in HDE and with respect to the predictive value for a broader range of study programs, in contrast to study programs requiring specific mathematical prior knowledge. The study presented in this poster presentation investigated whether basic mathematical skills (operationalized as 'numerical problems') predict non-completion, controlled for prior educational level, in the context of HDE. Results showed that basic mathematical skills significantly predict completion in distance education, independent of prior educational level ($\beta=0.165$, p

University Students' and Lecturers' Attitudes on Educational Theories

Keywords: Attitudes and beliefs, Higher education, Mixed-method research, Motivation and emotion

Presenting Author: Stefan Siegel, University of Augsburg, Germany; Co-Author: Martin Daumiller, University of Augsburg, Germany

Attitudes play an important role for learning and instruction (e.g., Maio et al. 2019; Richardson, 1996). Often unconsciously, attitudes can influence the perception and behavior of (aspiring) educators (Eagly & Chaiken, 1993). Learning about and teaching general pedagogical knowledge (GPK; Shulman 1987), especially educational theories, are an important element of educational studies and teacher training. Although not yet systematically researched, it can be assumed that university students' and lecturers' attitudes on educational theories are relevant prerequisites for high quality learning (e.g., research-based learning; Lehmann et al., 2018) and instructional processes (e.g., scholarship of teaching and learning; Dewar et al., 2018) and therefore important aspects of (prospective) educators' individual professionalisation and professional competence (e.g., Männle 2018; Baumert et al., 2011).

The aim of this study was to explore the attitudes of university students and lecturers towards educational theories, and to investigate their interrelations with important aspects of learning and instruction such as achievement motivations and academic emotions.

To this end, a mixed-methods-study was conducted. Therefore, problem-centered interviews (Witzel et al., 2012) with 32 university students and 12 lecturers of teacher training and educational science were led and analyzed by means of qualitative text analysis with a type-building approach (Kuckartz, 2014). In addition, the interviewees completed questionnaires on their learning motivations, emotions, and other aspects of learning and instruction.

The combined results indicate that the students' and lecturers' attitudes about educational theories differed substantially. Furthermore, the importance of educational theories for learning and instruction were evaluated divergently, and differentially adaptive motivations and emotions were expressed depending on the articulated theory-related attitudes of the interviewees.

Taken together, the results point to the importance of theory-related attitudes for learning and instruction as disentangling their interrelations with achievement motivations and academic emotions could help to better describe, explain and foster their individual professionalisation.

The relationship between self-efficacy and academic help-seeking among UK postgraduate students

Keywords: Culture, Educational Psychology, Mixed-method research, Self-efficacy

Presenting Author: Hsin-Yi Shih, University of Glasgow, United Kingdom

University is challenging and students may struggle at some point with their studies. While universities offer a range of support, if students do not seek help when facing difficulties, then they may not get the support needed. Academic help-seeking is therefore an important academic behaviour when students
encounter academic problems. Previous research on academic help-seeking is largely limited to Western populations; it neither considers international students, nor provides an in-depth exploration of factors that predict behaviour or different dimensions of the help-seeking process. This study examines academic help-seeking among international Chinese students and native UK postgraduate students. Using a mixed-method approach, the first phase is a survey examining differences between Chinese and UK students (N = 104) regarding their intention to seek academic help, and how their academic/social self-efficacy predict help seeking decisions. The second phase consists of interviews (n = 14) providing a more explorative investigation of students’ experiences of academic challenges, what type of academic help seeking they engage in, factors that influence their decision about whether or not to seek help, and their motivation to improve their academic performance. The preliminary result suggests that UK students were more likely to turn for help during or before/after class than Chinese students. It also suggests that nationality could have an effect on attitude toward seeking help in an academic context. Specifically, British cohorts’ perception of help-seeking as threatening is higher than Chinese cohorts’, and they feel the faculty is more helpful. Interestingly, the self-efficacy comparison suggests that social self-efficacy seems to be more important for academic help seeking among master students. The study has implications for furthering theories of academic help seeking. Knowledge of how and how students seek or do not seek academic help has practical implications for how higher education institutions may better support students, especially international students.

Self-Regulation of Resource Management Among First-Semester Students

**Keywords:** E-learning/ Online learning, Higher education, Self-regulation, Survey Research

**Presenting Author:** Sebastian Trentepohl, Ruhr-Universität Bochum, Germany; **Co-Author:** Julia Waldeyer, Ruhr-Universität Bochum, Germany; **Co-Author:** Joachim Wirth, Ruhr-Universität Bochum, Germany; **Co-Author:** Detlev Leutner, University of Duisburg-Essen, Germany; **Co-Author:** Jens Fleischer, University of Duisburg-Essen, Germany

Academic learning places higher demands on students’ self-regulation than the pre-structured learning in schools. However, first-semester students often lack the experienced application of resource-related learning strategies, which is an important skill in order to develop and maintain self-regulated learning routines. Switching from school to university therefore confronts first-semester students with new learning-related challenges without having developed adequate coping strategies. In order to develop supportive interventions for first-semester students, reliable assessment of deficits is indispensable. Established instruments to assess learning strategies are predominantly based on self-reports and lack a sufficient differentiation between strategy knowledge and strategy application. Therefore, the goal of the current project is to examine the comparability of first-semester students’ self-reported competence with regard to their resource-related strategy knowledge and actual strategy application in specific study situations. Furthermore, we investigated the relationship between both self-reported strategy competence and the observed quality of strategy application as well as their relation to study success. We designed a seminar for first-semester students of civil engineering, which they could attend as supplemental part of their curriculum. The seminar included an online learning tool, which allowed the recording of indicators for students’ learning behaviour while solving learning tasks that required the application of different resource-related learning strategies. Additionally, we used questionnaires assessing students’ resource-related knowledge as well as self-reports on the quality of their strategy application. The seminar ended with an exam, the results of which served as an indicator of study success. In addition to students’ seminar performance, achieved credit points and exam scores at the end of the first semester as well as their overall study satisfaction were requested as external indicators for study success. The results showed correlations between students’ resource-related strategy knowledge, their strategy application and academic success.

Measuring approaches to learning and academic writing among international university students

**Keywords:** Educational Psychology, Higher education, Learning approaches, Writing/Literacy

**Presenting Author:** Yufan Yin, University of Helsinki, Finland; **Co-Author:** Anna Parpala, University of Helsinki, Finland; **Co-Author:** Sari Lindblom, University of Helsinki, Finland; **Co-Author:** Auši Toom, University of Helsinki, Finland

Approaches to learning among international students are affected by the adjustment to new teaching and learning environment. However, only a small portion of studies on this field have focused on this group in recent years. Mastery of academic writing marks study success to some extent while approaches to learning are regarded as a predictor of academic achievement and contribute to explaining some aspects in the writing process. This study explores the relationship between approaches to learning and academic writing among international university students (N=205). Their length of study, language proficiency and experience in writing training vary. The 12 items measuring approaches to learning and 25 items measuring writing process were separately subjected to an exploratory factor analysis (principal axis factoring with promax rotation). The analysis yielded a 3-factor solution for approaches to learning and factors for writing process, which were in line with previous studies. The results showed that students’ scored very highly on the deep approach and organised studying and low on unreflective. As for writing, they scored relatively highly for procrastination, knowledge transforming and productivity. The deep approach to learning was positively related to productivity and was negatively related to block and procrastination. Some comparison with previous study was also made.

Facilitating Self-Study in Higher Education Using a Mobile Game App

**Keywords:** Higher education, Learning Technologies, Motivation, Self-efficacy

**Presenting Author:** Jacqueline Wong, Erasmus University Rotterdam, Netherlands; **Co-Author:** Martine Baars, Erasmus University Rotterdam, Netherlands; **Co-Author:** Björn de Koning, Erasmus University Rotterdam, Netherlands; **Co-Author:** Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Self-study forms a crucial aspect of successful learning in higher education. Effective self-study hinges on the assumption that students are motivated and capable of self-regulated learning (SRL). However, research indicates that many students do not self-regulate their learning and support is needed to enhance SRL. In the current study, we examined a mobile game app developed by a university in the Netherlands and offered at a law course as a self-study tool. The mobile app was created with the intention to help students deepen their understanding by using an effective learning strategy: self-testing. In addition, gamification elements were included to enhance student motivation. During the first week of the course, students completed a survey to measure their motivation in terms of autonomous mastery goal, autonomous performance goal, controlled mastery goal, controlled performance goal, and self-efficacy. Over the duration of the course, students’ app usage data were recorded. At the end of the course, their final exam grades were obtained. Students generally reported high levels of autonomous mastery goal and self-efficacy. Results showed that students who used the app scored significantly higher in their final exams than students who did not use the app at all. A preliminary path analysis suggested that the number of days students use the app, autonomous performance goals, and self-efficacy significantly predicted their final exam grade. Findings from the study points to the supportive role a mobile game app can play during self-study to enhance performance of students in higher education. Future studies can explore ways to operationalize mobile app usage to better understand the relationship between motivation, app usage, and academic achievement. Nonetheless, the study adds to research on use of mobile game app to support learning in higher education.

**Session II 2**

10 August 2019 12:15 - 13:15
ST 2
Poster Presentation
Learning and Instructional Technology, Teaching and Teacher Education

**Instructional Technology**

**Keywords:** At-risk students, E-learning/ Online learning, Educational technology, Emotion and affect, Experimental studies, Game-based learning, In-service teacher education, Interdisciplinary, Language (Foreign and second), Learning Technologies, Motivation and emotion, Quantitative methods, Quasi-experimental research, Self-efficacy, Student learning, Teaching/instruction, Vocational education

**Interest group:** SIG 07 - Technology-Enhanced Learning And Instruction, SIG 27 - Online Measures of Learning Processes

**Chairperson:** Jetske Strijbos, Vrije Universiteit Brussel, Belgium
Intergalactic ZEIIB: International Extension on School Absenteeism

Keywords: At-risk students, Game-based learning, Quantitative methods, Self-efficacy

Presenting Author: Petra Bieg, Bergische Universität Wuppertal, Germany; Co-Author: Mustafa Bilgin, University of Wuppertal, Institute for Educational Research, Germany; Co-Author: Petra Buchwald, University of Wuppertal, Institute for Educational Research, Germany

School absenteeism and dropout impacts the social, academic and economic future of young people. The prevalence of this phenomenon differs between European countries, which indicates the importance for international cooperation, where countries can profit from each other’s experience. Above, in a fast-moving society like nowadays, it needs digital innovation to address the problem. But, in order to prevent school absenteeism internationally, it needs cross-cultural assessment of factors to school absenteeism. For this purpose, data of 891 middle-adolescent students from Turkey, Greece, Spain and Germany were analyzed using and applied to inter-correlated factors of school absenteeism were derived. Based on these findings, a prevention program on social support is going to be conducted, since all of the eight factors are associated to social support from home, school and peers. Therefore, the ZEIIB-prevention shall strengthen social support through a synthesis of two essential components: Game-based learning and theatre-pedagogical trainings. On the one hand, a game-based learning module in form of a Jump and Run Game is created to motivate students to interact with each other and attend school. On the other hand, theatre-pedagogical trainings aim to improve social support, mainly on the following topics: Social resources, perceiving time and self-efficacy. Altogether, these findings extend existing literature by considering more factors and different countries, but maintaining the same latent structure. More than this, these findings stress the importance of social support and therefore offer a scientifically based approach to preventing school absenteeism as well as school dropout in the long-run.

Analyzing attention processes and metacognition in digital learning environments

Keywords: E-learning/ Online learning, Emotion and affect, Experimental studies, Motivation and emotion

Presenting Author: Kerstin Huber, Technical University of Munich, Germany

This thesis examines learning with digital media and emotional processes in online-based environments using psychophysiological measurements, scaffolds and self-report data. Here, self-regulated learning models serve as theoretical framework. The general goal of this work is to provide ad hoc individual and adaptive support and therefore to promote digital self-regulated learning. For this purpose, indicators for emotional processing of digital learning environments must be ascertained. In triangulation with traditional instruments, psychophysiological variables (electrodermal activity, heart rate and pupillometry) will be considered to retrace emotional states during digital learning. Participants interact with an online-based learning environment, while psychophysiological processes are measured. Message boxes are measured on the screen, containing instructional scaffolds, to investigate physiological responses. Different explorative research designs are considered. One approach would compare cognitive, in particular emotional processing of multimodal components and interactive scaffolds. Another strategy would take fixed intervals of bodily reactions to scaffolds into account. Whereby, affective states are intentionally triggered by emotionally positive or negative learning situations. Regardless the design, psychophysiological curves will be recorded in the Biopac Student Lab and treated with MATLAB routines. All message boxes and a timestamp will be stored in a text file. Self-report data serve as disclosure about subjective experiences during the experiment. The study will run in the second quarter of 2019. The final research design and results will be presented at the conference.

The Potential of Digital Media for Language-Sensitive Lesson Planning

Keywords: Educational technology, Interdisciplinary, Language (Foreign and second), Teaching/Instructon

Presenting Author: Moritz Sahlender, German Institute for Adult Education – Leibniz Centre for Lifelong Learning, Germany; Co-Author: Christoph Gantefort, Mercator-Institut für Sprachförderung und Deutsch als Zweitsprache, Germany

Linguistic barriers are an important cause for educational disadvantages, especially for non-native speakers and students with low socio-economic status. Recent studies show that language-sensitive teaching is a promising approach to reduce this disadvantage. The selection of an appropriate language-sensitive method requires additional knowledge about many interrelated aspects such as language area, duration, and social form and thus increases the complexity of lesson planning. Unexperienced teachers, however, often report that they are already overstrained with standard lesson planning. For the present study, a prototype digital tool including 35 language-sensitive methods was developed to examine to what extend student teachers can be supported in language-sensitive lesson planning. The digital tool highlights especially suitable methods according to linguistic and didactical criteria selected by the teacher. The present study employs a randomized field experiment with three groups in a pretest posttest design, and the quality of digital support in lesson planning is varied across groups (fully interactive tool, non-interactive tool, no tool /baseline). The sample (N=134) is recruited from the cohort of teaching students in the winter semester 2018/2019 at the University of Cologne. We expect that the student teachers’ knowledge about language-sensitive methods increases with the quality of digital support. In addition, we expect that the quality of digital support is negatively related with cognitive load, whereas it positively affects attitudes and beliefs towards multilingualism. The statistical analysis will include multivariate analysis of variance. Because the data collection is not completed at present, we will report preliminary results in the poster session.

Effects of Virtual and Augmented Reality on Vocational Students’ Learning and Spatial Ability

Keywords: Learning Technologies, Quasi-experimental research, Student learning, Vocational education

Presenting Author: Elena Denise Tangocci, Technical University of Munich, Germany; Co-Author: Maria Bannert, Technical University of Munich (TUM), Germany

Over the last years, application opportunities of the immersive technologies Virtual Reality and Augmented Reality in educational settings have increased. Researchers found positive effects of these applications on learning processes, such as motivation, knowledge acquisition, transfer, and spatial-visual imagination ability. Especially, students in vocational settings need to train these spatial abilities in order to learn processes and functions, and to correctly solve their tasks within their professional environment. Only few empirical studies have been carried out that investigated the effects of Augmented and Virtual Reality on vocational students’ knowledge and competence acquisition. Aim of the JURE poster presentation is to present results of a first quasi-experimental study in order to discuss the effects of Augmented and Virtual Reality applications on vocational students’ learning acquisition and performance and to plan further studies for the dissertation project. The dissertation is embedded into an interdisciplinary project, in which the effects of the application of the Augmented and Virtual Reality technologies on vocational trainees’ learning processes and spatial abilities will be evaluated. The main objectives of the intervention will be occupational safety and spatial-visual imagination abilities. Results will be presented and discussed at the JURE 2019.

How innovative are English instructors? Investigating their TPACK and innovativeness levels

Keywords: Educational technology, In-service teacher education, Language (Foreign and second), Learning Technologies

Presenting Author: Serenc Çelik, TED University, Turkey

Technology has become an indispensable part of our lives in almost every field and education is no exception. Yet, integrating technology into learning requires going beyond more than basic literacy of digital tools and software programs in a separate computer class. Effective technology integration must happen across the curriculum in ways that research shows deepen and enhance the learning process. Effective technology integration is achieved when the use of technology is relevant and when teachers support it’s integration. Therefore, it is very critical to examine how competent teachers are in terms of technology use to equip them with essential skills both in pre-service and in-service teacher education. Individual differences play a significant role when it comes to technology-related choices. Rogers (2003) states that according to individual innovativeness theory, there is always new information within the social system and that this new information is processed by every individual at differing levels. He classified individuals in five categories (innovators, early adopters, early majority, late majority, laggards) in terms of their innovation characteristics. Accordingly, it is assumed that individual innovativeness level might explain how competent teachers are in terms of integrating technology, results can guide teachers to make more informed decisions in their classrooms. This study is significant in that it is the first attempt to focus specifically on in-service EFL instructors’ TPACK and their individual innovativeness levels to exemplify personal characteristics affecting TPACK scores. This survey study aims at finding out the effect of teachers’ individual innovativeness level on English instructors’ TPACK scores. For this purpose, TPACK-EFL scale and individual innovativeness scale were applied to 41 English teachers working at a private university in
Turkey. T-test results revealed there is a significant difference between innovative and traditionalists in terms of Technology Knowledge and Technologic Pedagogic Knowledge. Suggestions are made for teacher educators, curriculum developers and policymakers.

Session II 3
10 August 2019 12:15 - 13:15
ST 6
Poster Presentation
Assessment and Evaluation, Learning and Social Interaction, Lifelong Learning

Early & Lifelong Learning

**Keywords:** At-risk students, Cognitive development, Cognitive skills, Early childhood education, Educational Psychology, Game-based learning, Informal learning, Language (L1/Standard Language), Learning approaches, Lifelong learning, Peer interaction, Phenomenography, Quantitative methods, Self-regulation, Vocational education, Workplace learning

**Interest group:** SIG 05 - Learning and Development in Early Childhood, SIG 14 - Learning and Professional Development

**Chairperson:** Petra Beatrix Schubert, University of Vechta, Germany

Youth worker as 21st century educator: based in Estonian youth work specialists opinions

**Keywords:** Informal learning, Learning approaches, Lifelong learning, Phenomenography

**Presenting Author:** Maarika Veigel, Tallinn University, Estonia

Youth work and non-formal learning are important in education landscape. So it is essential to understand is in Estonia youth worker is an educator and partner, or person dealing mostly with youth social problems. Research aims were: (1) explain what is youth workers’ work values and (2) understand better their work-load specifics, differences in the context of 21st century skills. There are Estonian youth work specialists opinions about what kind skills, knowledges youth learning in Open Youth Center activities and what kind is youth workers’ support and influence. Data was collected from semi-structured interviews with 35 Estonian youth work specialists in 2016-2018. The transcripts were analysed by means of qualitative content analysis. The results showed that youngsters learn mainly special skills from hobby activities and social skills, team work in camps or events. It was revealed the importance of health education and that psychological counselling is often part of everyday’s work. It turned out, that youth workers must effectively use experienced learning and present results wilder. Blended learning and useing technology in smart youth work are as big challenges. More attention should be paid to the need for 21st century skills development (social intelligence, solution-oriented and adaptive thinking, cultural competence, digital competencies, virtual cooperation). The results pointed to the importance of further exploring these constructs, as to improve efficiency of practical work and their interrelations with understanding about learning in youth work. Cases could help to better describe, explain and to encourage youth workers’ individual professionalization. Keywords: 21st century skills, Estonia, experienced learning, non-formal learning, youth work, youth worker

What hinders professional trainers and training managers to learn at and for work successfully?

**Keywords:** Informal learning, Lifelong learning, Vocational education, Workplace learning

**Presenting Author:** Sebastian Anselmann, University of Education Schwäbisch Gmünd, Germany; **Co-Author:** Uwe Fallhauser, University of Education Schwäbisch Gmünd, Germany

Barriers on Learning: What hinders professional trainers and training managers to learn at and for work successfully?

The aim of this study is to identify learning barriers at work for professional trainers and training managers. The research question is: What barriers do professional trainer and training managers describe for their engagement in learning activities at work?

We focus on barriers in learning at the workplace that hinders the initiation or interrupt successful learning, delay the proceedings, or end the learning activities much earlier than intended. Barriers can be internal, external and with regard to the organisational fit and therefore refer to an individual, team and organisational level (Shuck, 2019).

Professional trainers (N=16) and training managers (N=10) were questioned in an interview study about their engagement in learning activities and barriers to learn. Answers were recorded, transcribed and a content analysis was conducted with a category system that was developed on theoretical considerations. Interviews will be conducted till the saturation point is reached.

We identify categories of learning barriers on individual, team level, as well as on organisational level for informal and formal learning activities. Preliminary findings show that trainers and training managers do face severe barriers in learning at work. For example interviewees described external barriers at the team level that are belonging to team work and supervisor’s leadership. They describe negative consequences like losing track, start to work solitary apart from the company’s goals, and leaving the company.

This study indicates, that it is not a causal determined process to learn successful from one’s tasks. An essential role is taken by leadership and team climate.


Evaluation of an integrated approach in center-based care to foster early language development

**Keywords:** At-risk students, Early childhood education, Language (L1/Standard Language), Quantitative methods

**Presenting Author:** Christiane Hitz, Universität Leipzig, Germany

The present study evaluated how children differentiate in their speech-output at the school entry health examinations, depending on whether they attended a daycare center taking part in the German initiative core day care centers language & integration ("Schwerpunkt-Kitas Sprache & Integration") or not. The initiative was aimed to enhance early language promotion. Daycare centers participating in the initiative were filtered by a selection process to identify institutions with an above-average portion of children at risk. As expected, significant differences between the groups were found (grammatical skills, family language, socioeconomic status and number of books available in the household). Therefore, these factors were controlled by using an optimal pair matching (propensity score). Analyses (N = 394, M = 71.35 months, SD = 3.74) showed no significant differences in the two evaluated subscalesprepositions and plural for children who attended a daycare center which took part in the initiative, and children who did not.

Inhibitory Control in Early Childhood: The Role of Reward and Temperament in Playful Contexts

**Keywords:** Cognitive development, Cognitive skills, Early childhood education, Self-regulation

**Presenting Author:** Carolina Catarena, Pontificia Universidad Catolica de Chile, Chile

Abstract: Early childhood is a key period to develop self-regulation skills. Inhibitory control is one of the important abilities of self-regulation involved in academic and social contexts. Studies in older children have shown that children improve inhibitory control when reward is presented. However, different types of reward and individual differences are not fully controlled. In order to contribute to this topic, the present study seeks to evaluate the effect of the Predictive and Non Predictive Reward strategies offered in a game, and the temperament in children from 4 to 5 years old, on inhibitory control. The evaluations done consider behavioural measurements through tablet games and a reported measure from parents. To achieved this goal, 149 children were evaluated through different tasks. Firstly, a questionnaire was given to parents in order to report the temperament of their children. Secondly, three Inhibitory Control tasks were used which two of them include predictive and non-predictive reward. Preliminary analysis points out that statistical significant differences in Inhibitory Control are found depending on the type of reward used. Children’s inhibition is better when predictive reward is presented. However, children make fewer mistakes in the non-predictive condition. Ideas on the impact of reward strategies according to child characteristics in playful context will be discussed. Data analysis is still in process. Next steps are described in the document attached. I would like to modify the abstract and extended summary later in order to actualize the information.
Do Different Types of Play Produce Diverse Conditions to the Learning Process in Early Childhood?

Keywords: Early childhood education, Educational Psychology, Game-based learning, Peer interaction

Presenting Author: Amaya Lorca de Urarte, Pontificia Universidad Católica de Chile, Chile; Co-Author: Valeska Grau, Pontificia Universidad Católica de Chile, Chile

Research has shown the long-term impact of good quality initial education and one of those dimensions of quality is the use of play. The importance of play in the development of socio-emotional skills, metacognition, self-regulation, as well as in the learning achievements of curricular contents of mathematics and language have been evidenced. Likewise, research in this field has focused on the polemic between direct instruction and free play, and only in recent years have other types of play been investigated that may (or may not) involve the adult. Studies have evidenced different benefits of the diverse types of play (Huang et al., 2012; Bopp et al., 2018). Notwithstanding, conditions for learning processes generated by varied types of play are still unknown. From an historical-cultural perspective, these conditions include degree of involvement, dialogue and beliefs (Sebastian & Lissi, 2017). Hence, the general objective of this work is to understand the different conditions to the learning processes produced by different types of play in learning-teaching contexts in preschool classrooms. The present study is qualitative and is an instrumental case study. We worked with a pre-kinder classroom of a school in Santiago de Chile. We filmed the classes and interviewed 6 children. Dialogical discourse analysis was implemented to analyze the interviews and observational analysis of interactions is been implemented to analyze the videos. The analysis shows that the categories of play could be improved if more dimensions are considered: activity amplitude, weight the activity and the actual children's action organization. Also, the preliminary results show diverse conditions to the learning process between different types of play. The children's level engagement, type of talk between peers, educator's mediation, self-regulated processes and socioemotional dynamics have been conditions that vary between the different types of play observed.

Session II 4

10 August 2019 12:15 - 13:15
Poster Presentation
Cognitive Science, Higher Education, Learning and Instructional Technology

Cognition / Metacognition

Keywords: Arts, Attitudes and beliefs, Cognitive skills, Collaborative Learning, Culture, E-learning/ Online learning, Educational Psychology, Educational technology, Experimental studies, Higher education, History, Metacognition, Mixed-method research, Secondary education, Self-regulation, Student learning, Workplace learning.


Chairperson: Juliene Ferreira, University of Tampere, Finland

Defining Socially Shared Metacognitive Regulation: a Scoping Review

Keywords: Collaborative Learning, Metacognition, Self-regulation, Student learning

Presenting Author: Mari Ader, Welten Institute - Open University of the Netherlands, Netherlands; Co-Author: Jan van Bruggen, Open University, Netherlands; Co-Author: Marjan Vermeulen, Heerlen Open University, Netherlands

Although socially shared metacognitive regulation (SSMR) has been researched in numerous studies, a clear understanding of this concept and interventions to elicit these processes is lacking. A variety of conceptualizations give rise to an inconsistency in research and generalization of findings across researches. Therefore there is a necessity to create an overview of the terms utilized to obtain an improved framework and theoretical understanding. The purpose of this review is to present an inventory and analysis of theoretical concepts in SSMR, and report on ways in which SSMR has been elicited in previous research. For this, a scoping review approach was used to provide an overview of all relevant studies that currently exist in the research area. As this is a scoping review, the findings will be presented regardless of the study design and without assessing the quality of the individual studies. The current research aims to clarify the terminology used in the field of SSMR and identify gaps in the literature. This will help further the field and indicate where more research is necessary. Moreover, in this poster presentation we will pinpoint to methods of eliciting SSMR activities and their outcomes. The detailed results of this scoping review will be presented at the conference.

Self-regulated learning and feedback on students’ learning processes

Keywords: Educational technology, Metacognition, Mixed-method research, Self-regulation

Presenting Author: Klaas Puay Lim, Technical University of Munich, Germany; Co-Author: Maria Bannett, Technical University of Munich (TUM), Germany

Scaffolding learners has been successfully in supporting them in regulating their learning in previous studies. Scaffolds need to be adaptive to students’ abilities and progress to support its inherent role of diagnosis, calibration, and fading. In addition, they should adapt to active processes in self-regulated learning. Current scaffolds have not been sufficiently adaptive, and interpretation of trace data is still inadequate to develop adaptive and personalized scaffolds. Despite the direction of recent learning systems towards more adaptive scaffolding, there is still a lack of agreement over which learner actions in trace data are suitable for measuring, comprehending, and supporting students’ self-regulated-learning (SRL). It is still a persistent challenge to meaningfully comprehend students’ learning processes in an online learning environment in an unobtrusive manner as commonly-used trace data does not shed light on these processes in comparison with Think Aloud protocols. This study aims to explore and combine unobtrusive data, such as how and when SRL processes are elicited using Think Aloud measures to improve interpretation of these trace data. 40 university students participated in a lab study in a technologically-enhanced learning environment and completed a pre- and post-comprehension test, multiple texts with various learning topics, and think aloud concurrent to learning. Time-stamped data (e.g. log files, eye tracking, mouse tracking) recorded in addition to test-responses. Expected findings include valid types of learner actions related to SRL processes. It is expected that more strategic learner actions correspond with higher learning outcomes. The study aims to use findings to develop appropriate scaffolds for SRL which will be evaluated in future studies.

The Role of Effort in Applying Learning Strategies - A Mixed-Method Study

Keywords: Cognitive skills, Higher education, Mixed-method research, Student learning

Presenting Author: Felicitas Biwer, Maastricht University, Netherlands; Co-Author: Anique de Bruin, Maastricht University, Netherlands; Co-Author: Mirjam Egbrihink, Maastricht University, Netherlands

Self-study skills are crucial for learning success and academic achievement in higher education. Entering university, most students have never been taught how to study effectively and thus engage in rather passive and ineffective learning strategies. Even when gaining more accurate knowledge about effective learning strategies, students struggle to put the more effective, but also more effortful strategies into practice. The aim of this study is to examine the discrepancy between students’ knowledge and use of learning strategies under the perspective of perceived and invested effort. In this ongoing quasi-experimental, mixed-method study, first-year university students either attend a learning strategy training that aims to increase students’ metacognitive knowledge and use of effective learning strategies or do not attend the training. Knowledge, use, and perceived and invested effort are measured by a self-developed questionnaire prior and after the training in order to investigate whether perceived and invested effort are related to the actual use of different learning strategies. In focus group discussions, we will address students’ perspective on barriers and enablers of putting effective learning strategies into practice in order to explain the quantitative results on a deeper level. We expect to gain valuable insights into the role of perceived and invested effort on the application of effective, but more effortful learning strategies. This can inform how to support students in closing the knowledge-practice gap.

To trust or not to trust? Dutch students’ evaluation of the trustworthiness of sources.

Keywords: Attitudes and beliefs, Cognitive skills, History, Secondary education

Presenting Author: Maartje van der Eem, University of Amsterdam, Netherlands; Co-Author: Jannet van Drie, University of Amsterdam, Netherlands; Co-
Author: Carla Van Boxtel, University of Amsterdam, Netherlands; Co-Author: Sascha Brand-Grunewel, Open University of the Netherlands, Netherlands

“Real or fake news: adolescents cannot tell the difference”. This is just one of many similar newspaper headlines which have been published over the last few years. In our digitalized society, there is concern about the difficulties adolescents have with evaluating the enormous amount of information they encounter daily. In history education evaluating the trustworthiness of sources in relation to a particular question about the past is part of the curriculum. However, international research shows that it can be a difficult skill to master and that students do not automatically apply this skill when working with sources. The aims of the current study are threefold. First, to gain an understanding of the way Dutch students evaluate the trustworthiness of both historical and non-historical sources. Second, to determine the relationship between the value students attach to working on source evaluation tasks and (a) their task performance and (b) their epistemic beliefs. In this explorative study, 153 students from six schools participated (mean age: 14.5 years). The students have performed tasks that required them to evaluate the trustworthiness of sources, both historical (about the First and the Second World War) and non-historical (internet sources on vaccination). These were short, open-ended tasks, modelled after the Historical Assessments of Thinking, which were designed by the Stanford University History Group. Students have also filled out questionnaires about epistemic beliefs and about task value. Preliminary results show (a) that students struggled with evaluating the trustworthiness of the historical sources, with an average score of .59 out of 2 and (b) that there is a moderate positive correlation between more nuanced epistemic beliefs and the (positive) value that students attach to evaluating the trustworthiness of historical sources.

Supporting Adults’ Learning in an Online Learning Environment through Prompts

Keywords: E-learning/ Online learning, Experimental studies, Metacognition, Workplace learning

Presenting Author: Bequeem Ala, Technical University of Munich, Germany; Co-Author: Maria Bannert, Technical University of Munich (TUM), Germany; Co-Author: Petra Engelmann, Technical University of Munich, Germany; Co-Author: Anna Horrer, Ludwig-Maximilians-Universität (LMU), Germany

Emerging new technologies and constant changes in educational communities require instructors to rapid adaption to improve learning environments. Due to the flexibility in technology-based settings, instructional designers should integrate supportive elements to increase the involvement and responsibility of learners. Metacognitive prompts can foster learners to use learning strategies in the training. This research aims to investigate the effect of metacognitive prompts on the adults' learning performance in an online learning environment. In a pre-post experimental design, participants included 58 people (36 female and 22 male) who are SAP employees and some volunteers, predominately university students. While experimental group (n = 29) were prompted with questions to apply metacognitive strategies during the training session, control group (n = 29) were not prompted. The results showed that participants in both conditions considerably improved their knowledge from pre-test to post-test. Relative to the control condition, performance improves more over time when trainees are prompted by metacognitive questions. Moreover, the post-test scores of the two groups did not differ significantly from each other. Further analysis demonstrated that participants in the EG attained a significantly higher score on the application level of the post-test, but not on the knowledge and comprehension levels. Post hoc analysis revealed that prior knowledge interfered with the effect of metacognitive prompting on performance. These results are congruent with theories of metacognition and self-regulated learning indicating that metacognitive prompts can lead to an increase in learning performance. The findings contributed to the research field on the application and design of these prompts, especially in a corporate setting.

Bottom-up factors in music reading: evidence from pupil size and performance measures

Keywords: Arts, Cognitive skills, Culture, Educational Psychology

Presenting Author: Natalia Chitlakina, University of Turku, Finland; Co-Author: Hans Gruber, University of Regensburg, Germany; Co-Author: Marjaana Puuttinen, University of Turku, Finland

The aim of this study was to shed more light on the factors that might affect music readers’ attention in performance tasks: incongruence, tonality and modality of the performance. The role of these factors was studied through a detailed analysis of music performances and concurring eye movement recordings of experienced music readers. Twenty-two music readers sang and played on a piano a familiar short melody (“Mary had a little lamb”) in two different keys of C and B major in time with a metronome. For some of the performances, the musical score contained one bar in which the notes were shifted down a tone. The quality of performances and the mean pupil size of participants were analysed. Our findings indicated that the processing of incongruence in music might increase cognitive load. In addition, participants experienced more difficulties in B major performances compared to C major. Our pupil size data was also sensitive to the modality of performances; the mean pupil size was lower in singing compared to playing.

Session II 5

10 August 2019 12:15 - 13:15
ST 5
Poster Presentation
Instructional Design, Learning and Instructional Technology

Instructional Design

Keywords: Assessment methods and tools, Educational technology, Goal orientation, Higher education, Instructional design, Language (Foreign and second), Language (L1/Standard Language), Mathematics, Mixed-method research, Motivation, Reading comprehension, Second language acquisition, Secondary education, Self-efficacy, Writing/Literacy

Interest group: SIG 06 - Instructional Design, SIG 07 - Technology-Enhanced Learning And Instruction, SIG 12 - Writing

Chairperson: Carina Schoenmoser, Leibnitz Institute for Educational Trajectories, Germany

Inventory of Foreign Language Teaching and Assessment Practices in Dutch Secondary Schools

Keywords: Assessment methods and tools, Instructional design, Language (Foreign and second), Secondary education

Presenting Author: Charlotte Rouffet, Universiteit Utrecht / Hogeschool Utrecht, Netherlands; Co-Author: Catherine Van Beuningen, Hogeschool Utrecht (University of Applied Sciences Utrecht), Netherlands; Co-Author: Rick De Graaff, Universiteit Utrecht / Hogeschool Utrecht, Netherlands

Communicative Language Teaching (CLT) aims to promote the development of communicative skills in realistic situations. Although foreign language teachers generally support the research-based approach of CLT, many of them fail to integrate it into their classrooms (Kissau et al., 2015). One of the most common reasons mentioned by FL teachers in the Netherlands is school requirements, particularly concerning evaluation (Fasoglio et al., 2015). Schools often use tests that come with widely-used textbooks, which tend to focus on assessing vocabulary, grammar, and receptive skills (reading and listening). Productive skills (speaking and writing) are tested less often, and if they are, this is usually done by asking pupils to translate sentences or reading texts out loud. Such tests barely introduce realistic unpredictability in the form of unknown or unprepared questions and fail to test communicative competence, i.e. the ability to adapt FL knowledge and skills to new situations. This seems to create a lack of constructive alignment between CLT learning goals on the one hand, and non-CLT teaching and testing approaches on the other hand. The current study - which is the inventory phase of a larger design-based research project - aims to provide more insight into the (background of) this lack of alignment, based on survey data (n = 138), interviews and classroom observations (n = 17), and analyses of FL tests and teaching materials. In this poster, I will present the first results of this inventory and discuss to what extent the data can be used in the design phase of the project. References:Fasoglio, D., Jorg, K. de, Pennewaard, L., Trimbos, B., & Tuin, D. (2015). Moderne vreemde talen: Vakspecifieke trendanalyse 2015. Enschede: SLO; Kissau, S., Rodgers, M., & Haudeck, H. (2015). Practicing what they preach? A comparison of teacher candidate beliefs and practices. International journal of language education, 84, 29-54.

HOW DO HIGHER EDUCATION STUDENTS USE EXAMPLES AND PRACTICE PROBLEMS IN SELF-REGULATED LEARNING?

Keywords: Educational technology, Higher education, Instructional design, Motivation

Presenting Author: Milou van Harsel, Avans University of Applied Sciences / Utrecht University, Netherlands; Co-Author: Vincent Hoogerheide, Utrecht University, Netherlands; Co-Author: Peter Verkoeijen, Erasmus University Rotterdam, Netherlands; Co-Author: Tamara Van Gog, Utrecht University, Netherlands
Research on example-based learning suggests that certain sequences of examples (E) and practice problems (P) are more effective and efficient for learning than others (EE/EP-PE/PP). This question has been, however, mainly investigated in experiments in which students were provided with fixed sequences of examples and practice problems. In online learning environments, however, it is typically up to students themselves to decide when to study an example or practice problem solving. Therefore, it is an interesting but open question to investigate how students actually use examples and practice problems during self-regulated learning, and how well their study behavior matches with what we know to be effective for learning (and motivation) from experimental research on example-based learning. In this study, 181 participants studied how to approximate the region under a graph, in an online learning environment containing 45 tasks in total. These were presented as video modeling examples, worked examples, and practice problems, at three complexity levels, with different cover stories (see Figure 1). Students were instructed to select six learning tasks of their own choice. We intend to explore whether students have a preference for a certain (example) format in general, and especially at the start of the learning phase. In further analyses, we will explore whether we can identify patterns in their study behaviors and whether these patterns affect learning and motivation differently (these data are currently being analyzed and results will be available before the conference).

Effects of self-and norm-referenced feedback on student self-efficacy and multiplication in grade 4

Keywords: Educational technology, Goal orientation, Mathematics, Self-efficacy

Presenting Author: Tiarach McDermott, University of Oxford, United Kingdom; Co-Author: Lars-Erik Malmberg, University of Oxford, United Kingdom

Technology is increasingly recognised as a tool for early learning, promoting cognitive, social and linguistic development. Virtual learning environments present unique potential to promote learning and positive learner attitudes. Feedback forms an integral aspect of such environments, previous studies finding that feedback prompts learners to reflect on and alter actions and attitudes, which may subsequently influence learning outcomes. The current study sought to extend existing knowledge through a within-subject design, investigating the (1) effects of different forms of received feedback (self- and norm-referenced) on learners’ self-efficacy and goal-orientation, and (2) how these relationships may mediate the effects of feedback on task achievement and engagement. Irish 3rd and 4th class students (N = 60) completed a sequence of four multiplication virtual learning tasks, receiving feedback treatment following each task. A microanalytic, within-subject design was employed, whereby student self-efficacy, goal-orientation and engagement were assessed through repeated post-task questionnaires in order to observe variability in response to feedback treatment. Results of ANCOVA and path analyses intimated that received feedback type exerted a direct effect on learner self-efficacy, particularly when received feedback is changed from one form (e.g. norm-referenced) to another (e.g. self-referenced) in consecutive tasks, and an indirect effect on achievement as mediated by self-efficacy. Findings suggest that it is the change from one form of feedback to another which may prompt changes in self-efficacy and achievement. It is suggested that this may result from a shift in perceived locus of control and thus an alleviation of perceived pressures. Implications for the design of virtual learning tasks and educational practice are discussed.

The effects of a genre-based pedagogy that exploits connections between reading and writing

Keywords: Language (L1/Standard Language), Reading comprehension, Secondary education, Writing/Literacy

Presenting Author: Moniek Vis, Rijksuniversiteit Groningen, Netherlands

Although reading and writing are interconnected language skills (Clark, 1996; Conrad & Biber, 2001; Fitzgerald & Shanahan, 2000), their interrelations are rarely addressed in educational contexts. This situation is likely to impede students’ literacy development. Therefore, the importance of raising awareness of the interconnections between separate language skills has been emphasised (Hendriks & Van der Westen, 2016; Meesterschapsteams Nederlands, 2018). Genre-based pedagogy is suggested as a means to foster this awareness. The aim of my project is to test whether a genre-based pedagogy that exploits the connections between reading and writing improves the aforementioned skills, and genre knowledge and awareness. Genre-based pedagogy provides a solid framework for connecting reading and writing in secondary school as it enables students to understand texts in a broader societal context. Common elements in the different genre schools (Bawashri & Reiff, 2010) are explicit teaching of genre characteristics, discussion of ways in which genre characteristics contribute to the meaning and effects of texts, and discussion of genre boundaries (Swales, 2009). Two genre-based lesson series focussing on news articles and columns have been piloted (2018-2019) and will be implemented in Dutch secondary schools (2019-2020). The subjects are 15- to 16-year-olds in grade 10. Classes will be randomly assigned to the news article or the column, thereby functioning as control groups. Pre- and post-tests to assess reading and writing abilities in both genres will be administered as well as questionnaires regarding genre knowledge and awareness. For both conditions, two distinct genre elements are the focus of instruction: the use and effects of adjectives and adverbs, and the use and effects of figurative speech. These elements have different functions and effects in the two genres. Students will learn to recognize, interpret and use these features in reading and writing.

Designing an integrated intervention for using grammatical knowledge in L1 and L2 learning

Keywords: Language (L1/Standard Language), Mixed-method research, Secondary language acquisition, Secondary education

Presenting Author: Gis Leenders, Utrecht University, Netherlands; Co-Author: Riek de Graaff, VLOS, Universiteit Utrecht, Netherlands; Co-Author: Marjo van Koppen, Utrecht University, Netherlands

L1 (Dutch) grammar education has been subject to strong international criticism because of its pedagogy and its curriculum content. Linguists argue that there is too much focus on rules-of-thumb and lower order thinking. This focus is claimed to bring about language proficiency in L1 on the one hand and increase the learners’ ability to acquire foreign languages on the other hand. However, there is no empirical evidence to support these claimed effects of L1 grammar education. In recent years, the question is that at the heart of the still quite lively discussions on grammar seems to have shifted from ‘why teach grammar at all?’ to ‘a) which grammar should be taught?’, and b) ‘how should grammar be taught?’ Because our native language is so evident to us, de-automation techniques seem to be required to promote grammar awareness. De-automation can possibly be achieved by comparing the grammar of different languages. By looking closely at the grammar of foreign languages for comparison, awareness towards the native language can be promoted, as well as towards the foreign languages. In this study we address two questions: 1. Which linguistic concepts are desirable for comparative grammar education in L1 (Dutch) and in L2 (English and German) in view, according to teachers? 2. What knowledge is used by students in L1 grammar tasks and to what extent is their L1 (grammatical) knowledge transferable to L2 (English and German)? The first question was examined by questioning in-service secondary school teachers of Dutch, English and German language via an online questionnaire, followed by three focus group interviews and analyzing the outcomes. Thinking-out-loud protocols were used to answer the second question.

Based on these outcomes, we will present and discuss the opportunities for an integrated intervention aiming at trans-linguistic language awareness in secondary education.

Session II 6

10 August 2019 12:15 - 13:15
ST 3
Poster Presentation
Teaching and Teacher Education

Teaching and Teacher Education

Keywords: Assessment methods and tools, At-risk students, Case Studies, Competencies, Comprehension of text and graphics, Content Analysis, Conversation/Discourse Analysis, Cultural psychology, Design based research, Emotion and affect, Higher education, Literacy, Pre-service teacher education, Reading comprehension, School effectiveness, Second language acquisition, Social interaction, Teacher Effectiveness, Teacher professional development, Teaching approaches, Teaching/instruction

Interest group: SIG 11 - Teaching and Teacher Education

Chairperson: Külli Kallas, University of Tartu, Estonia

Primary School Teachers’ Beliefs about Language Barriers in Classroom Contexts
Keywords: Comprehension of text and graphics, Literacy, Reading comprehension, Second language acquisition
Presenting Author: Sarah Othoff, Carl von Ossietzky Universität Oldenburg, Germany; Co-Author: Juliane Schlesier, University of Oldenburg, Germany
Language skills are fundamental for a competent participation in class, as language barriers could prevent students from taking an active part in lessons. Due to this, it is the aim of this study to identify primary school teachers beliefs about language barriers in classroom contexts. For this, 21 primary school teachers were questioned in semi-structured, guideline-based interviews. After a deductive-inductive structural content analysis, three main language barriers were appointed: different mother tongue, foreign words, and specific terminology. As analysis revealed that teachers are not using a specific, professional teacher actions repertoire to reduce these language barriers, and language barriers should be integrated into teacher education curricula and teacher training courses.

Vocal Health in Teacher Students – a Computerbased Voice Screening Program
Keywords: Assessment methods and tools, At-risk students, Competencies, Teacher professional development
Presenting Author: Anne Parma, RWTH Aachen University, Germany
Background: Although teachers are at high risk of voice disorders, there is only a short offer for voice assessment and voice training during study time in Germany. Hence students voice is hardly prepared for later work. However recent studies abroad show the preventive effect of an early voice training in teacher students. The presenting work is a work in progress study from a quasi-health perspective. Method: To improve the quality of teacher training at Aachen University an objective voice screening alongside an optional intervention has been implemented. The intervention, either as a course (10x1hour per term) or as a workshop (2x3hours per week) involves theoretical and practical voice lessons. The first objective was to find out the prevalence of voice problems among teacher students. The second objective was to find out any differences in students voice quality, after attending a long intervention (group 1) compared to a short intervention (group 2) or no intervention. As a result of the study, data were measured by the Dysphonia Severity Index (DSI). Results: So far 245 teacher students attended a first voice screening and results show, that more than 60% have slight to moderate dysphonic voices. After a second voice screening the DSI increased numerically overall groups, whereas a significant voice quality improvement was seen in group 2 (workshop). Conclusion: We may conclude that even by attending a voice screening, teacher students seem to have a benefit for their voice. Nevertheless, results only show a tendency for a small group of students, therefore a generalisation should be considered carefully.

A qualitative study on mentoring dialogues in search of effective teaching practice
Keywords: Case Studies, Content Analysis, Conversation/Discourse Analysis, Pre-service teacher education
Presenting Author: Sina Schatzmann, University of Zurich, Switzerland
Lesson conferences make up a large part of the mentor teacher support during the teaching practice. They are also important learning opportunities for student teachers (Hascher, Cocard & Moser, 2004). According to the MERID model (Hennissen, Crasborn, Brouwer, Korthagen and Bergen, 2008) first empirical results show that particularly co-constructive dialogues in a less directive style, in which student teachers are able to insert their own topics more often, open up learning opportunities for student teachers (Futter, 2017). More needs to be known with respect to which specific dialogue moves of mentor teachers with regard to certain contents of the dialogues promote student teacher learning. The aim of this study is to generate hypotheses concerning conditions of effective mentor teacher-student teacher dialogues. Based on an existing database, which allows for reverse engineering (Corolli, 1998), mentoring dialogues in lesson conferences of dyads (mentor teacher; student teacher) with high versus low learning outcome in the teaching practice are compared. The first step is creating extreme groups which are based on three learning outcome criteria: 1. Evidence of student teacher learning in lesson conferences 2. Expert ratings on general and subject-specific teaching quality 3. Pupils’ increase in achievement for a given mathematics topic In a second step, the lesson conferences of the selected cases are compared with qualitative content and conversation analysis, resulting in in-depth case descriptions and the formulation of hypotheses on conditions of effective mentor dialogues.

Developing ECT Resilience: A Process of Joint Transformation of Situational Representations
Keywords: Cultural psychology, Design based research, Emotion and affect, Social interaction
Presenting Author: Ana Valles, University of Leida, Spain; Co-Authors: Jordi Corell, University of Leida, Spain
In this poster, we present a research proposal in the field of Early Career Teacher (ECT) resilience and support. Resilience is conceptualized from a Cultural Psychology approach as a process emerging in a situation of adversity. This process implies that the subject and the object are transformed to achieve a positive adaptation to the situation. A previous study suggests this transformation is a consequence of the semiotic change in a specific cultural mean named “situational representation”. From a design-based research methodology, this study addresses the following two research questions: How semiotic transformations of the situational representations are related with the teacher emotional experience? and, how social interaction is unfolded during the process of semiotic modifications? Four ECT who are experiencing struggles in their professional context will participate in a support program organized and developed by the researchers. During each case, systematic interventions will be introduced considering different aspects: the type of semiotic modification, the type of interaction and the use of the Situational Representation structure as an aid. It is expected that the findings will permit to identify useful strategies to develop resilience in ECT as well as a deeper understanding of this phenomenon.

Tomorrow’s Education on Teacher Professional Professional of Improving Chinese Rural Schools
Keywords: Case Studies, School effectiveness, Teacher Effectiveness, Teacher professional development
Presenting Author: Meijie Bi, Vrije Universiteit Brussel, Belgium
Rural schools usually refer to those whose location is in countryside. Many good teachers are not willing to work there because of lower salary and poor teaching facilities. Previous studies on rural school improvement methods primarily focus on government view, like implementing regulation, policies and investing funds. However, few researches pay closer attention to improve teaching quality of rural schools from the perspective of local schools. Improving teachers professional development is key to improve the quality of deprived schools. This article would like to analyse the importance of teachers’ teaching abilities in improving the quality of teaching in rural schools.Key Words: School improvement, Teacher professional development, teaching ability

Teacher Educators’ Beliefs and Perceived Barriers towards Evidence-Based Teaching
Keywords: Higher education, Teacher professional development, Teaching approaches, Teaching instruction
Presenting Author: Minah Kim, Technical University of Munich, Germany; Co-Author: Despoina Georgiou, Ludwig Maximilian University, Germany; Co-Author: Tina Seidel, Technische Universität München, Germany
The purpose of this study is to investigate teacher educators’ beliefs about evidence-based teaching and identify the perceived barriers and facilitators to the use of research evidence in their teaching practice. Furthermore, this study aims to examine the potential differences in their perceptions of barriers when it comes to their education level and teaching experiences. To investigate these, a mixed method is employed. A 25-item scale was developed to examine teacher educators’ beliefs about evidence-based teaching (EBT) as well as the barriers to the implementation of EBT. The scale was collated from the existing questionnaire investigating medical professionals’ knowledge, beliefs, and attitudes toward Evidence-Based Practice (EBP) and adapted to fit into the educational context. The questionnaire was reviewed and pilot tested. In this study, 127 teacher educators from Germany and Switzerland participated. To analyze the quantitative data, Cronbach’s alpha was first calculated to test reliability. The scale was found to be reliable. For the next step, an individual interview will be conducted to identify the perceived barriers and facilitators to the use of research evidence in teaching practice among teacher educators. For this, an interview protocol has been developed based on the existing instruments used in the medical field as well as the educational field. To test validity, a pilot study will be employed. Participants of this study will be teacher educators in Germany. Our aim is to provide rich and in-depth insights into a better understanding of teacher educators’ perceptions of barriers and facilitators to evidence-based teaching. This, in turn, can lead to overcome barriers, foster the implementation of EBT, and ultimately improve the quality of higher education for pre-service teachers in universities.

Session III 1
10 August 2019 13:30 - 15:00
Teaching and Teacher Education

**Keywords:** At-risk students, Competencies, Educational policy, Higher education, Mixed-method research, Pre-service teacher education, Primary education, Secondary education, Teacher Effectiveness, Teacher professional development, Teaching/instruction, Values education

**Interest group:** SIG 11 - Teaching and Teacher Education

**Chairperson:** Cornelius Brandmiller, Germany

Inclusive education for sexual minorities in Turkey and moving forward

**Keywords:** At-risk students, Educational policy, Primary education, Values education

**Presenting Author:** Serhat Altan, Bilkent University, Turkey

Education being largely controlled by governments is the key industry in which controversial ideas are now being fought for. While some governments develop highly inclusive policies to serve the needs of all students others develop educational policies depending on their political agenda that may not be inclusive for all. One of the refugee children who are often excluded from education is gay, lesbian, bisexual, and transgender (LGBT) persons. This study aims to investigate: The impacts of harassment and bullying on LGBT students - The inclusiveness of education policies for LGBT students - The case of Turkey: Strategies to promote supportive schools for LGBT students - A human-rights based approach

Given the vast research on mitigating the negative effects of school climate for LGBT students, the researcher investigates whether it is possible to promote a human-rights based approach to improve schools for more inclusiveness in terms of sexual minorities. The researcher aims to pursue whether a global approach is possible to provide supportive schools for students from sexual minorities in countries where sexual minorities are not clearly referenced in education reforms and policies.

**Developing preservice teachers' professional vision for translingual education**

**Keywords:** Competencies, Higher education, Pre-service teacher education, Teacher professional development

**Presenting Author:** Denis Weger, University of Vienna, Austria

Over the past two decades an intensive discussion has revolved around obstacles for the academic success of pupils whose language use does not comply with language use at school, focusing especially on immigrant pupils and pupils from families with low socio-economic status. In this context, learning environments that support the acquisition of the language/s of schooling as well as the development of pupils’ full linguistic repertoire are seen as a key factor to promote educational success. However, research on how preservice teachers acquire the competencies necessary to create such learning environments is scarce. This study address this underexplored issue by examining how a video-based teacher education course on language/s in education influences competence development of three cohorts of preservice teachers (n = 52) studying different school subjects. Based on the COACTIVE model of teacher’s competence and considering research on the differences between expert and novice teachers the impact of the course on preservice teachers’ professional vision is investigated. Professional vision is the ability to notice and reason about relevant classroom events and can be seen as indicator for the development of professional competence. Studies on professional vision usually use video-based approaches for data collection. In this study the data was collected using a pre- and postvideo analysis taskat the beginning and the end of the course. In this task preservice teachers were asked to voluntarily and anonymously describe, explain and interpret in written form four short videotaped classroom situations. The collected data was then analyzed using qualitative content analysis, in particular, inductive category formation to identify noticed classroom events and deductive category assignment based on prior research on professional vision to evaluate the level of reasoning about the noticed classroom events. In the roundtable discussion I would like to discuss some questions about the statistical analysis of the data.

A mixed methods approach to examining differentiation behavior of teachers

**Keywords:** Mixed-method research, Secondary education, Teacher Effectiveness, Teaching/instruction

**Presenting Author:** Alainne Bakker, University of Groningen, Netherlands

Since the introduction of ‘Wet Passend Onderwijs’ (Law on Inclusive Education) in the Netherlands, more students with special educational needs are included in regular education. Therefore, differentiation is an important teacher skill in today’s diverse classrooms. However, it is also a notoriously difficult one. Teachers do not always respond adequately to the individual needs of students. In this study the Theory of Planned Behavior (TPB) is used to find out why some teachers are able to differentiate well, while others struggle. Therefore, we look into the attitudes, subjective norms, perceived control, and intentions of teachers regarding differentiation. A mixed methods design is used within a total sample of 100 teachers from secondary vocational education. From this sample 14 teachers are followed extensively during 20 weeks within one school year through questionnaires, teacher diaries, classroom observations, and interviews. Based on all these data the relationship between the variables of the TPB is examined, as well as variability over time in some of these variables. In this round table session participants are asked to discuss the methodology used in this research, and to think about an efficient way to present the results, consisting of both quantitative and qualitative data.

**Session III 2**

10 August 2019 13:30 - 15:00

**ST 3** Roundtable

Culture, Morality, Religion and Education

**Different cultures - different learning settings**

**Keywords:** Citizenship education, Conceptual change, Early childhood education, Ethnography

**Interest group:** SIG 03 - Conceptual Change

**Chairperson:** Anja Garone, Vrije Universiteit Brussel, Belgium

**Mechanisms of Exclusion of Refugee Families in Germany: A Critical and Empirical View on ECEC**

**Keywords:** Citizenship education, Conceptual change, Early childhood education, Ethnography

**Presenting Author:** Hoa Mai Trân, Internationale Akademie Berlin, Germany

The presentation discusses different dimensions of exclusion in the case of children and families in Germany living in accommodation centers in Berlin. Through the research project “Everyday Life for Refugee Children up to Age 6 in Collective and Emergency Accommodation Centers” (2016-2017) [ISTA/WIB] the experiences of refugee children, their parents and (pedagogical) staff were investigated by ethnographic, fieldwork. Main issue for discussion is how early childhood education and care system contributes to the structural, social and cultural exclusion of the families with refugee status in reference to normative middle-class childhood framings and assimilation politics as integration. The presentation explores the dimensions of asylum policy, early intervention through pedagogies with the paradigm of integration and the significance of disconnecting children's rights with human rights and citizenship by the powerful classificiation of “refugee” and their implications of structural exclusion in and through the everyday lives of those families. Aim is to reconceptualize early education and care with needs, living conditions, live worlds and inclusion-demands “from below” (demanded from children the families themselves), rather than identifying those target families and groups of early intervention approaches for several social and standardized education measurements. The aim of compensating social inequalities through seeking better outcomes and closing the achievement gap through ECEC will be revisited through transformative and political education approaches as another way in dealing with social inequalities in Germany.

**Session III 3**

13
Constructing powerful knowledge through interdisciplinary curriculum

**Keywords:** Competencies, Integrated learning, Interdisciplinary, Knowledge creation

**Presenting Author:** Mikko Niemelä, University of Helsinki, Finland

The presentation will take the recent discussion of crisis in curriculum theory as a starting point. The crisis referred most notably by Michael Young is considered as a lack of interest in knowledge in schooling. Nowadays the global interest in curriculum making is focused in abstract competences as learning objectives and learning itself is seen as crucial research agenda, not the knowledge that should form the content of learning in schools. This critique is also aimed towards curriculum integration that is an attempt to create schoolwork crossing the boundaries of different school subjects. The critique is understandable, because the common way to comprehend curriculum integration has been understood in this a learner-centered fashion with the methods of inquiry learning beginning with the experiences of the students. Young stresses the problem that if learning is limited to the level of everyday experience, schools fail in their task of generating possibilities for expanding the worldview of the students by building so called powerful knowledge. I will party accept with Young, but claim that knowledge integration is a crucial way for constructing powerful knowledge and it is a question no one making a curriculum can avoid, because it is a question how knowledge is organized in curricula. I will apply the model of didactic transposition to show how knowledge comes to curricula. Forming school subjects is work that utilizes disciplinary findings in a multidisciplinary negotiation, with a common outcome of interdisciplinary subjects such as science, environmental or social studies. The crisis is thus partly resolved if integration of the curriculum is considered from the viewpoint of knowledge organization.

**Exploring the relationship between teacher professionalism and occupational experience**

**Keywords:** Competencies, Lifelong learning, Reflection, Teacher professional development

**Presenting Author:** Tiitu Leibur, University of Tartu, Estonia; **Co-Author:** Katrin Saks, University of Tartu, Estonia; **Co-Author:** Irene-Angelica Chounta, University of Tartu, Estonia

Professional development is a key process within the wider agenda of raising standards and increasing societal growth capacity by improving teaching policy and practice in education. Teacher professional development is a complicated, yet, inseparable part of the teaching process. It is important to monitor the teachers’ development and to study how teacher’s competency in combination with occupational standards work in the real teaching process. This research investigates how teacher professionalism and competences are related with qualification frameworks and professional standards that operates as an instrument supporting the analysis and development of teachers professional qualifications. The aim of the research was to explore the relations between teacher’s professionalism and occupational qualifications. 40 teachers were asked to estimate their, logical, core and holistic representation competencies. The correlation analysis was applied to investigate the relations between the length of employment and the competencies. The results indicated positive, but weak correlations that suggest the relationship between learning gains and development need as well as between assessment and targeted feedback. A negative but still weak correlation was found between the length of employment and ensuring physical, mental and emotional wellbeing. Future work will focus on elaborating the instruments used in this study as well as the experimental setup in order to gain further insights and reliable results.

**Networks in a Scientific Community – Development of the Community and the Individual**

**Keywords:** Doctoral education, Higher education, Researcher education, Secondary data analysis

**Presenting Author:** Agnes Cichy, University of Regensburg, Germany; **Co-Author:** Markus Nivala, University of Gothenburg, Sweden; **Co-Author:** Hans Gruber, University of Regensburg, Germany

Scientific collaborations as a process through which researchers with a common goal work together and produce new scientific knowledge has become fundamental in scientific communities and are important for the professional development of scientists. The structural position within the network has been shown to be an important indicator of power, because a good network position provides better access to knowledge sources, access to information and people, awareness of potential projects, and other resources. To understand the linkage between the development of the whole network and the development of the individual within the network, a longitudinal view of the changes or stability is needed. Scientific communities have been explored in a variety of different areas and this study focuses on the network of the participants of the presentation format symposium of the Special Interest Group (SIG) 14 of the European Association for Research on Learning an Instruction (EARLI), A Social Network Analysis (SNA) is used to analyze the network at the community level and the individual level by examining the archival conference data from the year 2010-2018. The individual professional development will be examined using bibliometric analysis for co-authorship networks and citation networks. This study should provide a deeper understanding of how the SIG 14 symposia are structured and how the network changes over time. It also offers information about researchers education and how participation in this community becomes a fundamental process for professional development of PhD students.

**Learning together**

**Keywords:** Argumentation, Cognitive development, Communities of practice, Content Analysis, Cooperative/colaborative learning, History, Primary education, Social interaction, Vocational education

**Interest group:** SIG 14 - Learning and Professional Development, SIG 26 - Argumentation, Dialogue and Reasoning

**Chairperson:** Yi-Jhen Wu, University of Bamberg, Germany

**Exploring the Distribution of Leadership Practices with Social Network Analysis**

**Keywords:** Cooperative/colaborative learning, Primary education, Social interaction, Vocational education

**Presenting Author:** Angela de Jong, Oberon research institute / Utrecht University, Netherlands; **Co-Author:** Ditte Lockhorst, Oberon research institute, Netherlands; **Co-Author:** Jan van Tartwijk, Utrecht University, Netherlands; **Co-Author:** Mirko Noordegraaf, Utrecht University, Netherlands; **Co-Author:** Renske de Kleijn, UMC Utrecht, Netherlands

A single heroic school principal, who is solely responsible for the whole school organization, is widely regarded as outdated. Distribution of leadership provides the most significant recent theory in educational leadership. Our aim is to explore whether a distribution of leadership practices emerge in schools implementing the same innovation program, whether the leadership practices change over time and differ between schools in three educational sectors. With regard to differences between schools, we assume differences emerge as for instance Spillane (2005) found differences over time in structure of leadership practice, related to literacy and mathematics. We follow schools that all use the program of Stichting leerKRACHT, that stimulates school to build a learning culture. With
this sample of schools, we have the unique possibility to study leadership practices in a context of change. To the best of our knowledge only a few studies on leadership practices using social network analysis are conducted in the context of change. Furthermore, the process of change in leadership practices over time is not yet fully known by means of structural change in schools. In line with literature, we see the distribution of leadership as a social influence interaction. Therefore, we use social network analysis to measure whether there is a distribution of leadership practices. Social network analysis has been identified as one of the most direct approaches to measure social interactions and leadership practices. Based on literature, we developed and piloted a social network questionnaire and is completed once by teachers and school principals of primary (n = 6), secondary (n = 1), and vocational education (n = 5) schools in the Netherlands. During the round table we would like to present some first results and to discuss the sequel of the process of data gathering to measure networks over time.

How to develop historical thinking through collaborative argumentation? A microgenetic study
Keywords: Argumentation, Cognitive development, History, Social interaction
Presenting Author: Natalia Alborno, Pontificia Universidad Católica de Chile, Chile; Co-Author: Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile

Historical thinking is a sophisticated form of thinking about the past, which allows us to discuss the present and project the future. Many authors have defined historical thinking as a specific domain ability because history is a discipline of knowledge with particular features. Besides, historical thinking could be a useful tool for improving democratic participation and democratic engagement. For these reasons, historical thinking became an objective in several countries’ curriculums. A line of research in this field are studies that try to improve historical thinking in students throughout different methods of instruction. Several studies have found that argumentation and multiple sources contribute have higher effects than traditional content-based teaching. These studies have shown which methods are effective to improve abilities such as sourcing, historical understanding, historical reading, corroboration, among others, but those studies have not shown how these methods of instruction do what they do. Namely, these studies do not explain which psychological processes are involved in the changes in historical thinking development. Then, it could be important to describe the immediate process of phenomena’s emergency, that is to say, a microgenetic perspective that would show how historical thinking develops. Also, some historical thinking’s dimensions as historical empathy or contextualization, are harder to improve and a possible explanation is its relation to social identity and political orientation. So ¿How does historical thinking change in the context of argumentation? ¿How does this development occur in microgenetic a perspective? ¿what psychological processes are part of that development? Thus, the main objective of this work is twofold: first, to explore how historical thinking can be developed in young people through collaborative argumentation, and especially the development in historical empathy and contextualization, through a microgenetic study. On the other hand, to understand how social identity and political orientation are involved in this development.

Practice of music ensembles at different professional levels
Keywords: Communities of practice, Content Analysis, Cooperative/collaborative learning, Social interaction
Presenting Author: Simon Schmidt, Universität Regensburg, Germany

Abstract (202 w)
Deliberate practice strategies are crucial for skill development of an expert in music. While research on deliberate practice mainly refers to solitary practice processes, there is little knowledge about differences in structure and constitution of collective practice processes (known as ensemble rehearsals) at different skill levels. In addition, previous research mostly focused on collective practice in classic music tradition but not in younger music genres like popular music. Furthermore, the coherence of collective and individual practice and its consequences on musical performance skills on an individual and collective level has not received much attention in research yet. As it is plausible that an inspiring learning environment and a “collective deliberate practice” process support individual practice patterns (and vice versa) this research project aims at exploring those collective learning processes within popular music ensembles. We investigate the synergy of individual and collective practice patterns by contrasting different professional levels (semi-professionals, professionals). Data will be collected qualitatively with questionnaires and semi-structured interviews to distinguish individual and collective practice processes and to investigate their mutual transfer. The results should provide deeper insights into inter-individual relations in group processes in the domain of music and their contribution to the development of expert music performance in general.

Session III 5
10 August 2019 13:30 - 15:00
ST 2
Single Paper
Teaching and Teacher Education

Teacher Professional Development
Keywords: Achievement, Attitudes and beliefs, Case Studies, Competencies, Early childhood education, Higher education, In-service teacher education, Mathematics, Teacher professional development, Video analysis
Interest group: SIG 01 - Assessment and Evaluation, SIG 14 - Learning and Professional Development
Chairperson: Emily-Marie Pacheco, University of Glasgow, Canada

Principal’s support in the transfer of training of preschool teachers
Keywords: Attitudes and beliefs, Early childhood education, In-service teacher education, Teacher professional development
Presenting Author: Elke Kleinitz Altamirano, Autonomous University of Barcelona, Spain; Co-Author: Pilar Pineda, Universitat Autonoma de Barcelona, Spain

This paper presents a qualitative research aiming to identify attitudes that principals in Preschool Education show towards the teachers they work with. In particular, when the former attend teachers’ trainings and transfer it into the classrooms. According to many authors, proper principal’s attitudes can be the engine of a bigger impact in the teachers’ transfer of new learning. Data sources include semi structured interviews with preschool inspectors, focus groups with teachers that attended to a specific training and semi structured interviews with their principals. The results were analyzed bilaterally. The main results of this study show that in the context of Mexico there is a continuous and poorly organized rotation of principals, which weakens a possible support to the teachers. There is also a lack of support due to an absence of preschool principals in the preschool institutions examined. In those, the principal’s administrative work has to be done by a ‘principal in charge’. That is to say a teacher with two functions: the administrative work of a principal and their own group. Teachers, however, highly recognize the importance of the principal’s support. This new principal’s position found in the research, opens the possibility to study the consequences of the absence of this role in kindergartens.
Keywords: attitudes and beliefs, early childhood education, in-service teacher education, teacher professional development

Development of Teachers’ Professional Vision of Student’s Rational Number Concept Understanding
Keywords: Case Studies, Higher education, Teacher professional development, Video analysis
Presenting Author: Maikki Pouta, University of Turku, Finland; Co-Author: Erno Lehtinen, University of Turku, Finland; Co-Author: Tuire Palonen, University of Turku, Department of Teacher Education, Finland

The aim of this study was to investigate development of teachers’ professional vision by comparing student teachers’ and experienced teachers’ skills of noticing and interpreting. Professional vision refers to teachers’ ability to notice and interpret pedagogically significant indicators of students’ thinking and learning. Teaching demanding content knowledge that requires conceptual change sets challenges for teachers’ own understandings of the content, their pedagogical content knowledge, but also professional vision. The accurate interpretation of student’s thinking and possible misconceptions is needed for the proper support for students’ learning of such rational number knowledge that is known to challenge both children and adults. Mobile eye-tracking techniques enables video recording of natural teaching situations from a teacher’s perspective. Combined with cued retrospective reporting, this approach can gather more explicit
evidence of teachers’ noticing and interpretation. Results indicated that teachers’ professional vision can change by experience. Student teachers’ notions were related more specifically to mathematics learning while experienced teachers made more holistic observations about students’ learning processes. All teachers found it hard to interpret student’s fraction understanding, however they differed in the ways that they interpreted the teaching episodes and how well they supported students’ learning during the analyzed episodes.

**Domain specificity of teachers’ judgment accuracy of students’ academic achievement in mathematics**

**Keywords:** Achievement, Competencies, Mathematics, Teacher professional development

**Presenting Author:** Dimitra Kolovou, University of Teacher Education St. Gallen, Switzerland; **Co-Author:** Jan Hochweber, University of Teacher Education St. Gallen, Switzerland

The aim of this study was to investigate to what extent teachers’ judgment accuracy of academic performance is specific to the content areas within mathematics. Judgments by 63 teachers regarding student’s academic performance in algebra, geometry and measures, functions, and probabilities of 1369 students were analysed. The results showed that the possibility to generalize from the accuracy in one content area to another is rather limited. Furthermore, the results of the present study indicate the need for further research in order to answer the question whether accurate judgments of students’ academic achievement can be assumed to be domain general and thus to be accounted by a single, underlying general ability (e.g. diagnostic competence) or whether they are domain specific and draw on several individual underlying competencies.

**Session III 6**

10 August 2019 13:30 - 15:00

ST 7

Single Paper

Motivational, Social and Affective Processes

**Reading and Writing**

**Keywords:** Cognitive skills, Emotion and affect, Motivation and emotion, Primary education, Reading comprehension, Self-regulation, Student learning, Teaching/instruction, Writing/Literacy

**Interest group:** SIG 08 - Motivation and Emotion

**Chairperson:** Yufan Yin, University of Helsinki, Finland

**Relationships Between Reading-Specific Emotions and Updating in Reading Comprehension Performance**

**Keywords:** Cognitive skills, Emotion and affect, Motivation and emotion, Reading comprehension

**Presenting Author:** Sonia Zaccoletti, University of Padova, Italy; **Co-Author:** Gianmarco Altò, University of Padova, Italy; **Co-Author:** Lucia Mason, University of Padova, Italy

Abstract: Reading comprehension is a fundamental learning activity. Despite reading experiences are always infused with emotions, to date, literature has mostly been focused on the role of cognitive and motivational aspects in reading comprehension. However, the relationship between achievement emotions and reading comprehension performance has only recently been studied. The impact of emotions on learning is thought to be mediated by cognitive aspects. Among them, updating ability is a higher-order cognitive ability that plays a crucial role in reading comprehension. This study aimed to investigate the relationships between reading-specific achievement emotions and reading comprehension performance. We also considered updating ability, focusing on its moderating role in these relationships. Two hundred and nine 8th graders completed the Achievement Emotions Questionnaire (Pekrun et al., 2005) and performed two updating tasks and a reading comprehension test. Gender, general cognitive ability, control and value appraisal antecedents of reading-specific emotions were measured as control variables. Mixed-effects models were used for statistical analyses. Mixed-effects models were used for statistical analyses. According to the Akaike Information Criterion (AIC; Akaike, 1974), we selected the most plausible model among a set of candidate models fitted to the same data. Results showed that only activating-negative emotions (i.e., anxiety, anger and shame) predicted reading comprehension performance. Updating ability moderated the relationship between activating-negative emotions and reading comprehension performance. Specifically, activating-negative emotions had a negative impact on reading comprehension performance and this was particularly evident when updating ability was low. The study adds to previous research that is mainly focused on the relationships between emotion and overall achievement in academic subjects. The study also contributes to the extant literature, indicating the moderating role of updating ability in the link between reading-specific emotions and reading comprehension performance. Strategies can be taught to improve students’ ability to self-regulate activating-negative emotions.

**The role of individual reading conditions on students’ perception of reading strategy instruction**

**Keywords:** Reading comprehension, Self-regulation, Student learning, Teaching/instruction

**Presenting Author:** Fabiana Karstens, University of Cologne, Germany

Previous research indicates that self-regulated reading is a powerful approach to foster higher-level reading processes. In the context of educational learning processes, it is also known that the quality of teachers’ instructions is a significant factor of students’ learning and that students’ learning outcomes strongly depend on their perceptions and individual learning abilities. The present paper aims to investigate the role of individual reading conditions on students’ perception of reading strategy instruction in fifth-grade German language classes. Participants were N = 770 fifth-grade students (49.9% female) from secondary schools in Germany. The students’ perceptions were assessed by a self-report questionnaire which focused on different dimensions of reading strategy instruction. Moreover, individual reading abilities like reading comprehension, reading strategy knowledge and reading motivation were tested. The results indicate that the students perceive a low variance of different cognitive strategies and often a direct and explicit way of strategy instruction. Additionally, they perceive metacognitive strategies after reading more frequently than metacognitive strategies before reading. Also, it gets evident that individual reading abilities affect students’ perception of strategy reading instruction in fifth-grade German classes. It can be shown, that students with a high level in reading comprehension, high strategy knowledge and high reading motivation more often perceive a direct and explicit way of strategy instruction, while students with a low level in reading comprehension seldom perceive an instruction of metacognitive strategies.

**Self-Regulation in New Zealand and Iran Writing Classrooms**

**Keywords:** Primary education, Self-regulation, Teaching/instruction, Writing/Literacy

**Presenting Author:** Mina Rezaei, University of Auckland, New Zealand

The gap between high- and low-achieving students tends to widen as students’ progress through schooling. So, promoting self-regulation as a life-long learning ability in the first years of a student’s schooling may help to reduce this gap. Writing with its considerable metacognitive requirements could be a major context for employing self-regulation in the classroom. The study examines teachers’ organising for and teaching of self-regulatory strategies to 7- to 8-year-old students in the writing classroom in two divergent schooling contexts, New Zealand and Iran, to help identify specific experiences that promote self-regulation. This study is a qualitative case study to describe the actual meaning of the participants’ actions and experiences regarding self-regulation. Two primary schools in Iran and two in New Zealand each provided one teacher and three students as the study’s participants. The data sets comprise transcripts from semi-structured interviews with teachers and sitting-alongside conversations with students, documentary evidence, field notes and the use of a specifically designed observation schedule in classrooms, and related artifacts. Drawing on Zimmerman’s model of SR with its three phases, a general framework and codes for the first phase were identified. The results for goal-setting indicate that although teachers promoted the use of a number strategies associated with goal-setting, and also spent time building students’ self-regulatory skills in the writing classrooms, the implementation of goal-setting proved problematic and needs a lot of knowledge and practice for teachers.

**Session III 7**
Motivation in Higher Education

Keywords: Doctoral education, Educational attainment, Emotion and affect, Higher education, Metacognition, Motivation, Motivation and emotion, Qualitative methods, Reasoning, Writing/Literacy

Interest group: SIG 04 - Higher Education, SIG 08 - Motivation and Emotion

Chairperson: Maarika Veigel, Tallinn University, Estonia

International doctoral students’ emotional triggers in thesis proposal writing

Keywords: Doctoral education, Emotion and affect, Qualitative methods, Writing/Literacy

Presenting Author: Qian (Linda) Yu, University of Auckland, New Zealand

Despite increasing attention to the affective domain of doctoral scholars’ research journeys, little research has been conducted to explore the emotions of international doctoral students writing a thesis proposal. The proposal is the first substantial piece of academic writing for most doctoral candidates, which is further inflected by students’ intercultural experiences. This exploratory qualitative study seeks to fill this gap and contribute to an understanding of how Chinese international doctoral students experience writing their proposal. The study was undertaken at a large research-based university in New Zealand. Data was collected via an online survey (n=73) and through follow-up semi-structured interviews (n=24). Informed by appraisal theories (e.g. Lazarus, 1968), data was analysed in a way to identify what emotions students felt about their writing, what triggers led to the emotions and how they appraised the triggers. Seven categories of emotions emerged along with a range of emotional triggers which fell under four broad themes: supervision, time and project management, critical writing and literacy issues, and writing isolation. The findings suggest that Chinese doctoral students’ writing emotions at early candidature stage should be accorded special attention, as these sentiments were found to impact on their motivation and confidence in completing their research proposals. The students’ accounts in this study could inform the development of culturally appropriate strategies for supporting international students’ doctoral supervision and their research writing as emerging scholars.

Why do students decide to continue with or drop out from their studies? A qualitative investigation

Keywords: Educational attainment, Metacognition, Motivation, Qualitative methods

Presenting Author: Agustina Yohen, Kyoto University, Japan; Co-Author: Emmanuel Manalo, Kyoto University, Japan; Co-Author: Ayano Tsuda, Kyoto University, Japan

Significant proportions of school dropout remain a serious issue that needs to be addressed in most Latin American countries, including Argentina. The aim of this preliminary study was to qualitatively explore some of the factors that may affect the continuation/dropout decisions that students make regarding their studies. We wanted to understand these factors more deeply than the usual statistical profiles about student dropout can portray. We therefore conducted semi-structured interviews with 20 voluntary participants in Argentina, divided into two categories/groups: 10 participants who at some point during their academic path dropped-out (the DO group; 3 females, 7 males), and 10 participants who finished tertiary qualification (the FS group; 6 females, 4 males). In the DO group, almost all the participants decided to work instead of continuing their studies because they highlighted the value of work. In contrast, overall those in the FS group explained that important reasons for continuing their studies were parents’ expectations, or adherence to an implicit social rule. Apart from these findings, a number of other factors appeared to also influence their decision making processes. These included cognitive flexibility, future time perspective, and value of education. Although this is an initial exploratory study, and our sample of participants was small, our findings suggest that it is important to better understand how students make decisions about their future to design interventions that could help empower students and develop their competencies so that they can improve the management of their resources and make decisions with a future time perspective.

Dynamics in higher education choice: Weighing one’s multiple interests

Keywords: Higher education, Motivation and emotion, Qualitative methods, Reasoning

Presenting Author: Jonne Vulperhorst, Utrecht University, Netherlands; Co-Author: Sanne Akkerman, Utrecht University, Netherlands; Co-Author: Roeland M. Van der Rijst, ICION-Leiden University Graduate School of Teaching, Netherlands

Recent studies have shown that students’ interests are decisive in making a substantiated higher education choice, yet do not indicate how students decide which interests they aim to pursue. This study aimed to find the considerations students have when weighing interests and higher education programmes. Thematic analysis was applied to uncover considerations based on semi-structured interviews with twenty high-school seniors. Students weighed their interests from an interest to programme perspective (contrasting interests and deciding which is most important for their future) and from a programme to interest perspective (evaluating how reconcilable programmes and interests are. By applying both perspectives simultaneously, students dynamically considered which programmes and interests they wished to pursue. These findings imply higher education choice theory and studies should acknowledge that the programmes and interests students consider is dependent on the feed forward of the considered interests on programmes and the feedback of considered programmes on interests.

Session IV 1

10 August 2019 15:30 - 17:00
ST 5
Single Paper
Cognitive Science, Lifelong Learning

Text production and comprehension

Keywords: Attitudes and beliefs, Competencies, Comprehension of text and graphics, Educational Psychology, Lifelong learning, Literacy, Multimedia learning, Reading comprehension, Secondary education, Student learning

Interest group: SIG 02 - Comprehension of Text and Graphics

Chairperson: Enkeleida Shitetbani, Bergische Universität Wuppertal, Germany

Secondary Students’ Epistemic Thinking and Year as Predictors of Critical Source Evaluation

Keywords: Attitudes and beliefs, Comprehension of text and graphics, Lifelong learning, Secondary education

Presenting Author: Deborah Sleyer, The University of Newcastle, Australia; Co-Author: Stephanie Pieschl, Technical University of Darmstadt, Germany

Given the Internet is the primary information source in secondary schools, students tasked with research are daily challenged with judging the veracity of information from diverse and frequently questionable sources. Previous empirical studies frame epistemic thinking as developmental and suggest there is a causal link between students’ epistemic thinking and their ability to evaluate information sources critically. However, data about such developmental trends is sparse, especially in secondary schools where students are assumed to learn this important digital literacy. This study examined whether epistemic thinking demonstrated at grade levels predicted students’ skills to critically evaluate internet sources. We asked students (n = 218) from Years 7, 9 and 11 at an Australian secondary school to participate in an anonymous online survey. They had to critically evaluate four Internet blog posts (about the effects of video games) that were experimentally manipulated in a two-by-two design regarding Reliability (reliable vs. unreliable) and Content (pro vs. contra video games). Students then completed an Epistemic Thinking Assessment resulting in scores on the dimensions of Absolutism, Multitierism and Evaluativism. Results show no significant differences between year groups regarding epistemic thinking. However, Year 9 and 11 students, compared to Year 7 students, placed greater
emphasis on Author as an evaluation criterion and were better at distinguishing reliable from unreliable blogs. The epistemic dimension of Multiplism - thinking that all knowledge is uncertain and everyone has a right to their opinion - also predicted an apparent weakness in Year 7 students' sourcing skills. Potential explanations and implications for teaching practices will be discussed. Key words: epistemic thinking, Internet-specific epistemic beliefs, secondary education, source evaluation

Exploring Multi-Text and Multimodal Comprehension Through Visual and Verbal Explanations

Keywords: Comprehension of text and graphics, Educational Psychology, Multimedia learning, Student learning

Presenting Author: Andrea Kunze, University of Illinois at Urbana-Champaign, United States; Co-Author: Jennifer Cromley, University of Illinois at Urbana-Champaign, United States; Co-Author: Nur Parpucu Dana, University of Illinois at Urbana-Champaign, United States

Modern day constantly demands people to seek, interpret, and draw conclusions from multiple sources on a single topic (Braten, Brasch, Strams, & Ferguson, 2014; Hynd, Holosch, & Hubbard, 2004). Internet sites, broadcasted media, and High stakes exams, such as the SAT, often present multiple texts and require comparing and contrasting, and use of multi-text and multi-modal representations (e.g., diagrams, charts, tables) to make conclusions and interpretations. Studies have found how people make sense of multiple texts (Rouet & Brit, 2011), and diagram-text sources (e.g., Mayer, 2014); however, we are just beginning to combine theories from multi-text research and multi-modal research to understand this style of comprehension (List & Alexander, in preparation). To measure comprehension, verbal explanations of concepts are ubiquitous. Recently, drawing to learn has emerged as an effective tool for learning. Drawings require retrieval of both visual and verbal information (van Meter & Firetto, 2013), similar to how multi-text and multimodal comprehension should require dual-coding of information (Paivio, 1971). Cognitive Learning Theory explains effects dual-coding and task-switching on cognition, which have implications for students' information processing and comprehension; however, we still need to understand how this affects multi-text and multimodal comprehension. This study explored the relationship between the quality of students' visual and verbal recall explanations based on multi-text and multimodal readings. We found significantly strong associations between students' verbal and drawing explanations, and quality of their drawing depended on their verbal explanation. Additionally, dual-tasking the drawing and verbal explanation during the recall activity did not affect overall quality of students’ explanations. Findings from this study suggest that dual verbal and visual representations on a single topic are closely related, and do not actually tax students thinking. Future work should further consider how this dual recall method may support multi-text and multimodal comprehension.

The impact of gender-stereotypical text contents on gender differences in reading competences

Keywords: Competencies, Educational Psychology, Literacy, Reading comprehension

Presenting Author: Kathrin Thums, Leibniz Institute for Educational Trajectories (LITBI), Germany; Co-Author: Timo Grambis, Leibniz Institute for Educational Trajectories (LITBI), Germany; Co-Author: Ilka Wolter, Leibniz Institute for Educational Trajectories (LITBI), Germany

Societies have socially shared assumptions about what represents typically male or female attributes. Language contributes to gender inequality by transmitting gender-stereotypes in the form of words and texts. This study examines whether gender-stereotypical connotations of stimulus texts in a reading competence test might distort competence measurements and results in a nuisance factor of reading competence. In addition to a general factor of reading competence, we expected gender-stereotypical texts to give rise to gender-specific factors with respect to the text content. The research was based on a sample of 813 adults from the German National Educational Panel Study (NEPS). In a bifactor model, the general factor of reading competence was confirmed. However, the two gender-specific factors could not be identified; there were no gender differences in reading competence of gender-stereotypical text content. These findings indicate that gender-stereotypical text connotations do not distort the measurement of women's and men's reading competence.

Session IV 2

10 August 2019 15:30 - 17:00
ST 3
Single Paper
Motivational, Social and Affective Processes

Measuring Motivation

Keywords: Achievement, Educational Psychology, Emotion and affect, Motivation, Psychometrics, Quantitative methods, Self-regulation

Interest group: SIG 08 - Motivation and Emotion

Chairperson: Kyle Davison, University of Oxford, United Kingdom

Development of a new interest and curiosity scale based on a reward-learning model

Keywords: Educational Psychology, Motivation, Psychometrics, Quantitative methods

Presenting Author: Sumeyye Aslan, University of Reading, United Kingdom; Co-Author: Lily FitzGibbon, University of Reading, United Kingdom; Co-Author: Johnny Lau, University of Reading, United Kingdom; Co-Author: Greta Fastrich, University of Reading, United Kingdom; Co-Author: Kou Murayama, University of Reading, United Kingdom

Two studies aimed to develop a new scale to assess interest and curiosity based on a model which focuses on the subjective feeling of reward on the acquisition of knowledge and to evaluate the construct validity of the Interest and Curiosity Scale (ICS). In Study 1, the data were collected from 720 children and adults (55.7% female) aged between 12 and 79 years old in the Science Museum in London. We applied multigroup (children and adults) confirmatory factor analysis to ascertain the factor structure of the ICS. The results indicated that the scale is the best described by a single factor comprising of 9 items. In addition, we found support for a metric invariance model between children and adults, indicating that factor loadings are invariant between these two groups. In Study 2 (N=173), participants aged between 16 and 18 years old (19.1 % Female, 80.9% Male) took part in the study. The ICS correlated positively with intellectual stimulation measures, providing convergent evidence for the construct validity. Specifically, the ICS correlated with feeling interest and deprivation as well as the Thrill-Seeking Scale. Key words: Interest, curiosity, reward learning, a scale development, education

The pilot study of the Hungarian version of the Big Three Perfectionism Scale

Keywords: Achievement, Motivation and affect, Quantitative methods, Self-regulation

Presenting Author: Zoltan Nagy, University of Szeged, Hungary; Co-Author: Eva D. Molnar, University of Szeged, Hungary

Perfectionism as a trait has long been a topic of interest among psychologists and educational researchers. Its properties have been examined in relation to various aspects of school life, including classroom atmosphere, self-regulation, emotion regulation, motivation, self-esteem, and school performance. However, research on perfectionism in school settings is still scarce. The aim of the study was to examine the properties of the adapted version of The Big Three Perfectionism Scale and see what tendencies of perfectionism Hungarian sample shows. The data collection took place from September 2018 until February 2019, with 350 participants, using both pen-and-paper and online methods. Our results showed a factor structure different from the original instrument's, with good validity and reliability. The structural differences are explainable in the light of previous research on perfectionism. Regarding gender, we found men to be more critical of, and have higher expectations towards others, while also being more narcissistic. Our results also suggest that women are more likely to be afraid of making mistakes, feel ashamed when performing imperfectly and have more doubts about their actions. In case of age differences, we found an increase in other-oriented perfectionism and hypercriticism over time, with adults having higher scores than high school students. Participants older than also showed higher self-oriented perfectionism, which needs further investigation, as previous literature would suggest otherwise. While some minor revisions have to be made in case of three items that did not belong in any of the factors, the instrument is applicable for use, which opens up possibilities for involving further variables into our research. Including a more detailed background questionnaire and other constructs might shed light on the contradictions of age differences as well.

Session IV 3
Teaching newly arrived migrant pupils in elementary reception classes

Keywords: Language (Foreign and second), Multicultural education, Primary education, Teaching approaches

Presenting Author: Sultana Norozzi, Norwegian University of Science and Technology, Norway

Abstract: In this qualitative study, focus of video observation, semi-structured interviews and video conversations was on the reception teacher’s instructional approach to interact with the newly arrived minority language pupil who can’t speak the language. Further, how does the teacher interpret her practices when reflecting on them? Framed by a sociocultural perspective combined, the teacher’s specific approach is named as empowering time. Though empowering time empowers pupils to decide how and when to participate in classroom activities and interactions, it changes to a stable, institutionalized power relation of teacher and pupil in participation time, where triadic dialogue pattern predominates in classroom interaction. The paper is concluded identifying implications drawn from the study.

Schooling of Mongolian herders’ children: Where to stay during the school year?

Keywords: Parental involvement in learning, Phenomenography, Primary education, Qualitative methods

Presenting Author: Batdulam Sukhbaatar, University of Szeged, Hungary

Livestock herding has always been very important in Mongolia because it provides a big part of the economy and it is undoubtedly a part of the nation’s traditional culture. In the nomadic herder culture, families have to move their camps and herds several times a year in order to find good pasture to feed their livestock. Herder children, however, cannot attend school in these remote campsites, so herders need to find a place for their children to stay during the school year. The present study aims to explore how herder parents’ experiences influence their decision for making living arrangement for their primary school children during the school year. This interpretive phenomenological study invited five herder parents to semi-structured interviews. The qualitative data were collected in a remote county in eastern Mongolia. Living arrangement options included staying in a boarding school dormitory, staying at a relative’s place, and splitting the household. The four superordinate themes, which represent herder parents’ interpretations of their experiences in dealing with living arrangements, emerged and were labeled as follows: 1) starting school, 2) education-minded herder parents, 3) shared experiences, and 4) family resources. The results of this study should contribute to improving the well-being and educational outcomes of nomadic herder children living in remote areas as well as offering future research directions for educators in other rural educational settings.

Challenges of Finnish Preparatory Classrooms

Keywords: Cultural diversity in school, Language (Foreign and second), Second language acquisition, Teacher professional development

Presenting Author: Tatiana Shestunova, The University of Helsinki, Finland

With the increase of the linguistic diversity in Finnish schools, it became essential to develop education for recently arrived (RA) students. To date not much attention has been paid to teachers involved in education of RA students during children’s first year in Finland and teachers’ experience. Previous research recognizes stress at work, inadequate support from school administration, classroom management problems, lack of multicultural competence. In the framework of translanguaging and language ecology, the research aims to develop understanding of challenges faced by Finnish teachers of RA students. This paper investigates the living experience of teachers working with RA students in preparatory classrooms to reveal the support factors vital to improve teaching. The research question of the study is: What is it like to be a teacher for multilingual children in a Finnish preparatory class? Preparatory class in the paper refers to a pull-out preparatory class where a child is placed during the first year after arrival to Finland. The research is at its middle phase and data for this paper are being collected in the course of the project Meeting in the Middle, by interviewing a group of preparatory education teachers. The interviews are semi-structured, and analyzed through the thematic analysis. The results suggest that the situation in the field of preparatory education must be improved as teachers experience numerous problems including overload, lack of the proper support from the government and school administration, feeling of being left alone, absence of proper textbooks, lack of adequate knowledge and insufficient networking. The Finnish education system relies on competent teachers instead of uniform teaching methods from above, but this appreciated tendency must not prevent proper definition of good practices.

Language ideologies in the school-specific curricula of comprehensive schools in Helsinki

Keywords: Conceptual change, Conversation/Discourse Analysis, Cultural diversity in school, Educational policy, Educational Psychology, Higher education, Secondary education

Presenting Author: Salla-Maria Suurinieni, University of Helsinki, Finland

This study critically explores the discourses surrounding the concept of language awareness in the school-specific curricula of basic schools in Helsinki. The school curricula have been designed at the process of reforming the Finnish national core curriculum for basic education and should be aligned with it. The newest Finnish national core curriculum for basic education came into effect in 2016. Language awareness is one of the core concepts defining language education in the national curriculum and multilingual learning is an essential part of it. However, results of this study show that the school curricula do not always support multilingual outlook, but instead reflect monolingual practices. The most important theoretical tools in this study are the semiotic processes iconization and erasure defined by Judith T. Irvine and Susan Gal. The data for discourse analysis consists of 92 texts collected from the website http://ops.edu.hel.fi in August 2018. This paper is unique in analyzing school-specific curricula in Finland. Keywords: discourse studies, curriculum studies, language awareness, language ideologies

Diversity of subject choices and success in secondary education among accepted to universities

Keywords: Educational policy, Educational Psychology, Higher education, Secondary education

Presenting Author: Jenni Kunnari, University of Oulu, Finland; Co-Author: Jouni Pursiainen, University of Oulu, Finland; Co-Author: Esa Läärä, University of Oulu, Finland; Co-Author: Jarno Rusanen, University of Oulu, Finland; Co-Author: Hanni Muukkonen, University of Oulu, Finland

This study examines accepted applicants to Finnish universities in several fields of sciences during 2013–2015. The object of the study is the accepted
applicants to universities (N = 46 280) during 2013–2015 and their subject choices and success in the matriculation examination (ME) in general upper secondary education. The data is from university registers and the instance which implements the national matriculation examination, The Matriculation Examination Board. The aim is to create a general overview of subject choices in ME among accepted applicants to universities and to clarify the diversity among those accepted to the disciplines of science, technology, economics, humanities and education. The results indicate that choices made in ME have a connection to certain fields in universities. In educational sciences the students commonly accomplished in the ME basic mathematics (49 %), health education (46 %) and psychology (46 %) while, for example, physics (up to 83 %) and chemistry (up to 56 %) were commonly accomplished subjects among students accepted to the fields of science and technology. It is also possible to see a connection based on the gender of choices in ME and the disciplines which are dominated of one or the other gender. Also success in ME differ between students accepted to different fields. The research done gives a point of view of subject choices and success in ME and study paths from general upper secondary school and universities by means to learn from the past, in the present and for the future.

Session IV 5

10 August 2019 15:30 - 17:00
ST 1
Single Paper
Assessment and Evaluation, Motivational, Social and Affective Processes

Students' motivational, social and affective processes

Keywords: Achievement, Educational Psychology, Emotion and affect, Goal orientation, Motivation, Motivation and emotion, Neuroscience, Primary education, Quantitative methods, Secondary data analysis, Student learning

Interest group: SIG 08 - Motivation and Emotion

Chairperson: Stefanie Vanbecelaere, KU LEUVEN, Belgium

Classroom and Home Learning Environment Effects on Resilient Students: A Secondary Analysis of PISA

Keywords: Achievement, Quantitative methods, Secondary data analysis, Student learning

Presenting Author: Maria Anastasou, University of Cyprus, Cyprus; Co-Author: Leonidas Kyriakides, University of Cyprus, Cyprus

The current research investigates the effects of the classroom and home learning environment on the achievement performance of resilient students; these are students with a low socio-economic status (SES) that tend to perform higher than students with similar background characteristics across countries. Data provided by the Program for International Student Assessment (PISA) was used. The theoretical foundations of Educational Effectiveness Research was adopted assuming that classroom and home learning environment can promote both quality and equity dimensions in education, contributing in this way on the resilience’s investigation. A multilevel modeling technique, a binary logistic regression analysis was conducted where a dichotomous variable was set as independent variable; resilient students and non-resilient and independent variables related to the two environments were investigated. Among the list of classroom learning variables that have been investigated, the “orientation” teacher factor had the strongest effect, while the “home educational resources” variable was the most important indicator of home learning environment across countries. Implications for research, policy and practice are drawn.

Students' Domain-Specific Goal Orientation Profiles, Perceived Cost and Academic wellbeing

Keywords: Educational Psychology, Goal orientation, Quantitative methods

Presenting Author: Henrikka Junutnen, University of Helsinki, Finland; Co-Author: Heta Tuominen, University of Helsinki, Finland; Co-Author: Markku Niemiivita, University of Oslo, Norway

Achievement goal orientations have often been studied as rather general individual tendencies to favour certain goals, results and consequences, but they may also demonstrate subject-specificity. Studies taking several academic subjects into account simultaneously, and by utilising a person-oriented approach in particular, are still scarce. Task values (i.e., intrinsic, attainment, utility, cost), in turn, refer specifically to subject-specific beliefs that influence students' choices and performance. There is a need to understand patterns of subject-specific goal orientations as well as their relations to perceived cost and to more general academic well-being better. This study examined upper secondary school students’ subject-specific (mathematics and English) goal orientation profiles and how students with different profiles differ in cost (i.e., effort, emotional, and opportunity cost) and academic wellbeing (i.e., schoolwork engagement and school burnout). Data were collected by questionnaires. Altogether, 434 students from one general upper secondary school in Finland participated in the current study. Preliminary analyses concerning structural validity were conducted using confirmatory factor analysis. Regarding motivational profiles, students with similar patterns of achievement goal orientations were identified utilising a person-oriented approach and latent profile analysis. After establishing groups, analyses of variance were conducted to examine group differences. Five distinct goal orientation profiles were identified: mastery-oriented (24.9%), success-oriented (25.8%), English-oriented, math-avoidant (14.3%), indifferent (28.8%), and avoidance-oriented (6.2%). Evidence for both domain-genericity and specificity of goal orientation profiles was found. These profiles differentiated in cost and academic wellbeing. Overall, mastery-oriented showed the most adaptive wellbeing and avoidance-oriented the most maladaptive. Success-oriented group, characterised by high multiple goals, also scored high on cost and both adaptive (i.e., engagement) and maladaptive (i.e., burnout) academic wellbeing indicators. The findings indicate that examining students’ multidimensional achievement motivation in different subjects may be valuable for comprehending the motivational dynamics and in recognising the factors endangering and fostering student learning and wellbeing.

Capturing Primary School Children’s Emotional Arousal Processes with a Sensor Wristband

Keywords: Emotion and effect, Motivation and emotion, Neuroscience, Primary education

Presenting Author: Heide Sasse, Universität Koblenz-Landau, Germany; Co-Author: Georgios Papastefanou, GESIS Leibniz Institute for the Social Sciences, Germany; Co-Author: Miriam Leuchter, University of Koblenz - Landau, Germany

Capturing Primary School Children’s Emotional Arousal Processes with a Sensor Wristband Emotions experienced by primary school children have both positive and negative effects on learning processes. To understand learning processes better, research should additionally consider emotional trajectories during class. Standard survey-based methods such as self-reports are inadequate to capture precise emotional processes, because primary school children’s cognitive abilities to self-reporting are developing and still limited. Trajectories of emotional processes can be measured with the Bodymonitor Technology. This technology generates an emotional arousal typing based on continuously captured psychophysiological responses such as skin conductivity and skin temperature via a sensor wristband. The arousal typing is based on the basic emotion and homeostasis approach. In our research we focus on “curiosity” and “disinterest”, which are two emotional arousal processes important during learning processes. However, such measurement methods have mainly been used with adults. The present study is aimed at validating this instrument with primary school children. In a sample of 113 primary school children we induced emotional arousal types by specific audiovisual stimuli. With Logistic Mixed Effects modeling we tested statistically the covariation of emotional arousal classified responses and emotional arousal induction. We found that primary school children’s measured emotional arousal processes covariate with classified emotional arousal types. We conclude that primary school children’s emotional arousal processes as “curiosity” and “disinterest” can be accurately measured using psychophysiological responses.

Session V 1

10 August 2019 17:15 - 19:15
ST 3
Invited Workshop
Higher Education
Writing Matters: becoming an expert academic writer

Keywords: Higher education, Language (L1/Standard Language), Literacy, Writing/Literacy
Interest group: SIG 12 - Writing
Chairperson: Jennifer Schwarz, RWTH Aachen University, Germany

This workshop will outline how to think about communicating your research in written form. Drawing on an interdisciplinary theorisation of writing, which brings cognitive, socio-cultural and linguistic perspectives to bear on writing, it will show participants how to be more assured and take ownership of their writing. It will look both at ‘writing behind the scenes’, exploring how using writing to think is an important element of writing a thesis; and at writing the text of the thesis itself. The workshop will involve practical activities and group interaction. For this session to be really useful for participants, it will be necessary to read two articles ahead of the workshop, and to bring to the workshop some of participants’ own writing about their research.

Writing Matters: becoming an expert academic writer
Presenting Author:Debra Myhill, University of Exeter, United Kingdom

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Session V 2
10 August 2019 17:15 - 19:15
ST 1
Invited Workshop

Corpus-based Approaches to Empirical Research in Social Contexts

Keywords: Comprehension of text and graphics, Content Analysis, Conversation/Discourse Analysis, Quantitative methods
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Timo Lüke, TU Dortmund University, Germany

In empirical research, data is collected in many forms. One such form is text, which is the common output of e.g. interviews and open questions in surveys. While the content of these texts is analysed, the way people choose to express this content is often neglected or ignored altogether (Fest 2015). The linguistic choices people make when expressing themselves has been found to be highly indicative (Halliday & Hasan 1985). Through variation in syntax or mood, we can shift the focus of an utterance or suppress information about actors or participants. Pronominal use can stress the involvement of individuals or hide the speaker in the anonymity of a group. Via language, we can enrich the content level with more subtle information. This information, which is often located on the lexico-grmmatical level and occurs, as shown by the examples above, through different phenomena, can be disentangled by looking at relevant linguistic features systematically. For this purpose, corpus linguistics makes use of various strategies, from the counting of individual features to identifying lexical and grammatical patterns within or across texts. This workshop will provide an introduction to corpus linguistics. We will define basic terminology and discuss issues of representativeness and corpus design, before getting hands-on practice with two corpus tools, CQP (Evert et al. 2010) and AntConc (Anthony 2005).References:Anthony, Lawrence. 2005. “AntConc: Design and Development of a Freeware Corpus Analysis Toolkit for the Technical Writing Classroom.” In International Professional Communication Conference, 729–37.Evert, Stefan, and The OCWB Development Team. 2010. “The IMS Open Corpus Workbench CQP Query Language Tutorial.” Fest, Jennifer. 2015. “Corpora in the Social Sciences – How Corpus-based Approaches can Support Qualitative Interview Analyses.” Revista de lenguas para línneas especificadas2(12): 48-69. Halliday, Michael A. K., and Ruqaiya Hasan. 1985.Language, Context, and Text: Aspects of Language in a Social-Semiotic Perspective. Oxford: Oxford University Press.

Corpus-based Approaches to Empirical Research in Social Contexts
Presenting Author:Jennifer Fest, RWTH Aachen University, Germany

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Session V 3
10 August 2019 17:15 - 19:15
ST 5
Invited Workshop

Structural equation modeling in educational research

Keywords: Psychometrics, Quantitative methods, Social sciences, Survey Research
Interest group: SIG 17 - Methods in Learning Research
Chairperson: Kerstin Helker, RWTH Aachen University, Germany

Structural equation modeling (SEM) is very popular in educational sciences. SEM extends linear regression models to make them very versatile in depicting also complex relationships between (latent and manifest) variables. In this workshop, different types of models are introduced. It gives you a basic understanding of the theoretical rationale behind modeling, what kind of research questions can be addressed, when to use different types of models, and how to interpret estimates and fit indices and what needs to be reported. You will get an overview of statistical software that can be used for structural equation modeling. The workshop will benefit PhD students and postdoctoral researchers who are interested in applying structural equation modeling in their research. You should have some basic understanding of statistics (e.g., how to interpret regression coefficients and p-values); the rest will be covered in the workshop.

Structural equation modeling in educational research
Presenting Author:Jasperina Brouwer, University of Groningen, Netherlands; Presenting Author:Dominik E. Froehlich, University of Vienna, Austria

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Session V 4
10 August 2019 17:15 - 19:15
ST 8
Invited Workshop
The crucial role of (your) networks: get involved in EARLI and JURE

Keywords: Communities of practice, Doctoral education, Informal learning, Researcher education

Interest group:
Chairperson: Jonas Leschke, University of Wuppertal, Germany
Who does provide you with valuable feedback? Who do you turn to with difficult questions? Who brings you a novel idea for your research? Who do you call when you get a ‘reject’ for that great article? These kinds of questions form the backbone of this workshop. This workshop has two connected aims: (1) Explore the value of your network for your professional development and (2) Getting to know the EARLI and JURE community and identify opportunities for engagement. By combining these aims, we want to pinpoint how EARLI and JURE can foster the network of Junior researchers and contribute to your development as researcher.

To reach these goals, we will:
- Forward a framework to explore your professional network;
- Draw your personal learning & development network;
- Formulate a strategy to develop your network
- Present the EARLI and JURE community
- Identify possibilities to engage in this community
- Explore and show how the EARLI community can strengthen your personal network.

The crucial role of (your) networks: get involved in EARLI and JURE
Presenting Author: Piet Van den Bossche, University of Antwerp, Belgium
Who does provide you with valuable feedback? Who do you turn to with difficult questions? Who brings you a novel idea for your research? Who do you call when you get a ‘reject’ for that great article? These kinds of questions form the backbone of this workshop. This workshop has two connected aims: (1) Explore the value of your network for your professional development and (2) Getting to know the EARLI and JURE community and identify opportunities for engagement. By combining these aims, we want to pinpoint how EARLI and JURE can foster the network of Junior researchers and contribute to your development as researcher.

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Session V 5
10 August 2019 17:15 - 19:15
ST 7
Invited Workshop
Doing Grounded Theory

Keywords: Interdisciplinary, Qualitative methods, Researcher education, Social sciences

Interest group:
Chairperson: Yi-Jhen Wu, University of Bamberg, Germany

Doing Grounded Theory
The Grounded Theory Methodology (GTM) – with reference to Barney Glaser and Anselm Strauss (1967) – is one of the most popular qualitative research methodologies in social science. Meanwhile there is a growing talk of a “second generation” of GTM, especially influenced by Adele Clarke (2005) and Kathy Charmaz (2006). Following this development GTM is used together with different techniques and procedures of qualitative data selection and data analysis, amongst others, in the field of Discourse Research, Ethnography and Biographical Research and Interviewing. Doing Grounded Theory in research includes different kinds of data, for example interviews, pictures, artefacts, field notes and movies, which point to the wide and open strategies of this concept ("all is data."). The best way to do GT is to just do it." (Glaser/Holton 2004, Abs. 44) This workshop addresses researchers in various disciplines who are interested in inductively building theory, through the qualitative analysis of data. It offers basic Grounded Theory steps and clarifies strategies and procedures, examples and suggestions throughout. Coding procedures (open, axial and selective coding, conditional matrix) and adjunctive procedures (theoretical sampling and saturation) will be practiced and discussed. By including a research example, we will raise questions and outline strategies to indicate possible routes to take.

This workshop is a combination of theoretical and practical introduction to discover Grounded Theory.


Doing Grounded Theory
Presenting Author: Sabine Hering, RWTH Aachen University, Germany

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Literature

Session V 6
10 August 2019 17:15 - 19:15
ST 6
Invited Workshop

Academic publishing

Keywords: Doctoral education, Higher education, Researcher education, Writing/Literacy

Interest group:

Chairperson: Judith Fränken, RWTH Aachen University, Germany

This workshop aims to provide an introduction to writing and reviewing international scholarly journals. In particular, it will discuss the purpose of academic journal publishing, how to choose a journal and to tailor your manuscript appropriately; as well as the function and experience of peer review and editorial decisions. We will also look at how to review well, and how to respond to peer review comments. It will also provide an overview of essential publishing ethics, and provide an opportunity for you to ask questions and for general discussion.

Academic publishing

Presenting Author:Hans Gruber, University of Regensburg, Germany; Presenting Author: Lauren Ashby, Elsevier, United Kingdom

This workshop aims to provide an introduction to writing and reviewing international scholarly journals. In particular, it will discuss the purpose of academic journal publishing, how to choose a journal and to tailor your manuscript appropriately; as well as the function and experience of peer review and editorial decisions. We will also look at how to review well, and how to respond to peer review comments. It will also provide an overview of essential publishing ethics, and provide an opportunity for you to ask questions and for general discussion.

Session V 7
10 August 2019 17:15 - 19:15
ST 4
Invited Workshop

Cognitive Science

Neuroscience and Education: Advances in capturing developmental brain dynamics

Keywords: Cognitive development, Learning and developmental difficulties, Mixed-method research, Neuroscience

Interest group: SIG 22 - Neuroscience and Education

Chairperson: Martin Daumiller, University of Augsburg, Germany

Neuroscience and Education refers to an interdisciplinary field that explores the connection between the neurobiological mechanisms of learning and education. Due to the broad availability of non-invasive neuroimaging methods, such as functional magnetic resonance imaging (fMRI), the last decade has seen a remarkable growth in interest towards this scientific discipline. This development has provided novel insights into different brain dynamics that are associated with the typical and atypical development of school-taught skills such as reading and mathematics. In the first part of this workshop, I will discuss recent methodological advances on how to capture neurobiological dynamics during learning and development and, how we can characterize education-related changes in the structure and function of the human brain across multiple levels of analyses. In the second part, I will foster an interactive discussion to outline the strengths, weaknesses, opportunities and threats of this relatively new scientific discipline. If the time permits, I will also guide a hands-on-session, discussing the basic principles of neuroimaging data processing to illustrate the possibilities and limitations of brain imaging techniques. For the workshop participants will need a laptop with the computer software "Brain Voyager Viewer" installed (http://www.brainvoyager.com/products/brainviewer.html)

Neuroscience and Education: Advances in capturing developmental brain dynamics

Presenting Author:Stephan Vogel, University of Graz, Austria

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Session V 8
10 August 2019 17:15 - 19:15
ST 2
Invited Workshop

Introduction to Systematic Literature Review

Keywords: Meta-analysis, Qualitative methods, Quantitative methods, Secondary data analysis

Interest group:

Chairperson: Anne-Mette Bjørn, Norway

Systematic literature review should be part of every doctoral thesis to embed the research problem to the wider context of the study field. However, it could be also published as an article if it has been conducted taking into account specific methods to ensure validity and reliability of the review and if the chosen topic is something innovative and relevant in a particular field of studies. Therefore, every PhD student would benefit from knowledge of conducting a systematic literature review. The workshop will be conducted by to associated editors of Educational Research Review, a journal that is specifically focusing on publishing literature reviews and is currently in the field of education one of the journals with highest impact factor in the world. Both editors have also published in the journal and will tell their story in the beginning of the workshop. Later on, the seminar will focus on learning how to conduct systematic literature review. In the
seminar will be introduced the main phases of a systematic literature review according to the PRISMA model: formulating research questions, choosing search terms, search sources, conducting search, screening data sources, evaluation, selection based on inclusion criteria, matrix for data analysis.

Introduction to Systematic Literature Review
Presenting Author: Margus Pedaste, University of Tartu, Estonia; Presenting Author: Raija Hämäläinen, University of Jyväskylä, Finland
Systematic literature review should be part of every doctoral thesis to embed the research problem to the wider context of the study field. However, it could be also published as an article if it has been conducted taking into account specific methods to ensure validity and reliability of the review and if the chosen topic is something innovative and relevant in a particular field of studies. Therefore, every PhD student would benefit from knowledge of conducting a systematic literature review. The workshop will be conducted by to associated editors of Educational Research Review, a journal that is specifically focusing on publishing literature reviews and is currently in the field of education one of the journals with highest impact factor in the world. Both editors have also published in the journal and will tell their story in the beginning of the workshop. Later on, the seminar will focus on learning how to conduct systematic literature review. In the seminar will be introduced the main phases of a systematic literature review according to the PRISMA model: formulating research questions, choosing search terms, search sources, conducting search, screening data sources, evaluation, selection based on inclusion criteria, matrix for data analysis.

Session VI 1
11 August 2019 08:45 - 10:15
ST 6
Single Paper
Assessment and Evaluation, Educational Policy and Systems
Developing measures to assess learning mindsets and developments
Keywords: Achievement, Assessment methods and tools, Attitudes and beliefs, Bilingual education, Comparative Studies, Educational attainment, Educational psychology, Primay education, Secondary education
Interest group: SIG 01 - Assessment and Evaluation
Chairperson: Martin Spen, Norway
Track recommendation for Dutch secondary education: teacher recommendation vs. standardized testing
Keywords: Assessment methods and tools, Educational attainment, Primary education, Secondary education
Presenting Author: Monique Dijks, University of Groningen, Netherlands; Co-Author: Matthijs Warrens, Rijksuniversiteit Groningen, Dept of Education and GION, Netherlands; Co-Author: Hanke Korpershoek, University of Groningen, Netherlands; Co-Author: Roel J. Bosker, Rijksuniversiteit Groningen, Dept of Education and GION, Netherlands
In the transition from primary to secondary education in the Netherlands, two indicators are used to place students in the right track: primary school teachers’ track recommendation (TTR) and standardized achievement tests at the end of primary school. From 2015 onwards, the standardized test was administered after TTR, after a long period of first giving TTR. The current research investigated to what extent TTR and a standardized test (Centrale eindtoets; CET) predict the educational attainment after three years of secondary education for five cohorts before 2015, and to what extent these results differ several educational tracks and if these results depend on different ways of calculating the correspondence, using a very large sample approaching population data. The results show that using different correspondence measures leads to comparable conclusions with regards to the interpretation of the results for all five cohorts. Before 2015, TTR is a slightly better predictor of educational attainment than CET, for all educational tracks. For two tracks (vmbo-hb and havo), a much lower correspondence between the indicators and the educational attainment is observed. The results give a clear sight on the predictive value of both TTR and CET before the change in administration order of both predictors.

Applying the adaptive Q methodology to measure graduate students’ academic entitlement
Keywords: Assessment methods and tools, Attitudes and beliefs, Comparative Studies, Educational Psychology
Presenting Author: Laphatphitcha Surawatkul, Chulalongkorn university, Thailand; Co-Author: Chayut Priorsombat, Chulalongkorn university, Thailand
Academic entitlement (AE) is the expectation that one should receive certain positive academic outcomes in academic settings, often independent of performance (Koop, Zinn, Finney, & Jurich, 2011). Conventionally, researchers have focused on the negative AE; however, understanding both positive and negative aspects of AE could help instructors to better enhance and improve their students’ performance. This study investigated both negative and positive aspects of AE with students from different types of universities, and use different methods to measure them. The aims of this study were to apply the adaptive Q methodology, the method used to explore subjective viewpoints, to assess AE and compare results with a 5-point rating scale, and to analyze the level and profile of negative AE (NAE) and positive AE (PAE). The data were collected through a 5-point scale and the adaptive Q methodology by graduate students in the field of education, in Bangkok, Thailand.
The findings showed both the adaptive Q methodology and rating scale had a satisfactory level of construct validity as examined by confirmatory factor analysis. They also showed adequate internal consistency. The factor structure of AE based on data from the adaptive Q methodology and rating scale were slightly different. Both method showed that the graduate students had a high level of PAE and a moderate level of NAE. Students from public universities had a higher level of PAE and lower level of NAE than those who came from private universities. Moreover, using different methods revealed that the adaptive Q methodology was more sensitive to AE by the evidence of more variation and mean difference of AE components in students’ profiles.

Influential analysis in high-stakes assessments for detecting atypical school results
Keywords: Achievement, Assessment methods and tools, Bilingual education, Educational policy
Presenting Author: Andrés Christiansen, KU Leuven, Belgium
This study proposes a method for the detection of aberrant school performances in large-scale assessments using influential analysis under a Bayesian approach. Assessments that have high-stakes for school principals and teachers may be prone to various types of dishonest behavior at the school level leading to invalid school results. Considering the scope and the scale of educational assessments it becomes necessary to screen aberrant school results that could indicate which schools may be cheating. School performances on a given year were modeled with a beta inflated mean regression model using Gibbs sampling using as dependent variables the proportions of low and high achieving students in a school and the school’s performance in previous years as predictors. The general measure of f-divergence proposed by Peng and Dey (1995) was used to determine aberrancy. This measure establishes the degree of influence a case has on a posterior distribution; observations with higher levels of divergence are considered aberrant. A simulation study revealed that it was possible to recover previously distorted school performances as aberrant using this method. The proposed method was applied to a high-stakes Peruvian national assessment in which 760 schools participated, and it was able to identify schools that showed an atypical performance increase given their previous results and conditions. Although the model does not pretend to certify that all of these schools had been cheating during the test administration, convergence was found between these results and other methods of cheat detection.

Session VI 2
11 August 2019 08:45 - 10:15
ST 1
Single Paper
Higher Education, Learning and Social Interaction
Students’ relationships with teachers and mentors
Keywords: Competencies, Higher education, Primary education, Qualitative methods, Reflection, Secondary education, Social interaction, Student learning,
Synergies between learning teaching and research, Teacher Effectiveness, Teacher professional development
Interest group: SIG 10 - Social Interaction in Learning and Instruction
Chairperson: Zoltán Nagy, University of Szeged, Hungary

The potential benefits and conditions of student-teacher partnerships: A systematic review
Keywords: Qualitative methods, Secondary education, Synergies between learning teaching and research, Teacher professional development
Presenting Author: Jetske Strijbos, Vrije Universiteit Brussel, Belgium; Co-Author: Nadine Engels, Vrije Universiteit Brussel (VUB), Belgium; Co-Author: Myriam Halimi, Research Foundation Flanders’ Vrije Universiteit Brussel, Belgium

Over the past 20 years, student voice has received increased research attention, especially in Anglo-Saxon countries (Cook-Sather, 2006; Hall, 2017). Student voice symbolizes a profound cultural and structural shift in educational settings, putting forward students’ rights to actively participate in their learning environment, students experiencing respect for their engagement, and altering dominant power imbalances between students and teachers (Cook-Sather, 2006; Fielding, 2001). This study focuses on the student voice in which mutual interaction is pursued, captured with the term student-teacher partnerships. The purpose of this study is to review the existing literature about the possible benefits of student-teacher partnerships and conditions for successful implementation. A systematic literature review study is conducted, including 15 qualitative articles with empirical results on student voice interventions. Reported outcomes are subjected to a thematic analysis (Braun & Clarke, 2006), of which the findings are narratively presented. Results of the study show that both students and teaching staff perceive student-teacher partnerships both as challenging, as well as overall positive experiences that have the potential to change, both at individual, classroom and school level. Although the manifestations differ for students and teaching staff, the findings indicate growth, both with regard to their critical thinking. The study finds that students’ reflections appear to stimulate actors to act for improved classroom or school practice. Finally, this study provides insights in the conditions for successful implementation of student-teacher partnerships: (1) at individual level: intending for full student-teacher partnerships, (2) at classroom level: using solution-oriented approaches, and (3) at school level: providing in facilitating structures and investing in a supportive school culture.

The what and how of mentoring for student reflection in higher education: A literature review
Keywords: Competencies, Higher education, Reflection, Student learning
Presenting Author: Wendy Nuis, Maastricht University, Netherlands; Co-Author: Simon Beausaert, Maastricht University, Netherlands

Given the rapid changes in society and on the labour market, fostering students’ employability competences is high on the agenda of higher education institutes (Tynjälä, Valliama, & Sarja, 2003). Employability competences refer to “navigating the labour market, utilising knowledge, individual skills and attributes, and adapting them to the employment context” (Small, Shucklock, & Marchant, 2018, p.151). In addition, it is argued that reflection is one of the key components of students’ employability, which might also influence the other employability competences (Dacre Pool & Sewell, 2007). Therefore, higher education has been exploring pedagogical approaches to stimulate and guide students’ reflection (Dunlap, 1998; Tynjälä et al., 2003). One of these pedagogical approaches is mentoring (Hansford, Tennent, & Ehrich, 2003). However, review studies on mentoring in higher education show different drawbacks: (1) a clear and consistent definition of mentoring is lacking (Crisp & Cruz, 2009; Gershonfeld, 2014) and (2) although the relationship with reflection was reviewed before, previous review studies did not make a distinction between various levels of education. Also, often teachers’ reflection and not students’ reflection was object of study (Hansford et al., 2003). In addition, the most recent review study including research on mentoring and reflection dates from 2003. Given these deficiencies, there was a need for a systematic review that focuses on the student-teacher partnership relation with the method of student reflection. The initial search resulted in 1073 unique articles. After applying the formulated inclusion and exclusion criteria, the remaining articles will be checked for scientific quality. Using the method of thematic analysis, this review will result in an overall definition of mentoring in higher education, as well as a description of its characteristics. In addition, an overview of studies on the relation between mentoring and student reflection will be discussed.

Student-teacher relationship from the perspective of Hungarian and Serbian primary school teachers
Keywords: Primary education, Social interaction, Student learning, Teacher Effectiveness
Presenting Author: Noémi Huszka, University of Szeged, Hungary; Co-Author: Laszlo Kinyo, University of Szeged, Hungary

The student-teacher relationship is the basis of pupil’s successful integration into the school environment. From the beginning of the school, the child relies on the teacher, who provides support and understanding (Hamre & Pianta, 2006), however this area is rarely in the focus of scientific interest. The study examines the pedagogical relationship between teachers and students from the perspective of teachers. Two pilot studies were conducted with an adapted version of the validated and widely used Student-Teacher Relationship Scale (STRS) questionnaire (Pianta, 2001). Based on the view of the teachers, the instrument assesses three dimensions of the perceived pedagogical relationship with three sub-scales (closeness, conflict, dependency). The first pilot study was in 2018 February, and the data collection was carried out in a Hungarian and a Serbian school class (N=50). Reliability of the complete questionnaire was acceptable (α=0.62). In 2018 December the second pilot study was conducted with two classes in Hungary (N=53). The reliability of the complete questionnaire (α = 0.65) is acceptable. The results showed that the relationship between teachers and students is appropriate in most cases but sometimes there is a need to strengthen the pedagogical attachment between students and teachers. The main aim of the study is finding out the quality of relationship between teachers and students. The exploratory study can provide feedback to teachers about their closeness to their students. Embedding this questionnaire into the everyday school practice can foster teachers to strengthen their attachment with children.

Session VI 3
11 August 2019 08:45 - 10:15
ST 3
Single Paper
Teaching and Teacher Education

Teacher Professional Development

Keywords: Motivation and emotion, Primary education, Qualitative methods, Quantitative methods, Teacher Effectiveness, Teacher professional development, Workplace learning
Interest group: SIG 11 - Teaching and Teacher Education
Chairperson: Jörg Holle, Westfälische Wilhelms-Universität Münster, Germany

Primary education teachers’ sense of professional agency and perceived inadequacy in the classroom
Keywords: Primary education, Quantitative methods, Teacher professional development, Workplace learning
Presenting Author: Rorsa Yli-Piitilä, Tampere University, Finland; Co-Author: Tiina Soini-Ikonen, Tampere University, Finland; Co-Author: Janne Pietarininen, University of Eastern Finland, Finland; Co-Author: Kirsi Pyhältö, University of Oulu / University of Helsinki, Finland

It has been stated that school can change only when teachers change their thinking and actions (e.g. Fullan, 2007; Vermunt & Endendijk, 2011). Teachers' perceptions about teachers as learners are considered to be an important aspect for professional development but also for professional growth. This study examines teachers' perceptions of professional agency and perceived inadequacy in the core of teacher's work: pedagogical practices with pupils, where pupils and pedagogical practises are seen as resources for learning (Darling-Hammond, 2008; Soini et al., 2016). Teacher's professional agency refers to a capacity that prepares for new learning. Teacher's professional agency consists of teacher's will to learn, motivation, confidence to learn, self-efficacy beliefs, and skills to learn, strategies. (Pyhältö et al., 2012, Soini et al., 2016.) It appears as teachers' efforts to construct and create collaborative learning environments and use transformative practices in interaction with pupils as well as make efforts to reflect and revision one's own work. Teachers have been shown to experience relatively high levels of inadequacy in teacher–pupil interaction, which refers to teacher's feelings of insufficient competence commonly related to challenging situations with pupils (Pietarininen et al., 2013). The study aims to gain a better understanding on Finnish primary education teacher's professional agency and perceived inadequacy.
in the classroom over time. Altogether 815 primary education teachers completed a follow-up survey in year 2011 and 525 in year 2016. The longitudinal data was analysed using structural equation modelling (SEM) and more specifically cross-lagged panel analysis (Laursen et al., 2012; Muthén & Muthén, 2010). The results show that primary education teachers experience strong learning-related professional agency, which remains stable over time. Additionally, the results indicate that primary education teachers’ effort to build collaborative learning environments and revision their practices in the classroom reduces inadequacy in teacher–pupil interaction over time.

TEACHERS’ PERCEPTION OF EFFECTS OF IN-SERVICE TRAINING

Keywords: Qualitative methods, Quantitative methods, Teacher Effectiveness, Teacher professional development

Presenting Author: Davaajav Purejav, University of Szeged, Hungary

There is intensive research on effective methods for in service teacher training (IST; Lipowsky & Rzejek, 2015). However, we know little about teachers’ perceptions of their gains from IST and its effects on their students, though this may contribute to teachers’ motivation to participate in and learn from IST. This paper reports on two Mongolian studies targeting teachers’ perceptions of IST transfer effects. Study 1 collected information from a representative sample (N = 520) with a self-report questionnaire regarding changes instructional practice. In Study 2 teachers (N = 14) were interviewed about the changes in practice as well as the effects they observed on their students. In Study 1, statistical analyses revealed that participants rated the changes in knowledge, skills and attitudes similarly. However, in their comments they attributed greater importance to the procedural domain. In Study 2, content analyses confirmed the emphasis on teachers’ skills and abilities. Mostly higher student motivation and sometimes higher achievement were attributed to teacher participation in IST. The interviews revealed a lack of reflectivity in most cases. The information from quantitative and qualitative methodology provided a more comprehensive view on the effects of IST, which can be used for improving the efficiency of training. The concept and opportunities for reflection seem to be key issues for Mongolian IST curricula. The project presented is beneficial for raising the effectiveness of IST because of the combination of qualitative and quantitative methods.

Recently, there has been growing attention on using mixed methodology. – In the present project, the questionnaire and the interview themes were the same, thus information collected in breadth and in depth could be related.

How teachers’ mental health is related to coping with stress?

Keywords: Motivation and emotion, Quantitative methods, Teacher Effectiveness, Teacher professional development

Presenting Author: Liina Adov, University of Tartu, Estonia; Co-Author: Liisa Pedoksaar, University of Tartu, Estonia

High level of stress in teaching profession and its possible influence on teacher attrition have been a topic in educational discussions. Studies have shown that long lasting stress affects teachers’ well-being as well as retention: the way a person copes with stress may become a crucial factor in supporting teachers in their stressful jobs. Our aim was to find out whether teachers’ coping strategies are prone to group into distinct and meaningful coping profiles and also analyse the relationship between these profiles and the aspects of teachers’ stress, mental health and well-being (e.g. satisfaction of basic needs). All together 367 teachers answered about coping strategies, symptoms of depression and anxiety, stress, burnout, job satisfaction and psychological basic needs. Result show that we can identify four coping profiles: cognitive, social, passive and avoidant copers. Teachers in the latter group had higher levels of stress, depression symptoms, anxiety and lower basic need satisfaction.

Session VI 4

11 August 2019 08:45 - 10:15

ST 2

Roundtable

Learning and Social Interaction, Teaching and Teacher Education

Best OF JURE Roundtables

Keywords: Collaborative/collective learning, Cultural psychology, Educational Psychology, Instructional design, Mixed-method research, Motivation and emotion, Multimedia learning, Pre-service teacher education, Social aspects of learning and teaching, Social development, Video analysis

Interest group: SIG 08 - Motivation and Emotion, SIG 10 - Social Interaction in Learning and Instruction, SIG 11 - Teaching and Teacher Education

Chairperson: Anne-Mette Bjeru, Norway

Optimizing videos for fostering teachers’ professional vision

Keywords: Instructional design, Multimedia learning, Pre-service teacher education, Video analysis

Presenting Author: Monika Martin, Albert-Ludwigs-Universität Freiburg, Germany; Co-Author: Meg Farrell, Technische Universität München, TUM School of Education, Germany; Co-Author: Tina Seidel, Technische Universität München, Germany; Co-Author: Werner Rieß, Pädagogische Hochschule Freiburg, Germany; Co-Author: Andreas Hetmanek, Technical University of Munich (TUM), Germany; Co-Author: Alexander Renkl, University of Freiburg, Germany

Videos are an increasingly used tool in teacher education. When watching and analyzing authentic examples, pre-service teachers can apply theoretical knowledge toward practice situations, without the pressure associated with hands-on teaching. However, from the perspective of multimedia instructional design, videos for teacher training are often used in sub-optimal ways. To address this challenge, the TEVI project (“Teacher-Education Video Improvement”) is creating a series of experiments on the use of video examples in teacher education. Therein, pre-service biology teachers observe clips from tutoring scenarios and apply their theoretical knowledge (namely, general Pedagogical / Psychological Knowledge and Pedagogical Content Knowledge) by noting and interpreting important events within the biology lessons (Professional Vision: PV). Since videos convey transient information, pre-service teachers often do not notice important parts of an event before the event is complete. Thus, we expect the student teachers to show better professional vision when learning from instructionally optimized videos, which are segmented based on meaningful event units and which highlight important aspects (experimental group). The planned experiments consist of a pretest of PV using videos not optimized for instruction, a learning phase following the example-based learning approach, and a posttest identical to the pretest. In the learning phase, the participants read an introductory text about effective tutoring actions (e.g. adaptivity to learners) as well as typical mistakes tutors make (e.g. not taking advantage of teaching opportunities targeting small groups). Next, they watch video sequences, which are either instructionally optimized (i.e. with segmenting or highlighting) or not (control group). The tutor in the staged videos demonstrates a mix of facilitative and non-facilitative actions, which exemplify those outlined in the introductory text. We expect participants from the experimental group to demonstrate better transfer of knowledge gained in the learning phase toward the analysis of (not instructionally optimized) videos in the posttest.

Reshaping Experiences: Culture-Shock to Culture-Learning for modern International Students

Keywords: Cultural psychology, Educational Psychology, Motivation and emotion, Social development

Presenting Author: Emily-Marie Pacheco, University of Glasgow, Canada

Understanding the complexities of the international student sojourn has long been of great concern amongst the academic literature, especially in psychological and overall mental health domains. Of particular interest has been the phenomenon of culture shock, that is, the psychological distress often experienced by individuals who immerse themselves in novel social contexts. This phenomenon has become a staple experience for international students, however, there has been some evidence which suggests the prevalence, nature, and intensity of culture shock experienced by international students is steadily changing – and has been for some time. This session looks to explore and conceptualize a modern reinterpretation of ‘culture shock’ as experienced by present day international students, with special consideration to the role of technology as a facilitator of change. This session will consider three core domains which the literature hold to be central in shaping culture-based immersive experiences (preparation and expectations, level of cultural difference between home and host, and social-network balance of the sojourner), discuss other possible domains which may be relevant in conceptualizing how culture shock has socially evolved in todays culture learning, and reflect on the role technology has played in facilitating this change. Implications for higher educational institutions which host international students will also be discussed, as this phenomenon has meant a shift in the pedagogical structuring of the hidden-curriculum of students’ careers.

Community in individualised instruction
Keywords: Cooperative/collaborative learning, Instructional design, Mixed-method research, Social aspects of learning and teaching

Presenting Author: Simon OH, German Institute for International Educational Research (DIPF), Germany; Co-Author: Hanna Dumont, DIPF; Leibniz Institute for Research and Information in Education, Germany

Individualised instruction refers to the idea that each student learns differently, and therefore teachers should provide appropriate instruction to each learner (Dumont 2018). Case studies have found that classrooms characterised by individualised instruction oftentimes focus on the individual learning process rather than on exchange between students; in some cases, students were mostly or entirely working on their own (Breidenstein & Rademacher, 2017). However, according to sociocultural and socio-constructivist theories, learning is an active process that happens through the interaction of individuals with their social environment (Schneider and Stern, 2010). Additionally, recent large-scale studies of teaching quality confirm the importance of social and emotional conditions created by interaction with teachers and peers in the classroom (e.g. Klieme, Pauli, and Reussner, 2009). To draw attention to the social aspect of learning in classrooms characterised by individualised instruction, my research project investigates community as a counterpart of individualisation. A multi-method design is aspired to explore the meaning of community in individualised instruction from different perspectives. The accessible samples are (1) 8 mixed-age classrooms (7th / 8th grade) of one German comprehensive secondary school (2) 40 classrooms of 8 primary schools that won the “German School Award”. In both samples, the classrooms are characterised by individualised instruction to varying degrees. Potential data comprises student questionnaires, records of classroom observations and interview transcripts of principal, teacher and student interviews. Theoretical frameworks and methodological approaches will be the topics of discussion at the roundtable.

Session VI 5
11 August 2019 08:45 - 10:15
ST 7
Single Paper
Instructional Design, Lifelong Learning

BEST OF JURE Single Papers

Keywords: Cognitive skills, Competencies, Content Analysis, History, In-service teacher education, Knowledge creation, Pre-service teacher education, Qualitative methods, Reading comprehension, Reasoning, Teacher Effectiveness, Writing/Literacy

Interest group: SIG 14 - Learning and Professional Development, SIG 26 - Argumentation, Dialogue and Reasoning
Chairperson: Jennifer Schwarze, RWTH Aachen University, Germany

Writing about Historical Significance: Differences between Novices and Experts

Keywords: History, Reading comprehension, Reasoning, Writing/Literacy

Presenting Author: Johan van Driel, University of Amsterdam, Netherlands; Co-Author: Jannet van Drie, University of Amsterdam, Netherlands; Co-Author: Carla Van Boxtel, University of Amsterdam, Netherlands

The aim of this study is to investigate how twelve 10th grade students (in the role of novice) and four history teachers (in the role of expert) reason, read and write about the significance of a historical person. Participants, while thinking-aloud, read two contrasting accounts, written by two historians living in different times after which they wrote an argumentative text about the historical significance of Columbus. Think-aloud protocols were analyzed on reading, reasoning and writing processes. All written texts were analyzed on structure, general writing quality and domain-specific reasoning. Qualitative analysis exposed two main differences between students and experts. Students did not recognize historical accounts as perspectives, influenced by the historical context. In contrast, experts recognized perspectives and were looking for the authors’ judgement, evidence and context. In addition, students -in contrast with experts- were not planning their text and seemed to struggle with selecting knowledge and strategies. These outcomes provide directions for teaching reasoning, reading and writing about historical significance.

Key Competences: Citizens’ Perspectives

Keywords: Cognitive skills, Competencies, Content Analysis, Qualitative methods

Presenting Author: Joanna Mannonen, University of Jyväskylä, Finland; Co-Author: Raija Hämäläinen, University of Jyväskylä, Finland; Co-Author: Jori Lämä, University of Jyväskylä, Finland

Over the past several decades, the competences that education systems produce have emerged as a pervasive topic in educational policy discourse. In addition to many national and international evaluations of and frameworks for essential future competences, there is a need to understand the perspectives of citizens. This presentation focuses on the competences that research participants from a diverse set of social backgrounds (including age, origin, education and occupation) in Finland considered to be essential in the future. In all, 71 research participants were interviewed in 10 Finnish municipalities using a combination of random and discretionary sampling. A holistic typology of competence (Le Deist & Winterton, 2005) was used as the basis for the thematic analysis. This presentation will illustrate a diverse set of competences as described by the participants. Particularly, the participants emphasised the importance of various meta competences and social competences necessary in the future world and working life. Furthermore, the participants described functional competences as those that are mainly learned in work contexts, underlining the importance of active interaction between educational and work contexts. A high level of congruence with the aims of many recent national and international educational policies is discussed. This study introduces novel knowledge for adults’ competences and can be used as a starting point for future studies in developing better understanding of the competences that are needed in different industries.

Towards Measuring Teachers’ General Pedagogical Knowledge – Reflections On a Pilot Test

Keywords: In-service teacher education, Knowledge creation, Pre-service teacher education, Teacher Effectiveness

Presenting Author: Ljiljana Malva, University of Tartu, Estonia; Co-Author: Äli Leijen, University of Tartu, Estonia; Co-Author: Aleksander Baucal, University of Belgrade, Serbia

This paper aims to investigate a test instrument measuring teachers’ general pedagogical knowledge. 395 pre-service teachers, in-service teachers and teacher educators from Estonia participated in a pilot study. Item response theory analysis showed that the items fit to a unidimensional instrument assumption. Three levels of difficulty were found: questions based on situation description (easiest), questions connecting situations with theoretical concepts (moderate), and questions requiring theoretical knowledge (difficult). When comparing the sample groups, pre-service teachers struggled with topics that had not been on their curriculum yet. Interestingly, in-service teachers had more difficulty with questions requiring specific theoretical knowledge while teacher educators struggled more with practical situations in a school context. An overall suggestion for future research is to review the conceptual framework in terms of linking theory and practice to rather connect than distinguish these characteristics of teachers’ general pedagogical knowledge. The results of the study contribute to test development process.

Session VI 6
11 August 2019 08:45 - 10:15
ST 4
Roundtable
Instructional Design, Learning and Social Interaction, Teaching and Teacher Education

Teaching approaches to foster learning

Keywords: Conversation/Discourse Analysis, Early childhood education, Experimental studies, Instructional design, Primary education, Second language acquisition, Teaching approaches, Teaching/instruction, Video analysis, Writing/Literacy
Interest group: SIG 10 - Social Interaction in Learning and Instruction, SIG 11 - Teaching and Teacher Education, SIG 12 - Writing
Chairperson: Martin K. Hornsøgaard, Denmark

Video Analysis of Shared Reading in Small Groups – a Conversation-Analytic Approach
Keywords: Conversation/Discourse Analysis, Early childhood education, Second language acquisition, Video analysis
Presenting Author: Johanna Quiring, St. Gallen University of Teacher Education, Switzerland
Shared reading is characterised by actively involving all participants (an adult and one or more children) into the interactions that evolve around the picture book (Ezzell & Justice, 2011). Worldwide research indicates, that interactive book reading has valuable effects on various emerging language skills, especially vocabulary (e.g. Mol, Bus & Jong, 2009; Flack, Field & Horst, 2018), due to the fact that children are not only confronted with a wide range of words in a descriptive context, but are allowed to actively reproduce them (Wasik, Hindman & Snell, 2016). In ECEC, the small group setting is often chosen over a one-to-one setting for reasons of capacity (Egert & Høft, 2018). In contrast to the setting of educator-centered classroom conversations, where the educator usually selects the next speaker (Mehan, 1978) so far, hardly any research has been directed towards detailed analysis of conversational patterns in small group settings (Gardner, 2013). The question for this research project is, how turn-taking can be characterised in small group settings with children that are about to enter first grade, how children develop their turns and what strategies educators use to enable communicative participation of all children involved (Waring, 2017). The objective is to gain implications about how to guide children in conversations in a way, that every child experiences itself as valued interlocutor. The focus lies on second language learners and therefore, multimodal aspects of conversation are analysed as well (Gardner, 2013). For this purpose, videos of picture book sessions that were collected in a larger tri-national research project are analysed using conversation analysis (Mondada, 2013). During the recordings of sessions from the project, the focus of the video and its analysis will be given and questions concerning the methodological approach and its suitability to answer methodological questions will be discussed.

Differențiated Instruction in German primary schools: Development of an observation instrument
Keywords: Primary education, Teaching approaches, Teaching/instruction, Video analysis
Presenting Author: Erkeletsht Shitöhàni, Bergische Universität Wuppertal, Germany
Differențiated Instruction in German primary schools: Development of an observation instrument
Abstract
Particularly in primary school dealing with the different learning conditions of students is of great importance. Hence, teachers have to adapt teaching to meet individual students’ needs. However, differențiated instruction is not often implemented in classroom. Rather research suggests that different factors at the school level and at the teacher level might be important for implementing differențiated instruction in class. Roy et al. (2013) define differențiated instruction according to two components: instructional adoptions and academic progress monitoring. According to Tomlinson et al. (2003) teachers can adapt instruction through content, process and product. Academic progress monitoring is closely related to the concept of formative assessment. For instance, according to Shavelson et al. (2008), formative assessment can range from on-the-fly to curriculum-embedded formative assessment. Particularly curriculum-embedded formative assessment is quite difficult to assess versus observation in class. Therefore, additional interviews will be conducted with both school principals and primary school teachers to assess differențiated instruction.

The observation instrument will be used in 40 classes of German primary schools who have won the “German School Award”. It will be used in videotaped lessons and in in-vivo observations of the lessons in primary school. Furthermore, I would like to discuss, which items should be used in video-analysis and in in-vivo observations.

The effect of feedback on EFL learners’ writing self-efficacy: results from an experimental study
Keywords: Experimental studies, Instructional design, Teaching approaches, Writing/Literacy
Presenting Author: Petra Beatrix Schubert, University of Vechta, Germany; Co-Author: Judy M. Parr, University of Auckland, New Zealand; Co-Author: Vera Busse, University of Koblenz and Landau, Germany
The overarching aim of our intervention project is to explore the role of feedback in developing sustainable writing skills in EFL (English as a foreign language) learners by comparing different feedback methods. We will give an overview of our writing intervention and present results from the pilot study. The study was conducted with three groups of EFL learners in year 9 [N = 72] who received four 90-minute learning sessions where they gained knowledge on text coherence and structure and wrote two newspaper articles. Two groups [n = 50] revised their texts based on different types of feedback which was randomly allocated (individualised feedback/ standardised feedback with examples of text models). Feedback was based on good feedback practices (Busse, 2015) and aimed to improve coherence and cohesion in students’ texts. Students in the control group [n = 22] participated in the writing intervention but edited their articles themselves based on intervention input only. Surprisingly, standardised feedback seems more beneficial for self-efficacy regarding writing newspaper articles and better at reducing avoidance behaviour than individualised feedback. General writing self-efficacy for writing in English decreased in both experimental groups and the control condition. It may be hypothesised that students became aware of writing problems through feedback leading to reassessment of their skills (Kruger & Dunning, 1999).

Session VI 7
11 August 2019 08:45 - 10:15
ST 8
Roundtable
Learning and Instructional Technology, Motivational, Social and Affective Processes
Motivation, Feedback, and learning technology
Keywords: E-learning/ Online learning, Inquiry learning, Learning analytics, Learning Technologies, Motivation, Motivation and emotion, Quantitative methods, Quasi-experimental research, Science education, Secondary education, Student learning, Values education
Interest group: SIG 08 - Motivation and Emotion, SIG 20 - Inquiry Learning, SIG 27 - Online Measures of Learning Processes
Chairperson: Lisa Holzer-Schulz, University of Regensburg, Germany

Feedback literacy as the bridge for engaging students with feedback in online learning environments
Keywords: E-learning/ Online learning, Learning analytics, Quasi-experimental research, Student learning
Presenting Author: Mar Martinez, Universitat Oberta de Catalunya, Spain
Feedback literacy is one of the key competences students need to develop for learning. It implies the understanding, the capacity and the disposition needed to make sense of the feedback provided. Moreover, it requires the use of feedback to improve the assignments and the learning strategies. However, students and teachers are not aware of the implications of feedback literacy on students engagement with feedback in online environments. From the literature, engagement is conceptualised as a multidimensional concept which integrates cognitive, emotional and behavioural components. This study, which is part of a broader project, attempts to analyse the effect of the development of feedback literacy in student’s engagement in an online context. This environment provides a new way of learning. New information about students called logs is available on the online platforms. Logs can register all the actions students take and this information can be used in order to promote learning. Learning analytics is the measurement, collection, analysis and reporting of the logs, for purposes of understanding and optimizing learning and the environments in which it occurs. A quasi-experimental study will be carried out. There will be two groups from the same course (approx. 200 students in total). A group of students will receive specific training on the feedback use and implementation to help them on the development of feedback literacy (experimental group) and both groups will receive feedback during their assignments. It is expected that all students improve their assignment, as a short sample of a received, but it is expected an increase of engagement in the experimental group. This study wants to show the relevance of feedback literacy on engaging students with feedback and provide evidence using the technology provided by e-learning environments and the learning
theories.

Results of an Intrapersonal Pilot on the Motivational Effects of Students’ Appraisals in Rwanda

Keywords: Motivation, Motivation and emotion, Quantitative methods, Values education

Presenting Author: Dominik Buila, Oxford University, United Kingdom

In education, student engagement has been long a key motivational outcome of interest. Within the intrapersonal literature, control and value appraisals have been deemed important predictors of students’ engagement. They constitute situation-specific evaluations about one’s own competencies to successfully perform concrete learning activities and how interesting and useful this engagement is perceived to be. In Africa, however, relations between cognitive appraisals on the one side and emotional and behavioural engagement on the other side have hardly been studied. This contribution to a roundtable discussion is about a first intrapersonal pilot on the emotional and behavioural correlates of appraisals carried out in Rwanda. Targeting 30 primary students at 1 public school outside Kigali, self-report measures were administered at the beginning and end of each of the lessons of these students for 3 days. The 428 data points were analysed using linear mixed models. Results suggest substantial within-person variance, which may warrant additional intrapersonal research on motivational constructs in Rwanda. Control and value appraisals also predict somewhat emotional and behavioural engagement. However, both appraisals exhibit extremely small variances and ceiling effects. This in turn may also suggest that any etic approach of solely translating Western scales on control and value cognitions into the African context may not methodologically sound. This contribution therefore concludes with the question about what emic research approaches are most effective to derive valid measures on primary students’ control and value appraisals for contexts such as Africa.

Giving feedback to peers in secondary school: given vs self-created assessment criteria

Keywords: Inquiry learning, Learning Technologies, Science education, Secondary education

Presenting Author: Natalia Dmoshinskaia, University of Twente, Netherlands; Co-Author: Hannie Gijlers, University of Twente, Netherlands; Co-Author: Ton de Jong, University of Twente, Netherlands

The focus of the study is learning resulting from students giving feedback to their peers. Giving feedback stimulates students’ cognitive activities as they evaluate peers’ products and provide suggestions. Varying characteristics of the giving feedback process can influence the learning outcomes. The current study zooms in the first phase of this process – defining assessment criteria. On the one hand, it is believed that being supported in the feedback-giving process is beneficial for students – they produce their own learning products of a higher quality and score higher at the post-tests. On the other hand, producing own assessment criteria can give students the feeling of ownership and stimulate more cognitive activity, which, in turn, can also lead to better learning results. Therefore, the influence of providing assessment criteria on learning outcomes should be studied more. It is also possible that the benefits are domain dependent as there are different findings for different domains. Another aspect to study is the influence of prior knowledge of the feedback provider on the learning outcomes. Understanding given criteria can be more challenging for students with low prior knowledge than for those with higher prior knowledge. In the study secondary school students gave feedback on two concept maps created by fictitious students as a part of a physics or biology lesson. Lessons were created in an online inquiry learning environment and included an online lab. For both domains students were randomly assigned into two conditions – giving feedback with provided assessment criteria or without them. Only prior knowledge was found to be a significant predictor of the post-test scores for both domains. For physics, the quality of students’ own concept maps was higher for students who were not provided with assessment criteria. The discussion is planned to be about the results and possible conclusions.

Session VII 1

11 August 2019 10:30 - 12:30
ST 7
Invited Workshop

Social network analysis in educational research

Keywords: Mixed-method research, Quantitative methods, Social aspects of learning and teaching, Social interaction

Interest group: SIG 17 - Methods in Learning Research

Chairperson: Kerstin Helker, RWTH Aachen University, Germany

In this workshop, we will cover the foundations of social network analysis. You will get an overview of the current methods that are used in this field and what kind of questions you could explore. For instance, often it is not just the attributes that matter for learning in school or work contexts, but also the relationships between the learners. Also, the workshop shows you the necessary tools and ideas that allow you to conceptualize and execute a social network study on your own. Specifically, we will help you in finding answers to the following questions: Why should you use social network analysis? What social network research question to ask? How to get social network data? What are the options for analyzing social network data? Please bring your own laptops (any Operating System), as we will also take a brief look into Gephi—an open source software for social network analysis and visualization. Please download it before the workshop (http://gephi.org/).

Social network analysis in educational research

Presenting Author: Dominik E. Froehlich, University of Vienna, Austria; Presenting Author: Jasperina Brouwer, University of Groningen, Netherlands

In this workshop, we will cover the foundations of social network analysis. You will get an overview of the current methods that are used in this field and what kind of questions you could explore. For instance, often it is not just the attributes that matter for learning in school or work contexts, but also the relationships between the learners. Also, the workshop shows you the necessary tools and ideas that allow you to conceptualize and execute a social network study on your own. Specifically, we will help you in finding answers to the following questions: Why should you use social network analysis? What social network research question to ask? How to get social network data? What are the options for analyzing social network data? Please bring your own laptops (any Operating System), as we will also take a brief look into Gephi—an open source software for social network analysis and visualization. Please download it before the workshop (http://gephi.org/).

Session VII 2

11 August 2019 10:30 - 12:30
ST 8
Invited Workshop

Career trajectories: What might the future hold?

Keywords: Doctoral education, Lifelong learning, Researcher education, Social sciences

Interest group: SIG 24 - Researcher Education and Careers

Chairperson: Jonas Leschke, University of Wuppertal, Germany

“Treat job-hunting as a job. I set aside a certain number of hours a week ... [And apply!] you are not going to know if you can get the job unless you apply!” This comment by an early career researcher (ECR) sums up a key idea: career planning takes time, research, diligence and resilience. In this session, we will explore the experiences of ECRs in job seeking, with particular attention to the non-academic labour market. Drawing on this research, participants will generate personal goals and strategies to advance their own career knowledge.

Career trajectories: What might the future hold?

Presenting Author: Lynn McAlpine, University of Oxford / McGill University, Canada

“Treat job-hunting as a job. I set aside a certain number of hours a week ... [And apply!] you are not going to know if you can get the job unless you apply!”
This comment by an early career researcher (ECR) sums up a key idea: career planning takes time, research, diligence and resilience. In this session, we will explore the experiences of EGRs in job seeking, with particular attention to the non-academic labour market. Drawing on this research, participants will generate personal goals and strategies to advance their own career knowledge.

Session VII 3
11 August 2019 10:30 - 12:30
ST 5
Invited Workshop
Teaching and Teacher Education

A framework to evaluate professional development initiatives/interventions in teacher education
Keywords: In-service teacher education, Lifelong learning, Pre-service teacher education, Teacher professional development
Interest group: SIG 11 - Teaching and Teacher Education
Chairperson: Martin Daumiller, University of Augsburg, Germany

In this workshop, JURE researchers will explore an extended evidence-based framework to evaluate professional development initiatives/interventions in teacher education. During the first part of the workshop, the extended framework will be introduced. Eight core features of professional development initiatives will be discussed. Afterwards, a one-year teacher educator professional development initiative on practitioner research (and its impact on teacher educators’ professional development) will be presented. As a collective exercise, this framework will be mapped on this initiative. The goal of this exercise is to illustrate the framework its usefulness when designing, implementing and evaluating the impact of professional development initiatives in teacher education. During the second part of the workshop, JURE researchers will be invited to actively work on their own (ideas of) intervention studies and link these to the framework. In this respect, this workshop is of high interest for developers, implementers and evaluators of professional development initiatives in teacher education (both pre-service and in-service teacher education), as well as researchers in the field of teacher education.

A framework to evaluate professional development initiatives/interventions in teacher education
Presenting Author: Hanne Tack, Ghent University, Belgium; Co-Author: Ruben Vanderlinde, Ghent University, Belgium; Co-Author: Emmelien Merchie, Ghent University, Belgium; Co-Author: Melissa Tuytens, Ghent University, Belgium; Co-Author: Geert Devos, Ghent University, Belgium

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Session VII 4
11 August 2019 10:30 - 12:30
ST 1
Invited Workshop
Becoming a competent discussant: Key principles, alternative forms and challenges
Keywords: Competencies, Reasoning, Reflection, Researcher education
Interest group:
Chairperson: Judith Fränken, RWTH Aachen University, Germany

Scientific conferences constitute major events for researchers and the academic community, in general. Among the different conference session formats, those which involve ‘discussion’ at the end (usually symposia but other formats like poster sessions, as well) are particularly interesting and important because the focus is on a specific topic of interest by a group of researchers allowing for a more holistic approach of this topic. The discussant is usually a person who has produced substantial scientific work in the field and being a good discussant is an important academic duty. But what is the discussant’s role and how s/he can be a competent one? Are there different ‘forms’ of discussions and what does a ‘good’ discussion mean? Which are the main challenges for a discussant? The workshop will provide some key principles and the required skills for how to become a good discussant in a symposium or any other format that requires discussion. Challenges and risks for a discussant will also be pointed out. Example cases will be presented and relevant activities for training and reflection will be utilized. The workshop is important for all young researchers who aspire to have an academic career and wish to become competent discussants in scientific meetings.

Becoming a competent discussant: Key principles, alternative forms and challenges
Presenting Author: Eleftheria Gonida, Aristotle University of Thessaloniki, Greece

Scientific conferences constitute major events for researchers and the academic community, in general. Among the different conference session formats, those which involve ‘discussion’ at the end (usually symposia but other formats like poster sessions, as well) are particularly interesting and important because the focus is on a specific topic of interest by a group of researchers allowing for a more holistic approach of this topic. The discussant is usually a person who has produced substantial scientific work in the field and being a good discussant is an important academic duty. But what is the discussant’s role and how s/he can be a competent one? Are there different ‘forms’ of discussions and what does a ‘good’ discussion mean? Which are the main challenges for a discussant? The workshop will provide some key principles and the required skills for how to become a good discussant in a symposium or any other format that requires discussion. Challenges and risks for a discussant will also be pointed out. Example cases will be presented and relevant activities for training and reflection will be utilized. The workshop is important for all young researchers who aspire to have an academic career and wish to become competent discussants in scientific meetings.

Session VII 5
11 August 2019 10:30 - 12:30
ST 4
Invited Workshop
Academic Presenting
Keywords: Arts, Doctoral education, Researcher education, Social interaction
Interest group:
Chairperson: Jennifer Schwarz, RWTH Aachen University, Germany

About the workshop: It’s not only what you say, it’s also how you say it. This workshop offers an introduction to academic presenting to help prepare you for talks and paper presentations at conferences, meetings, and seminars. In the workshop, we will reflect on three important topics in any academic presentation. First, we will discuss the structure of presentations. Second, we will focus on body posture and voice. And third, we will practice how to open and close your talk.
This interactive workshop includes short lectures, examples, demonstrations, practice opportunities, and peer feedback with the ultimate goal of preparing you when presenting your research to an academic audience. About the presenter: Andreas Gegenfurtner (andreasgegenfurtner.wordpress.com) works as a senior researcher at the Deggendorf Institute of Technology, Germany. His research specializes in digital learning, expertise research, motivation, and transfer of training. He has given international workshops on meta-analysis, mixed methods, and visible learning. Andreas is past coordinator of the EARLI SIG 17 Methods in Learning Research. Furthermore, he currently serves as Associate Editor of Human Resource Development Quarterly and is on the editorial boards of Heliony and Educational Research Review.

Academic Presenting
Presenting Author: Andreas Gegenfurtner, University of Passau, Germany

About the workshop: It's not only what you say, it's also how you say it. This workshop offers an introduction to academic presenting to help prepare you for talks and paper presentations at conferences, meetings, and seminars. In the workshop, we will reflect on three important topics in any academic presentation. First, we will discuss the structure of presentations. Second, we will focus on body posture and voice. And third, we will practice how to open and close your talk. This interactive workshop includes short lectures, examples, demonstrations, practice opportunities, and peer feedback with the ultimate goal of preparing you when presenting your research to an academic audience. About the presenter: Andreas Gegenfurtner (andreasgegenfurtner.wordpress.com) works as a senior researcher at the Deggendorf Institute of Technology, Germany. His research specializes in digital learning, expertise research, motivation, and transfer of training. He has given international workshops on meta-analysis, mixed methods, and visible learning. Andreas is past coordinator of the EARLI SIG 17 Methods in Learning Research. Furthermore, he currently serves as Associate Editor of Human Resource Development Quarterly and is on the editorial boards of Heliony and Educational Research Review.

Session VII 6
11 August 2019 10:30 - 12:30
ST 2
Invited Workshop
Assessment and Evaluation

Researching feedback that makes a difference

Keywords: Assessment methods and tools, Conceptual change, Student learning, Teaching/Instruction
Interest group: SIG 01 - Assessment and Evaluation
Chairperson: Anne-Mette Bjørk, Norway

Feedback is key for learning at all levels, but is an ongoing dilemma for students, educators, and researchers. In recent years, debate has intensified regarding definitions and conceptualisations of feedback. Recasting feedback as a process where the learner must make sense of information and take action to enhance the quality of their work or performance, has implications for how we might research feedback. This includes shifting the focus from teacher-centred feedback practice, to learners’ capabilities with feedback, the relationships between teachers and learners, and actions that learners take in response to feedback information. This workshop will tackle dilemmas about feedback and its conceptualisation, and introduce novel perspectives on feedback and feedback research, to equip participants with knowledge and capabilities for innovative research and practice.

By the end of this workshop, participants will be able to: Argue the merits and pitfalls of feedback conceptualisations Discuss ways of implementing feedback that makes a difference Develop strategies for researching feedback that makes a difference Workshop format: This workshop aims to be highly interactive. The facilitators will present an overview of feedback conceptualisations, inviting participants to contribute to discussions which unpacks the concept of feedback-as-process and its implications. Feedback research methods will be shared and showcased through case studies. Participants will then break into small groups, where participants’ own feedback research scenarios will be discussed and developed. Participants are asked to consider and be prepared to share understandings of feedback, and problems with feedback drawn from their own contexts, prior to the workshop.

Researching feedback that makes a difference

Presenting Author: Joanne Tai, Deakin University, Australia; Co-Author: Rola Ajawi, Deakin University, Australia; Co-Author: David Boud, Deakin University, Australia; Co-Author: Tjits Rotsaert, Ghent University, Belgium

Feedback is key for learning at all levels, but is an ongoing dilemma for students, educators, and researchers. In recent years, debate has intensified regarding definitions and conceptualisations of feedback. Recasting feedback as a process where the learner must make sense of information and take action to enhance the quality of their work or performance, has implications for how we might research feedback. This includes shifting the focus from teacher-centred feedback practice, to learners’ capabilities with feedback, the relationships between teachers and learners, and actions that learners take in response to feedback information. This workshop will tackle dilemmas about feedback and its conceptualisation, and introduce novel perspectives on feedback and feedback research, to equip participants with knowledge and capabilities for innovative research and practice.

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Session VII 7
11 August 2019 10:30 - 12:30
ST 3
Invited Workshop

Eye tracking in educational (multimedia) research

Keywords: Comprehension of text and graphics, Educational Psychology, Learning Technologies, Multimedia learning
Interest group: SIG 02 - Comprehension of Text and Graphics
Chairperson: Yi-Jhen Wu, University of Bamberg, Germany

Eye tracking makes it possible to track a person’s gaze while (s)he is processing information (for example, learning materials). This allows us to use the eye tracking technique to assess where a person is looking, for how long and in what order (s)he is processing the materials. A basic assumption when using eye tracking is that it also tells us something about a person’s cognitive processes. Therefore, eye tracking is interesting for researchers interested in the cognitive processes underlying learning. On the other hand, eye tracking can also be used as an instructional teaching tool. For example, we can show novice learners the gaze behavior of a more experienced learner to support them in processing learning materials. In the workshop, participants will learn about the eye tracking technique and its use in educational research (especially research on text and image comprehension) and about the different functions of eye tracking (i.e. eye tracking as a method to assess attention vs. eye tracking as a teaching tool). In the second part of the workshop we will discuss the advantages and disadvantages of eye tracking and what distinguishes good eye tracking research. Finally, we will discuss concrete ideas for the use of eye tracking in your own research. This workshop is aimed at researchers with little or no knowledge about the use of eye tracking.

Eye tracking in educational (multimedia) research

Presenting Author: Anne Schueler, Leibniz-Institut für Wissensmedien, Germany
Eye tracking makes it possible to track a person's gaze while (s)he is processing information (for example, learning materials). This allows us to use the eye tracking technique to assess where a person is looking, for how long and in what order (s)he is processing the materials. A basic assumption when using eye tracking is that it also tells us something about a person's cognitive processes. Therefore, eye tracking is interesting for researchers interested in the cognitive processes underlying learning. On the other hand, eye tracking can also be used as an instructional teaching tool. For example, we can show novice learners the gaze behavior of a more experienced learner to support them in processing learning materials. In the workshop, participants will learn about the eye tracking technique and its use in educational research (especially research on text and image comprehension) and about the different functions of eye tracking (i.e. eye tracking as a method to assess attention vs. eye tracking as a teaching tool). In the second part of the workshop we will discuss the advantages and disadvantages of eye tracking and what distinguishes good eye tracking research. Finally, we will discuss concrete ideas for the use of eye tracking in your own research. This workshop is aimed at researchers with little or no knowledge about the use of eye tracking.

Session VII 8
11 August 2019 10:30 - 12:30
ST 6
Invited Workshop
Teaching and Teacher Education
Capturing teachers’ reflections
Keywords: Collaborative Learning, Reflection, Teacher professional development, Teaching/instruction
Interest group: SIG 11 - Teaching and Teacher Education
Chairperson: Timo Lüke, TU Dortmund University, Germany

Abstract Teacher’s or teacher student’s reflections are essential to understanding both collective development processes in school and teacher’s individual professional development. Thus, it is crucial to think of ways of making data on teachers’ cognitive processes available and how to make implicit thoughts and knowledge explicit. This workshop highlights conditions and methods that can be useful for capturing teachers’ reflections in different kinds of research designs. It also focuses on different types of reflections and their quality. The participants will get an overview of several methods (i.e., questionnaire, stimulated recall, interviews, focus groups, dialogue café, reflection cycle, etc.) that aim at bringing forward teacher’s reflections and are used for research purposes. The workshop illustrates how the methods can be used in different research contexts. The participants will be actively involved in practising the different techniques themselves. We will discuss the strength and weaknesses of the methods as well as implications for interpretation and validity. The participants will experience different kinds of methods that can serve as inspiration for their data collection and analyses.

Capturing teachers’ reflections
Presenting Author: Inger Marie Dalehede, University of Agder, Norway

Abstract Teacher’s or teacher student’s reflections are essential to understanding both collective development processes in school and teacher’s individual professional development. Thus, it is crucial to think of ways of making data on teachers’ cognitive processes available and how to make implicit thoughts and knowledge explicit. This workshop highlights conditions and methods that can be useful for capturing teachers’ reflections in different kinds of research designs. It also focuses on different types of reflections and their quality. The participants will get an overview of several methods (i.e., questionnaire, stimulated recall, interviews, focus groups, dialogue café, reflection cycle, etc.) that aim at bringing forward teacher’s reflections and are used for research purposes. The workshop illustrates how the methods can be used in different research contexts. The participants will be actively involved in practising the different techniques themselves. We will discuss the strength and weaknesses of the methods as well as implications for interpretation and validity. The participants will experience different kinds of methods that can serve as inspiration for their data collection and analyses.

Session VIII 1
11 August 2019 12:45 - 13:45
ST 5
Poster Presentation
Motivational, Social and Affective Processes, Teaching and Teacher Education
Motivation, Emotion, and Affect
Keywords: Content Analysis, Educational Psychology, Emotion and affect, Experimental studies, Motivation, Motivation and emotion, Out-of-school learning, Primary education, Professions and applied sciences, Qualitative methods, Quantitative methods, Science education, Secondary education, Self-regulation
Interest group: SIG 05 - Learning and Development in Early Childhood, SIG 08 - Motivation and Emotion, SIG 20 - Inquiry Learning
Chairperson: Kamila Urban, Slovakia

Increasing 8th graders perception of utility value through a relevance intervention
Keywords: Experimental studies, Motivation, Motivation and emotion, Science education
Presenting Author: Martin K. Hornsgaard, Danish School of Education, Denmark

Increasing 8th graders perception of utility value through a relevance intervention The aim of the study is to evaluate the impact of a relevance intervention aimed at promoting interest and performance in 8th-grade physics. Physics is chosen as the focal point of this study because students show a substantial lack of interest in this subject (Krapf & Prenzel, 2011; Osborne, Simon, & Collins, 2000). We hypothesize that the relevance intervention will lead to an increase in perceived utility value (Eccles, 1983; Wigfield & Eccles, 2000) which affects both interest and performance. Additionally, it is hypothesized that there is an interaction between the relevance intervention and performance expectations on perceived utility value. The study is carried out as a field experiment over six months. The relevance intervention is designed to help students make connections between physics class and their own lives. The students are randomly assigned to one of two writing conditions. The students in the relevance condition are asked to write a short text about how the subject is relevant to their own lives. Whereas the students in the control condition are asked to write a short text about what they have learned about the subject. A pretest and posttest self-report survey examines the effect of the intervention on the student's perception of utility value and interest. Student performance is assessed by a 16-item science test. Preintervention and 8th graders are randomly assigned to one of two groups (i.e. intervention group and control group). The intervention group is then presented with a series of activities designed to increase their interest in the subject, while the writing assignment is done on a webpage designed by the researcher. The intervention period spans over six months from November until May. In this period, the students are expected to do approximately one writing assignment a month. Data is analyzed using multilevel models with perceived utility value, interest as dependent variables.

Middle school students’ academic burnout in schools with Estonian and Russian language in Estonia
Keywords: Educational Psychology, Motivation and emotion, Quantitative methods, Secondary education
Presenting Author: Kati Vinter, Tallinn University, Estonia; Co-Author: Kati Aus, Tallinn University, Institute of Educational Sciences, Estonia; Co-Author: Grete Arro, Tallinn University, Institute of Educational Sciences, Estonia

Different official documents and research results stress the importance of guiding skills that help sustain students’ psychological well-being; decreased emotional well-being in turn has been associated with academic burnout. The aim of our study was to analyse academic burnout of Estonian and Russian speaking eighth-graders in Estonia and its relations to different cognitive and social-cognitive factors: specifically math skills, general cognitive ability, implicit ability beliefs and academic psychological buoyancy. The sample consisted of 429 eighth-graders from five Russian (n = 174) and seven Estonian (n = 255) schools. Confirmatory factor analysis and measurement invariance analysis were used to assess the validity and reliability of the measurement instruments; differences in academic burnout between minority and majority students and the relations with other measured variables were analysed using analysis of variance and
regression analysis. The results of the study indicated that the level of burnout was similar among minority and majority students. Although cognitive factors failed to predict burnout in both language groups, the social-cognitive components played significant roles. Higher levels of burnout were predicted by entity beliefs of ability and lower psychological buoyancy for Estonian and for Russian sample. It also appeared that Estonian students who have lower psychological buoyancy and better math skills are more prone to academic burnout. Further studies should focus on developing the knowledge and skills of implicit ability beliefs as well as psychological buoyancy among middle school students.

**Do you experience interest in a similar way over time?**

**Keywords:** Content Analysis, Motivation, boredom, Out-of-school learning, Qualitative methods

**Presenting Author:** Jonne Vulperhorst, Utrecht University, Netherlands; **Co-Author:** Esther Slot, University of Utrecht, Netherlands; **Co-Author:** Larike Bronkhorst, Utrecht University, Netherlands; **Co-Author:** Roeland M. Van der Rijst, ICLON-Leiden University Graduate School of Teaching, Netherlands; **Co-Author:** Sanne Akkerman, Utrecht University, Netherlands; **Co-Author:** Theo Wubbels, Utrecht University, Netherlands

Multiple studies have focused on why adolescents are interested in a specific object to inform how being interested can be evoked or sustained in certain objects. Recently, empirical studies have taken a person-in-context perspective illustrating that the person and situation jointly shape the experience of interest in a moment. Nonetheless, for long-term interests it is still theorized that the person always experiences his/her interest similarly interesting across situations. Although it has been shown that adolescents differently engage with their interest from moment-to-moment, and this may impact what is experienced as of being of interest, no empirical studies have investigated this. Therefore, we aim to explore to what extent the experience of interest is similar in long-term interests and whether the moment-to-moment changes with an interest may be identified similarities and dissimilarities. In order to do so, we used an experience sampling method. Twelve adolescents filled in a smartphone application across 6 waves of 2 weeks. 2276 moments with long-term interests were analyzed: experiences of interest and engagements were coded according to conventional content analysis. Multiple similarities (e.g. preferences, personal goals, positive emotions) were identified in the experiences of interest related to a single long-term interest. Moreover, almost in every long-term interest dissimilar experiences of interests were found. This suggests that experiences of interests are not as stable as theorized. The experienced dissimilarities could often be related to changes in how adolescents engaged with their long-term interest. When an adolescent engaged with an interest differently (e.g. instead of playing hockey, talking about hockey practice), it often was associated with a dissimilar experience of interest. This implies that a long-term interest cannot be directly used in the school context, and one should be careful when using long-term interests in school to personalize the curriculum.

**Positive Emotions, Learning, Teacher Support In Self-directed Learning During Adolescence**

**Keywords:** Emotion and affect, Motivation and emotion, Secondary education, Self-regulation

**Presenting Author:** Sabine Schweder, University Greifswald, Germany; **Co-Author:** Diana Raufelder, University Greifswald, Germany

It has already been shown that positive emotions can positively influence learning behavior. However, what is less known is whether teacher support mediates this relationship in adolescents of varying ages and genders in self-directed learning (SDL) at school. Data gathered with questionnaires given to 754 students (Mage= 13.56; SD= 1.2) at two measurement times was based on the empirical basis of this study. To control for possible gender and age-based differences in the interplay and extent of the variables, a multigroup structural equation model and latent mean comparison (LMC) were carried out, whereby four groups [female 6th/7th graders, male 6th/7th graders (earlier adolescence), female 8th/9th graders, male 8th/9th graders (middle adolescence)] were examined. Across from the 2nd to 4th grade, different reference groups, the LMC showed that all other groups have significantly higher mean values for positive emotions. In addition, female 6th/7th graders report a significantly higher level of violation. Teacher support partly mediates all relations. Group differences in the interplay of the variables were excluded. The results of the study highlight the importance of teacher support when SDL is carried out in school. Thus, teacher support reduces the effects between positive emotions and learning behavior. This means that in self-directed learning, even those students who develop weaker positive emotions are supported.

**The influence of burnout symptoms on cognitive and affective empathy**

**Keywords:** Emotion and affect, Experimental studies, Professions and applied sciences, Quantitative methods

**Presenting Author:** Mareike Trauricht, Freie Universität Berlin, Germany; **Co-Author:** Elisa Oppermann, Freie Universität Berlin, Germany; **Co-Author:** Uta Klusmann, Leibniz Institute for Science and Mathematics Education (IPN), Germany; **Co-Author:** Yvonne Anders, Freie Universität Berlin, Germany

Human service workers are especially prone to developing a burnout syndrome at some point in their career. Since their work directly affects the lives of many people, we need to understand the relational consequences of burnout. An important element of social-emotional functioning is empathy, understanding another person’s state of mind. Yet, little is known about the consequences of burnout on empathic capacities. The present study investigates the causal link between burnout symptoms and empathy by using a novel experimental design. We recruited 370 participants via Amazon.com’s Mechanical Turk and confronted half of them with an autobiographical memory task to activate burnout symptoms (experimental group). Additionally, one control group filled out a neutral autobiographical memory task; another control group received no intervention. Subsequently, we measured burnout symptoms as a manipulation check, as well as cognitive and affective empathy of all participants. Results show that the experimental group indeed reported increased burnout symptoms compared to control groups, but only displayed reduced empathy in a cognitive measure. In conclusion, the present study validates and provides a new intervention method to study burnout. Further, findings point towards a causal negative relationship between burnout and cognitive empathy indicating the need for intervention. However, findings need to be interpreted with caution due to limited ecological validity of burnout simulations and empathy measures.

**Interpersonal Relationship as a Mediator between Optimistic Explanatory Style and Well-being**

**Keywords:** Educational Psychology, Emotion and affect, Primary education, Quantitative methods

**Presenting Author:** Pei-Hsin Li, University of Oxford, United Kingdom; **Co-Author:** Ling-Hui Chu, University of Washington, United States; **Co-Author:** Min-Ning Yu, National Chengchi University, Taiwan


Abstract An optimistic view toward life events may influence one’s life satisfaction and happiness. Previous research in Taiwan has mainly focused on college students’ well-being rather than children’s well-being. It is valuable to explore the mental health issue of primary school students. Following the idea of social capital theory, we believed that along with the explanatory style, the relationships with others can be the important resource and support for people, especially for primary school students who interact with their parents, teachers, and peers frequently. Overall, the aims of the present study were to explore the influence of optimistic explanatory style and quality of interpersonal relationship on well-being, and the mediating role of interpersonal relationship between optimistic explanatory style and subjective well-being of primary school students. 1322 sixth grade students from the fifth wave of the three-year longitudinal data set (Yu, Chao, Chung, Yeh, & Chen, 2012; Yu, Chen, Chung, Chao, & Syu, 2010, 2011) were selected in Taiwan. To test the hypotheses of this study, a mediation model was conducted, and the data was analysed through structural equation modeling (SEM) using LISREL. Results showed that optimistic explanatory style and interpersonal relationship were positive associated with well-being. Additionally, interpersonal relationships fully mediated the relationship between the optimistic explanatory style and well-being. The implication of this study is that although the optimistic explanatory style influences students’ well-being, cultivating amiable interaction with others is an important way to elevate student well-being.

**Session VIII 2**

11 August 2019 12:45 - 13:45

Session Poster Presentation

Higher Education, Learning and Special Education

Cultural / Linguistic Diversity
Keywords: Achievement, Attitudes and beliefs, Biology, Cultural diversity in school, Culture, Early childhood education, Educational attainment, Geography, Higher education, Knowledge creation, Language (Foreign and second), Mixed-method research, Motivation and emotion, Multicultural education, Multimedia learning, Reading comprehension, Secondary education

Interest group: SIG 02 - Comprehension of Text and Graphics, SIG 08 - Motivation and Emotion

Chairperson: Qian (Linda) Yu, University of Auckland, New Zealand

Students’ Motives for Communicating, Foreign language anxiety and Willingness to communicate

Keywords: Higher education, Language (Foreign and second), Mixed-method research, Motivation and emotion

Presenting Author: Jaroslava Jelinkova, Masaryk University, Czech Republic

The study aims to examine the relationship among students’ motives for communicating with instructors, foreign language anxiety and willingness to communicate; and to identify more specifically the sources of foreign language anxiety. By understanding foreign language anxiety and considering student’s motives for communicating with their instructors we can help to explain why they behave the way they do as well as predict how it is likely to influence their behaviour in a classroom. A mixed method research design was used in a pilot study to obtain data from a survey (n = 87) and an interview (n = 6). The target group were university non-linguist students attending language courses. The findings based on the pilot study and consequences for the further development will be presented and discussed.

Effects of student-generated and interactive drawings on understanding plate tectonics

Keywords: Geography, Multimedia learning, Reading comprehension, Secondary education

Presenting Author: Cristina Lardi, University of Fribourg, Switzerland; Co-Author: Claudia Leopold, University of Fribourg, Switzerland

This study explored, whether learning from a scientific text on plate tectonics can be enhanced by an interactive drawing strategy. 8th-grade students (N = 94, M = 13.34) of a Swiss- secondary school read a scientific text and answered questions on recall, transfer, and drawing accuracy and on cognitive load and interest. Instructions varied according to a 2 x 2-factorial design with “learner-generated-drawings” (yes, no) and “interactive drawings” (yes, no) as two factors. Results across outcome measures (transfer, recall, drawing) indicate that interactive drawing groups performed better than the groups who learned without interactive drawings. The student-generated drawing groups never significantly exceeded the control group. Furthermore, the interactive drawing groups reported lower-levels of cognitive load than the student-generated group did and higher interest than the control group did. In sum, our results indicate that interactive drawings foster learning from scientific text. Keywords: Reading comprehension, student-generated drawing, interactive teacher-generated drawing, cognitive load, multimedia learning

Empirical Analysis of the Effectiveness of Texts in Plain Language in Biology Lessons

Keywords: Attitudes and beliefs, Biology, Knowledge creation, Reading comprehension

Presenting Author: Melanie Schaller, University of Vechta, Germany

German schools show a language-heterogeneous student body due to inclusion, migration and flight. Along that, the concept of plain language (Leichte Sprache), which addresses some groups that can also be found in schools (e.g. people with a different mother tongue) and is supposed to lower comprehension barriers in texts, becomes increasingly prominent in German society. The modification of scientific text into plain language may be able to lower numerous possible occurring language problems that are caused by different characteristics such as long clauses or synonyms. Therefore, a mainly qualitative study with a pretest-posttest-design currently evaluates the implementation of plain language questioning 69 experimental subjects of year 5 in middle schools. It considers the in-decrease of the knowledge gained during intervention with a knowledge test including open question items. Furthermore, attitudes of students and teachers towards plain language will be assessed via interviews and questionnaires with open and closed question items. Tests, questionnaires and interviews take place before and after the intervention containing 8 school lessons with either texts in plain language in the test groups or original texts in the control group. The results will be compared with individual language levels (surveyed with the help of C-Tests) and personal characteristics as for example migration backgrounds. First evaluated results of the pilot study show that the implementation of texts in plain language does not have any significant effect on the increase of specific knowledge. Furthermore, students have mixed opinions about plain language, although students with or with expected special educational needs concerning language show a more positive rating after the intervention. Aside from that, some aspects of plain language are rated negatively and some positively in both groups before and after intervention. A main study with a higher number of experimental subjects is needed and will be realised by autumn 2019.

Distribution of acculturations orientations across the German secondary school system

Keywords: Achievement, Cultural diversity in school, Culture, Educational attainment

Presenting Author: Sebastian Thünér, Freie Universität Berlin, Germany

According to Berry (1997) four acculturation orientations are to be distinguished from each other, which characterize the pattern of orientation towards the culture of reception and the culture of origin: integration, assimilation, separation, and marginalization. However, acculturation is more than belonging to one or more groups. To explain why students with a migration background are in one of the four orientations of the acculturation we use e.g. the new assimilation theory (Kalter, 2008) as a framework. Through this extension, we can make additional assumptions and hypotheses to explain the distribution of students in the school system.Against this background, our study examines the distribution of acculturations orientations of students with a migration background across different school tracks of the German secondary school system. In order to explain our assumptions and hypotheses we use additional variables such as HISCED, peers, etc. To analyse our questions, we use data from the German National Education Panel Study (Blossfeld, Roßbach, & Maurice, 2011). First results for starting cohort 4 show, that 29% of pupils with migration background are assimilated, 29% integrated, 26% separated, and 15% marginalised. What is striking here is that, school types, which offer the lower secondary school leaving certificate as the first degree have a proportion of 18% of students, while Gymnasium have 42% of assimilated students. Further analyses show that Turkish marginalised students attend a Gymnasium significantly less frequently than their reference group. At present, the distribution of students according to acculturation orientation was only considered cross-sectional. In the future, longitudinal analyses should contribute to researching how orientation and success at school change over time. Furthermore, it would be interesting to investigate whether marginalization necessarily has negative consequences for students, but unfortunately, there are limitations here due to the data.

Exploring Hong Kong Grade One Students’ Difficulties in Transitioning to school Through Picture Book

Keywords: Cultural diversity in school, Early childhood education, Language (Foreign and second), Multicultural education

Presenting Author: Wan Yi Eva Liu, The University of Hong Kong, Hong Kong; Co-Author: Wai Ming Cheung, The University of Hong Kong, Hong Kong

Transitioning from pre-school to primary school has been described as one of the most challenging tasks of early childhood (Fabian & Dunlop, 2007). There are various life styles and metal adjustments that the children need to go through during this period. Previous studies explored the different areas of transitional difficulties of grade one students in Hong Kong from the teachers’ and parents’ perspectives (Chan, 2012), however, there is limited data on the students’ perspective.

As local students and linguistically diverse pupil (LDPs) may experience different types of transitional difficulties, this study in progress aims to find out the differences and similarities of the difficulties they face. This study adopts qualitative approach to understand the range of transitional difficulties and how specifically they affect individual students. Semi-structured group interviews with selected students and lesson observations of a Chinese picture book were carried out in two schools to understand specific issues that local students and LDP experienced. Illustrations from the picture book were used in the interviews and lessons to encourage students to engage and voice out. Both the interviews and lessons are recorded, transcribed and analyzed.
Session VIII 3
11 August 2019 12:45 - 13:45
ST 4
Poster Presentation
Higher Education

Higher Education - Teacher Focus

Keywords: Achievement, Case Studies, E-learning/Online learning, Higher education, In-service teacher education, Pre-service teacher education, Quantitative methods, Self-efficacy, Teacher professional development, Teaching approaches, Vocational education, Workplace learning
Interest group: SIG 04 - Higher Education, SIG 14 - Learning and Professional Development
Chairperson: Sami Löfgren, University of Helsinki, Finland

Factors influencing Teachers Training in a Blended-Learning-Design - A Systematic Review

Keywords: E-learning/Online learning, Higher education, In-service teacher education, Teacher professional development
Presenting Author: Karen Vogelpohl, University of Oldenburg, Germany

In the past years, numerous studies investigated the meaning of further education for teachers as well as features of effective programs. Although there had been recent findings about influencing factors in teachers training in general, the question remains how teachers could learn inside a blended-learning-design. Hence, the purpose of this study is to perform a systematic review and to investigate the role and the features of a blended-learning-design for teachers training. After particular scoping research, all studies of the research field have been collected from appropriate search databases. The main scope was limited by in- and exclusion-criteria to a number of 24 relevant papers that had been published between 2007 and 2018.

Teaching approaches, well-being and self-efficacy of university teachers

Keywords: High-stakes, Quantitative methods, Self-efficacy, Teaching approaches
Presenting Author: Julius Yläne, University of Helsinki, Finland; Co-Author: Lisa Postareff, University of Turku, Finland; Co-Author: Telle Halikari, University of Helsinki, Finland; Co-Author: Mari Murtonen, University of Turku, Finland

Previous research on university teachers has distinguished different profiles of teaching approaches, commonly characterised as either learning-focused or content-focused (Postareff and Lindblom-Yläne, 2008). These approaches differ significantly in the planning and delivering of teaching, as well as the roles of both the teacher and the students. Approaches to teaching have been shown to relate to students’ approaches to learning (Trigwell, Prosser & Waterhouse, 1999), as well as to teachers’ emotions concerning teaching (Postareff & Lindblom-Yläne, 2011). However, the relationship between teachers’ approaches to teaching and their psychological well-being has received little research attention. Findings by Cao, Postareff, Lindblom and Toom (2018) suggest that learning-focused teaching is positively associated with well-being. Research on primary school teachers have consistently reported that teachers are particularly prone to stress and burnout (Aloé et al., 2014; Skalivik et al., 2017). Yet, research on the well-being of university teachers is scarce. University teachers are likely to experience stress, because they often lack pedagogical training and are asked to teach in relatively challenging contexts without the sufficient pedagogical skills. The purpose of this study was to explore university teachers’ approaches to teaching in relation to their stress, burnout and self-efficacy beliefs. Participants are university teachers from three Finnish universities. Preliminary results (N=68) showed that content-focused teaching was associated with higher levels of burnout. Furthermore, learning-focused teaching was associated with strong self-efficacy beliefs, improved recovery from teaching-related stress. Furthermore, the negative effects of stress did not have a strong impact learning-focused teaching. The preliminary findings therefore suggest that teachers’ pedagogical approaches influence their psychological well-being.

Teacher Education in Germany: Who stays, who moves, who leaves?

Keywords: Achievement, Higher education, Pre-service teacher education, Quantitative methods
Presenting Author: Sebastian Franz, Leibniz Institute for Educational Trajectories (LITh), Germany; Co-Author: Sabine Zinn, SOEP at DIW Berlin, Germany; Co-Author: Hildegard Schaeper, DZHW - German Centre for Higher Education Research and Science Studies, Germany

In Germany, around 15 percent of teacher education students leave higher education without a degree. This dropout rate is low compared with other degree programs in Germany. However, a further reduction of this rate is an important political objective since qualified teachers are currently in high demand. Effective measures to prevent dropping out presuppose profound knowledge about the factors that lead to this decision. Several studies have been published on dropout in general, but little is known about the withdrawal of teacher education students in particular. Our study aims at reducing this research gap by examining how far the level of integration into the social and academic system of higher education institutions explains the decision to leave teacher education. We study this question by using data on student careers from the German National Educational Panel Study (NEPS). We apply event history analysis to estimate the risk of dropping as well as moving to other fields of study. As explanatory quantities the concept of academic and social integration is considered. Special statistical techniques are used to account for panel attrition and item nonresponse. In this way, the results should be discussed with the focus on the mechanisms underlying the decision to leave teacher education programs.

The impact of teachers’ workplace learning on pedagogical practice and innovation: A case study

Keywords: Case Studies, Higher education, Vocational education, Workplace learning
Presenting Author: Yanmin Zhao, The Education University of Hong Kong, Hong Kong

The main purpose of the project is to investigate teachers’ workplace learning in two Chinese higher vocational contexts to demonstrate how teachers’ workplace learning facilitates their pedagogical innovations and teaching effectiveness. The research also attempts to explore the role of teachers’ workplace learning in their pedagogical practice. A new workplace learning model by (Zhao & Ko, 2018), extending illeris’ (2011) model is adopted as the conceptual framework of this study. A case study is designed to explore vocational education teachers’ experiences, personal perspectives, and beliefs, and realisations of workplace learning practice through class observations, reflective logs, and semi-structured interviews. The main findings indicate that vocational education and training (VET) teachers perceived the factors in organizational and individual layers reinforce their incentives to learn in the workplace, and the professional knowledge VET teachers obtained in the workplaces improves vocational teaching practice and innovation (e.g., ICT use, design thinking) and enhances their self-identity in vocational education. Moreover, VET teachers’ learning for work and through work fosters their professional development and promotes vocational students’ learning. The study will contribute to new ideas in developing vocational education teachers’ workplace learning and teaching innovations, together with knowledge creation and application in the learning situation. Practically, the findings of this study will motivate teachers’ workplace learning that results in teaching innovations through different forms of learning activities and pedagogical approaches in the VET classrooms.

Session VIII 4
11 August 2019 12:45 - 13:45
ST 3
Poster Presentation
Assessment and Evaluation, Educational Policy and Systems
Evaluation and Assessment

Keywords: Achievement, Assessment methods and tools, Comparative Studies, Competencies, Early childhood education, Educational Psychology, Higher education, Interdisciplinary, Language (Foreign and second), Learning approaches, Mixed-method research, Qualitative methods, Quantitative methods, Science education, Social development, Social interaction, Teacher professional development, Teaching approaches

Interest group: SIG 01 - Assessment and Evaluation, SIG 23 - Educational Evaluation, Accountability and School Improvement

Chairperson: Sebastian Trentepohl, Ruhr-Universität Bochum, Germany

Do siblings influence the assessment of socio-emotional behaviour of kindergarteners?

Keywords: Assessment methods and tools, Early childhood education, Quantitative methods, Social development

Presenting Author: Carina Schoenmoser, Leibniz Institute for Educational Trajectories, Germany; Co-Author: Claudia Karwath, Otto-Friedrich-University of Bamberg, Germany

Socio-emotional behaviour is an important indicator for a child’s development. Therefore, we should observe children’s socio-emotional behaviour even from the start to avoid potentially long-term consequences. Children mainly begin to develop socially at this age, even before they are in non-parenteral care. So, to obtain the most comprehensive impression of children’s socio-emotional behaviour, researchers refer to various informants like teachers, parents or the target subjects themselves (multi-informant-perspective). Thereby, the different informants tend to vary from each other in their evaluation of the children’s socio-emotional behaviour. Only few studies have attempted to investigate the reasons for the weak correlation of the assessments of multiple informants. Besides different social contexts, the reasons for these low correlations may be different standards, benchmarks and interests as well as stereotypes, which can influence the rater assessment. Besides other indicators like the children’s age and sex, the presence of siblings may also alter how informants rate children because of different judgment anchors in families with or without siblings. We investigate, if the number of siblings show an influence on the assessment of socio-emotional behaviour through parents and educators. For our analyses we are using the data from the interdisciplinary German longitudinal project, “BIKS-3-13-Study” (educational processes, competence development and selection decisions in preschool- and school age). Within the BIKS-3-13-Study parents and educators of about 330 kindergarteners (first wave) have been interrogated.

Candidates’ Test-taking Strategies in STANAG 6001 Receptive Skills Tests

Keywords: Assessment methods and tools, Language (Foreign and second), Learning approaches, Mixed-method research

Presenting Author: Ewa Bumbáková, Masaryk University, Czech Republic

When taking language tests, students employ not only their knowledge and language learner strategies, but also test-taking strategies (TTSs), i.e. test-management strategies (TMSs) and test-wiseness strategies (TWs). The existing research conducted into TTSs and their impact on test performance seems to be inconclusive – some authors found no impact of TTS knowledge on test performance (Winke & Lim, 2017). Another author (Ghaffouria, 2013) discovered the group with the highest proficiency achieved in an English reading test used the highest number of strategies, on the other hand, the group with the lowest number of strategies was the intermediate group. Jamil, Aziz, and Razak (2010) claim it is the manner in which strategies are used that helps students arrive at the correct answer, rather than the quantity of strategies used.

The study focuses on TTSs which STANAG 6001 English proficiency exam candidates use in multiple-choice reading and listening tests, and the relation of the strategies used to a wider field of variables (test performance, age, proficiency level), as well as on TTSs supported by teachers. The pilot study, in which semi-structured interviews were used, shows that a majority of the teacher respondents provide some information related to TTSs, concentrating specifically on TMSs; the most comprehensive guidance is given to Ss preparing for level 1 exam. In the minds of the Ss, learner reading and listening strategies and TTSs seem to be closely interconnected, which requires careful analysis of the interviews, and confirms the need of the research for a questionnaire where the distinctions are clear-cut. Preliminary results also show that level 2 candidates appear to be using the widest array of TMSs, and especially TWs. More detailed results of the pilot study are going to be provided in the poster presentation.

Differences in Psychological traits between students from Thailand and PISA 2015 top five countries

Keywords: Achievement, Comparative Studies, Educational Psychology, Science education

Presenting Author: Siripreeya Chaiboomna, Chulalongkorn University, Thailand; Co-Author: San Rangsan, Chulalongkorn University, Thailand; Co-Author: Watcharin Innump, Chulalongkorn University, Thailand

Understanding psychological traits related to science literacy could be the key to support and enhance students to engage with science-related issues in not only their school but also the real world. This study investigated psychological factors of students such as their interest in broad science topics, science self-efficacy, sense of belonging to school, and motivation. Such factors of Thai students were compared with those of students in PISA top 5 countries including Singapore, Japan, Estonia, Chinese Taipei, and Finland. Results from MANOVA revealed that there was a statistically significant difference in indices of students between the countries (F(35, 140781.176) = 426.815, p < .001 Wilk's Λ = .654, partial eta square = 1.51). It was found that the level of Thai students’ test anxiety was greater than that of students from other countries. On the contrary, Thai students had a very low level of sense of belonging to the school, as compared to their international peers. Surprisingly, PISA 2015 results showed that levels of science self-efficacy, motivation, and interest in science of Thai students were higher than those of students in the highest-performing countries. As for ICT-related psychological variables, we found that students’ indices of ICT competence, autonomy related to ICT use, and ICT interest were generally lower than such indices of students from the top-five countries. Based on the results, some implications and suggestions are discussed later in this paper.

Public schools don’t need public relations. Do they?

Keywords: Competencies, Interdisciplinary, Qualitative methods, Social interaction

Presenting Author: Mari-Lis Tikerperi, University of Tartu, Estonia

Communication is an integral part of every organization and institutions strategic leadership. Professional communication management enables an organization to reach its target groups and brings to the fore its objectives, activities, achievements and future endeavors. It is essential for an organization to be visible, because it contains the aspects that people can use to decide over the nature and activities of the organization (Smith, 2009). According to Gilpin (2010), the image-constructing, self-presentation and reputation management are integral parts of organizations’ public relations. All those aspects are relevant in educational organizations, including public schools. According to recent studies (Voormaā, 2009; ÕUsõ et al., 2014), school leadership development is internationally under great scrutiny. School leadership is seen more and more as general leadership skills, including communication skills. The objective of this study is to describe public relations in schools’ strategic management and the practical management of communication in schools. The qualitative data of this study was gathered by in-depth interviews with the principals of Estonian state gymnasia (N=9; was 100% of state gymnasia in the spring of 2016) and analyzed with qualitative inductive content analysis. The results showed that principals understand communication management and its role in school management differently. In the interviews, various communication practices were described, but the approach to these topics was still quite occasional, though the importance of communication in the school context is confirmed by many authors and also by the results of this study.

Assessment design in Spanish higher education, a detailed analysis

Keywords: Assessment methods and tools, Higher education, Teacher professional development, Teaching approaches

Presenting Author: Javier Fernández, Universidad Autónoma de Madrid, Spain; Co-Author: Daniel García Pérez, Universidad Europea de Madrid, Spain; Co-Author: Emilio Panadero, Universidad Autónoma de Madrid, Spain

Assessment in higher education is especially relevant due to the high level of autonomy and self-regulation that is assumed in the students at this stage. Unfortunately, while there is a bulk of research on which assessment evidences are used in higher education research is not so strong how university professors design these evidences. Using a mixed method technique, we analyzed the assessment methodologies used in three different academic divisions (Mathematics, Medicine and Sport Sciences), and the design process followed by the teachers in each degree. We found significant differences in the assessment methodologies used based on the academic division. We also found a different approach to the assessment design in each academic division. This research show with more level of detail the assessment methodologies used at the European higher education, as well as the importance of the knowledge
traditions on the assessment evidences used.

**Session VIII 5**

11 August 2019 12:45 - 13:45

ST 6

Poster Presentation

Higher Education, Teaching and Teacher Education

**Pre- and in-service teacher education**

**Keywords:** At-risk students, Competencies, Content Analysis, Educational Psychology, Emotion and affect, In-service teacher education, Learning analytics, Mixed-method research, Pre-service teacher education, Qualitative methods, Quantitative methods, Reflection, Social aspects of learning and teaching, Social interaction, Student thinking, Teacher professional development, Vocational education

**Interest group:** SIG 04 - Higher Education, SIG 11 - Teaching and Teacher Education

**Chairperson:** Marek Urban, Czech Republic

**Measurement of teachers’ competency in teaching multilingual learners**

**Keywords:** Competencies, In-service teacher education, Pre-service teacher education, Teacher professional development

**Presenting Author:** Svenja Lemmrich, Leuphana University Lueneburg, Germany

Teachers of all subjects need to acquire competencies in teaching in multilingual classrooms. Until recently, it was unclear what teachers should know to meet needs of the multilingual classroom and standards for education and performance in the field of teaching multilingual learners are not yet defined (Koch-Priewe, 2018). Köker et al. (2015) developed a model as well as a test that empirically measures pre-service competency in teaching multilingual learners (MLLs) with learners from German as a second Language (GSL) (DaZKom model). The level of situation specific skills and performance cannot yet be captured by this test, as these higher levels need to be tested with instruments that target performance rather than explicit knowledge (Bliomeke et al. 2015). The test instrument developed in the DaZKom-Video project presents authentic video-taped classroom situations and requires oral responses of the tested persons that are then audiotaped to measure as close to actual performance as possible. The aim is to evaluate opportunities to learn for (pre-service) teachers. Therefore it is looked at different factors such as teaching experience, studied subjects or specific qualifications that might have an impact on test results of the competency test. To validate the responding format, the impact of personality traits on responding behavior will be evaluated and therefore, test persons are tested with the Big Five Inventory-SOEIPrincipal (Schupp & Gerlitz, 2014) additionally to the video-based test instrument DaZKom-Video.

**Implementation and Evaluation of a Learning Analytics Enhanced e-portfolio: Lessons Learned**

**Keywords:** In-service teacher education, Learning analytics, Pre-service teacher education, Teacher professional development

**Presenting Author:** Piilie Hunt, University of Tartu, Estonia; **Co-Author:** Alie Leijen, University of Tartu, Estonia; **Co-Author:** Marieke van der Schaaf, University Medical Center Utrecht, Netherlands

Feedback is considered as one of the most important part of the workplace-based learning process. However, there is a need for more personalized and effective feedback. This paper reports on the implementation and evaluation of learning analytics (LA) enhanced electronic portfolio (e-portfolio) in pre-service and in-service teacher education. The study followed the design-based research principles. Firstly, the pedagogical framework for the system was developed indicating the most important professional activities that teachers carry out in the workplace. Then, teachers’ perceptions of the system were explored. And as the last step, a study was carried out to understand how teachers actually used the system and what was the impact of the e-portfolio system on the development of teachers’ professional activities. Several benefits and challenges were addressed by the participants in the questionnaires and focus group interviews. The log-file data from the system showed a rather sparse use of the LA applications. The main lesson learned from this implementation process was that the e-portfolio and the LA could be of major assistance in organizing feedback and assessment in the workplace and supporting teachers’ professional development, however further work is needed to put these in practice for further potential benefits. Overall, the implementation and evaluation of the e-portfolio have played an important role in the future direction for the assessment of pre-service teachers in their internship and supporting the professional development of the in-service teachers in the workplace.

**Teacher identity tension and coping strategy in the Hong Kong context**

**Keywords:** Content Analysis, In-service teacher education, Qualitative methods, Teacher professional development

**Presenting Author:** Josephine Lau, University of Jyväskylä, Finland

The poster presents the research on identity tension and coping strategy in in-service teachers in Hong Kong. Teacher identity development is a continuous and complicated process of integrating the internal side such as personal beliefs and values, with the external environment on professional requirement, and standards. The process is affected by the dynamics of a number of uncontrollable events, practices and actors at the workplace. When the personal side conflict with the outside demands, internal struggle could lead to tensions and emotions, which it could adversely affect teacher’s learning, job satisfaction, and even drive one to quit the profession. The study investigates teacher identity tension through the interviews with 21 in-service teachers. Tensions are demonstrated on the societal, workplace and personal level, regarding areas on society expectation on the profession, relationship with colleagues and students, etc. These identity tensions have to be recognized, especially on the continuous professional development for teachers, in order to assist them in fulfilling their job aspirations.

**Online Self- Assessments in Teacher Education – Strategic Considerations of German Universities**

**Keywords:** Mixed-method research, Reflection, Student learning, Teacher professional development

**Presenting Author:** Jörg Holle, Westfälische Wilhelms-Universität Münster, Germany

Recently, due to a recommendation of the standing committee of the German ministers of culture (Kultusministerkonferenz, KMK) in 2013, the majority of universities installed online self-assessments (OSA) for prospective students in order to a) inform about the requirements of studies and the teaching profession, b) instigate a process of self-reflection and c) try to assess students’ prerequisite for successful studies. Research has focused on a) identifying universities using OSA (Nieskens and Demarle-Meusel 2013, Nieskens 2016), b) describing and evaluating the most common OSA (Rothland and Türe 2011, Rothland 2013) and c) individual reports by universities about their experiences (Boeger 2016, Faust et al 2003). Little to none can be found about the strategy behind the use of OSA and, more importantly, the students’ view on this topic. This study is a dissertation project in progress. In a first step, universities using OSA were identified using the prior work of Nieskens and Demarle-Meusel (2013) and self-presentation of universities’ websites. In a second step expert interviews were conducted at selected universities with questions concerning aims, OSA instruments and possible developments. The third step focuses on the students’ view on OSA and how they estimate the effects it had on them. Based on the questions regarding the degree of commitment to participate in OSA (Nieskens 2016) and the fact that aptitude testing (including OSA) is a side issue for the centers of teacher education (Weyand & Schnabel-Schüle 2010) as well as the preliminary analyses from the expert interviews, we confirm that universities apply different programmes of aptitude testing/reflection. We assume that the different programmes are responsible for differences in the effects of OSA (stimulation of self-reflection, self-selection) but also that the effects on students are a) not very sustainable and thus b) low to non-existent.

**Risk and protective factors in school burnout: the effect of emotional intelligence and anxiety**

**Keywords:** At-risk students, Educational Psychology, Emotion and affect, Quantitative methods

**Presenting Author:** Luciano Romano, University of LUMSA, Italy; **Co-Author:** Ilaria Buonomo, University of LUMSA, Italy; **Co-Author:** Caterina Fiorilli, University of LUMSA, Italy

**Background:** Objective: Burnout could depend on an imbalance between personal resources and external requests. Although burnout has been typically studied in helping professions, several studies have highlighted similar conditions in the academic context (e.g. Authors, 2014). To the best of our knowledge, academic
literature that has focused on protective and risk factors to academic burnout, has not explored the role played by emotional intelligence and anxiety in high school yet. It is a matter of fact that school burnout could seriously compromise students’ academic adjustment (e.g. Salmela-Aro et al., 2009), as well as anxiety and difficulties in regulating and monitoring one’s own emotions (Pekrun, 2006). Thus, it is worth investigating the relationship among emotional intelligence, academic anxiety and burnout. In particular, we expected that both emotional intelligence and anxiety predicted burnout, with opposite directions.

Method: A sample of 446 high school students (PAF = 0.168%, M=15.42, 26.07; =1.74), answered self-reported questionnaires about emotion intelligence (TeQue-SF, i.e., Di Fabio, & Palazzeschi, 2011), academic anxiety (OAR, De Beni et al., 2014) and school burnout (SBI, i.e., Authors, 2014). Questionnaires also included queries about gender and age. Correlation analysis and multiple hierarchical regression analysis were performed to verify our hypothesis. Results: While emotional intelligence was negatively related to anxiety (r=−.48, p<.000) and burnout (r=−.46, p<.000), anxiety was positively related to burnout (r= .410, p<.000). The two-block multiple hierarchical regression analysis showed a significant model F(2,441) = 48.87, p<.000, revealing that age (β = 2.10, t=5.169, p<.000), anxiety (β = .281, t=6.24, p<.000), and emotional intelligence (β = -.292, t=-6.574, p<.000) were the most predictive variables toward burnout. Conclusions: This study provides important information about risk and protective factors in school burnout. Therefore, the current results could be useful to improve emotional intelligence-based interventions for reducing anxiety and burnout risk in high school students.

Social Identification among Trainee Teachers in the Vocational Track: Design of a Longitudinal Study

Keywords: In-service teacher education, Social aspects of learning and teaching, Social interaction, Vocational education

Presenting Author: Jule Hangen, Goethe University Frankfurt, Germany

Previous surveys have proved that teachers showing high social identification experience their job as more significant, exhibit higher work satisfaction and lower physical stress whereas reverse effects can be found on high identification and early retirement. That’s why a closer view on teachers’ social identity as a psychological variable can be useful to analyze effects on teachers stress level and satisfaction for example during challenging times like teacher training phase. Because of the missing of a longitudinal study that observes social identity during the second phase of teacher training (between university and in-service phase) it is planned to set up a longitudinal study that reports social identification of trainee teachers during this phase.

Session VII 6

11 August 2019 12:45 - 13:45

ST 7

Poster Presentation

Motivational, Social and Affective Processes

BEST OF JURE Poster Presentations

Keywords: Emotion and affect, Mathematics, Motivation and emotion, Primary education, Psychometrics, Quantitative methods, Secondary education, Social interaction, Survey Research, Teaching approaches

Interest group: SIG 06 - Motivation and Emotion, SIG 17 - Methods in Learning Research

Chairperson: Martin Daumiller, University of Augsburg, Germany

What does the Leuven Involvement Scale tell us about children?

Keywords: Motivation and emotion, Primary education, Psychometrics, Teaching approaches

Presenting Author: Sozic Le Courtois, University of Cambridge, United Kingdom

The Leuven Involvement Scale (LIS) is an observational measure of children’s deep engagement in classroom settings, but little information is available regarding its reliability and stability. This study investigated: (1) inter-rater reliability of the LIS; (2) stability of measurements between observations and (3) the amount of variation accounted for at the child-level versus the classroom-level, as well as the impact of contextual factors in English classrooms. We found that the LIS had good inter-rater reliability but poor stability. This can be explained by the fact that almost no variation is explained by the child level, whereas contextual factors significantly predict variation in children’s engagement, in particular when children are in a whole-class setting. Further data collection is planned to increase sample size. (note: the resolution on the original file is much higher, but had to be reduced to be uploaded onto the website).

Finnish primary school children’s experienced social relation in study to engagement

Keywords: Primary education, Quantitative methods, Social interaction, Survey Research

Presenting Author: Pirkka Rautanen, Tampere University, Finland; Co-Author: Tiina Soini-Konen, Tampere University, Finland; Co-Author: Janne Pietarinen, University of Eastern Finland, Finland; Co-Author: Kirs Pyhältö, University of Oulu / University of Helsinki, Finland

School children’s experiences of school ties as members of the school. Besides success at school, finding schoolwork meaningful and inspiring promotes also psychological and social well-being in other life domains (see Upadaya & Salmela-Aro 2013a for a review). Engagement with studies can later on transfer to working life as work engagement (Upadaya & Salmela-Aro 2013b). However, already at sixth grade 45% of the Finnish students feel cynical towards schoolwork (Salmela-Aro et al. 2016). Therefore, it is essential to identify the factors that can promote students’ study engagement at different stages of the school path. Resources (Schaufeli & Bakker 2001) related to schoolwork has been found to constitute important determinants of engagement (Salmela-Aro & Upadaya 2014). Schoolwork related social support can be seen as a resource for schoolwork. In this study, structural equation modelling (SEM) is used to study the relation between fourth graders (N=2400) experienced social support for schoolwork and study engagement. The data is gathered using the Students’ Learning Agency inventory which is developed by the research group to measure pupils’ learning and well-being in school. The main hypothesis is that social support for schoolwork is a resource for study engagement. Preliminary results support this hypothesis and indicate differences in the effects of social support from teachers, parents and between peers. Social support from schoolwork and between peers will have stronger effects on study engagement than social support from parents. Moreover, social support from teachers seems to be an important resource for the social support for schoolwork that shares between each other. Additionally, the results indicate that boys experience lower levels of social support for schoolwork at school than girls do.

A Longitudinal Assessment of Perceived Teacher Enthusiasm and Achievement Emotions in Mathematics

Keywords: Emotion and affect, Mathematics, Motivation and emotion, Secondary education

Presenting Author: Petra Bod, LMU München, Germany

The learning environment plays an important role in the formation of students’ social, emotional and achievement-related experiences in school (McRobbie & Fraser, 1993; Bieg et al., 2017; Anderman et al., 2001), which highlights its importance in teaching practice as well as in educational research. The present research project focuses on students’ perceptions of teacher enthusiasm, as a fundamental aspect of the learning environment. Perceptions of teacher enthusiasm have been shown to positively relate to student enjoyment on the individual as well as the class level (Frenzel et al., 2009). However, these findings did not consider mediation processes involved in the relationship between perceptions of teacher enthusiasm and students’ enjoyment. My research model proposes that students’ subjective control and value appraisals mediate the effects between perceptions of teacher enthusiasm and students’ achievement emotions (based on the control-value theory by Pekrun, 2000). Data were drawn from the first two waves of the longitudinal research “Project for the Analysis of Learning and Achievement in Mathematics” (PALMA; Pekrun et al., 2007). Longitudinal mediation will be assessed by four multilevel structural equation models, one for each achievement emotion, namely: enjoyment, boredom, anger, and anxiety. Data will be analysed on the student and the class level, and will take into account class composition and the teacher remaining throughout the same two year period (Grades 5 and 6). The proposed completion of the ongoing analysis is June 2019.

Session VII 7

11 August 2019 12:45 - 13:45

ST 7

Poster Presentation

Motivational, Social and Affective Processes

BEST OF JURE Poster Presentations

Keywords: Emotion and affect, Mathematics, Motivation and emotion, Primary education, Psychometrics, Quantitative methods, Secondary education, Social interaction, Survey Research, Teaching approaches

Interest group: SIG 06 - Motivation and Emotion, SIG 17 - Methods in Learning Research

Chairperson: Martin Daumiller, University of Augsburg, Germany
A Video-analytical Investigation of Students’ Questions and Answers in Cooperative Group Work Phases

**Keywords:** Content Analysis, Cooperative/collaborative learning, Higher education, Video analysis

**Presenting Author:** Agnes Eckart, Justus-Liebig-University Giessen, Germany; **Co-Author:** Marina Supanc, Justus-Liebig-University Giessen, Germany; **Co-Author:** Vanessa A. Völlinger, Justus-Liebig-Universität Giessen, Germany

**Interest group:** SIG 10 - Social Interaction in Learning and Instruction, SIG 11 - Teaching and Teacher Education, SIG 26 - Argumentation, Dialogue and Reasoning

**Chairperson:** Simon Oht, German Institute for International Educational Research (DIPF), Germany

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**Academic Peer Help-Seeking at Key Stage 2: An Intra-individual Approach**

**Keywords:** Peer interaction, Primary education, Quantitative methods, Self-regulation

**Presenting Author:** Kyle Davison, University of Oxford, United Kingdom

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**Pedagogical practices in primary classrooms in a Romanian learning context**

**Keywords:** Primary education, Qualitative methods, Social aspects of learning and teaching, Video analysis

**Presenting Author:** Elena Ungureanu, University of Bucharest, Romania

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**Patterns of functional participatory roles and metacognitive regulation in collaborative learning**

**Keywords:** Collaborative Learning, Peer regulation, Video interaction, Video analysis

**Presenting Author:** Olli-Pekka Heinimäki, University of Turku, Finland; **Co-Author:** Tuuka Iisikala, University of Turku, Finland; **Co-Author:** Marja Vauras, University of Turku, Finland

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**Interaction during Solving the Problem-Oriented Tasks in Primary Science Education**

**Keywords:** Conversation/Discourse Analysis, Primary education, Problem-based learning, Science education

**Presenting Author:** Tereza Češková, Masaryk University, Czech Republic
Even after ten years after key competences became a part of the Czech curricula, teachers do not have a clear idea about how to go about developing them. That is why there is a strong need to concentrate on instruction that have a potential to develop them. We aimed at the problem-solving competence in primary Science. When investigating problem-oriented instruction, we must take into account two aspects: the assignment of a problem-oriented task (further POT) - based on problem-based learning approach - and its realization in instruction. However assigning a POT which gives pupils an opportunity to analyse and solve problems is just by itself not a guarantee that key competencies will actually be developed. That is why the aim of this paper is to describe how POT solving processes is constructed in a teacher–pupils dialogue. The subsidiary aims are to describe (1) the organisation of interaction while solving POT; (2) the teacher’s role in terms of how he/she helps pupils to solve POT; (3) the way repairs are treated and (4) how the teacher differentiates and helps pupils according to their individual needs. The research sample consists of 15 problem-oriented learning situations from primary Science lessons in which the problem-solving competence is developed (based on previous research). Using conversation analysis, I have found that the process of solving POTs has its specifics and there are quite a lot of differences between interactions in common (not problem-oriented) settings and the problem-oriented ones, especially in the role of the teacher.

Positioning theory as a possible way to capture collaborative work

Keywords: Collaborative Learning, In-service teacher education, Mathematics, Qualitative methods

Presenting Author:Sonia Felix, University of Lisbon, Portugal

The study takes its point of departure from implementation of a New Mathematics Basic Education Curriculum in Portugal (ME, 2007). The New Curriculum Documents was introduced to the primary mathematics teachers in Portugal through National Program of In-service Training in Mathematics (PFCM) (Programa de Formação e Educação em Matemática) where the primary mathematics teachers got an opportunity to understand and implement principles and pedagogy proposed in the New Curriculum. I take the approach of positioning theory as proposed by Rom Harré and Luk Van Langenhove (1999) to illustrate how teachers take particular positions in terms of relating with each other (as co-participants of training sessions) as they are part of training sessions of the PFCM.

Session IX 1

11 August 2019 14:00 - 15:30

ST 2

Single Paper

Higher Education, Learning and Instructional Technology, Teaching and Teacher Education

Teaching and Teacher Education

Keywords: Achievement, Cognitive skills, Experimental studies, Higher education, Learning approaches, Learning Technologies, Motivation, Pre-service teacher education, Primary education, Science education, Teacher professional development

Interest group: SIG 07 - Technology-Enhanced Learning And Instruction, SIG 11 - Teaching and Teacher Education

Chairperson: Pei-Hsin Li, University of Oxford, United Kingdom

Chinese TESOL Learners’ Experience of Becoming an English Language Teacher at UK Universities

Keywords: Higher education, Learning approaches, Pre-service teacher education, Teacher professional development

Presenting Author: Dangeni Dangeri, University of Glasgow, United Kingdom

Chinese international students have been perceived generally as ‘passive learners’ due to the deterministic view of its cultural characteristic. This viewpoint may fail to consider their individual differences in learning, engagement and development over time. Focusing on Chinese students studying a master in TESOL (Teaching English to Speakers of Other Languages) at UK universities, this project attempts to represent the voices of this cohort with respect to their experience and reflection on engaging and learning. It also aims to seek an in-depth understanding of their development in becoming an English teacher in their one-year master’s study. Implemefnting a longitudinal research design, this study draws on a combination of qualitative data collection methods: a) monthly audio diaries offer insights into participants’ personal experience upon learning engagement, b) ‘River of Experience’ interview with Chinese TESOL Learners enables a comprehensive appreciation of what their entire journey means through engaging with the programme, c) interviews with academic staff to facilitate the understanding of Chinese students’ learning engagement in this pre-service English Language Teacher Education programme. The Thematic Analysis was employed as an inductive data analysis approach. This paper explains the findings from the pilot study on the specific approaches available both within and out with the programme. It also discusses the role academic staff and their teaching approaches played to Chinese TESOL learner’s learning experience and conceptual change in becoming an English language teacher.

Fostering student teachers’ diagnostic thinking with video and written classroom cases

Keywords: Cognitive skills, Experimental studies, Pre-service teacher education, Science education

Presenting Author: Tobias Hoppe, Pädagogische Hochschule Freiburg, Germany; Co-Author: Werner Rieß, Pädagogische Hochschule Freiburg, Germany; Co-Author: Tina Seidel, Technische Universität München, Germany

Students’ conceptions can inhibit the acquisition of scientifically correct knowledge if teachers do not diagnose and react to these conceptions. In the present study, we fostered the student teachers’ ability to notice and interpret students’ conceptions by presenting theoretical knowledge and corresponding classroom cases showing students expressing their ecological conceptions. More specifically, we compared in a pretest-posttest design different sequences of video cases and written cases providing the same verbal information: (a) first videos, then transcripts or (b) first transcripts, then videos; (c) in a control condition, just theoretical knowledge was presented (N = 36 student teachers). We found a significant increase of the student teachers’ ability to assess students’ conceptions in all learning conditions that had been exposed to video and written cases. Interaction effects indicate that particular sequences of case media with regard to the content may be beneficial.

The effect of an (adaptive) Learning Game on cognitive factors in young children

Keywords: Achievement, Learning technologies, Motivation, Primary education

Presenting Author: Stefanie Vanbecelaere, KU Leuven, Belgium; Co-Author: Katrien Van den Bergh, VIVES, Belgium; Co-Author: Delphine Sasanguie, KU LEUVEN, Belgium; Co-Author: Bert Reynvoet, KU LEUVEN, Belgium; Co-Author: Fien Depaepe, KU Leuven, Belgium

Nowadays digital educational games are frequently used to train early numerical abilities, but little attention has been paid to the effect of those games on early reading abilities (i.e. phonological awareness, letter knowledge), although it has been demonstrated that digital educational games could positively influence cognitive factors. Besides, there is an increasing interest in adaptive educational games because they constantly assess children’s performance, and accordingly adapt the difficulty of the tasks. However, studies investigating the effectiveness of digital educational games often do not investigate transfer effects of the trained skills. In addition, evidence with regard to the effectiveness of adaptive games is to date limited. Therefore, we conducted two studies. In a first longitudinal, quasi-experiment with 336 first graders we examined the cognitive outcomes of playing the non-adaptive version of Reading Game (RG) for a period of eight weeks against a non-game condition. Before and after the intervention, we examined the effect on similar tasks (i.e. letter knowledge or the so-called near transfer) and on more general reading abilities (far transfer). In a second study, 191 children from the 3rd year of Kindergarten were enrolled in three experimental conditions (i.e. playing the adaptive vs a non-adaptive RG vs an active control condition) to investigate children’s learning gains. The first study has shown that the intervention with digital educational games achieves similar or higher scores compared to conventional teaching methods on both near and far transfer tasks. Results of the second study revealed similar learning gain between playing an (adaptive) game and pen-and-paper exercises.

Session IX 2

11 August 2019 14:00 - 15:30

ST 8
Single Paper
Higher Education, Instructional Design

Higher Education

Keywords: Achievement, Cognitive skills, Design based research, Higher education, Instructional design, Interdisciplinary, Secondary education, Student learning

Interest group: SIG 04 - Higher Education, SIG 06 - Instructional Design

Chairperson: Heide Sasse, Universität Koblenz-Landau, Germany

English Philology students’ prior performance and their academic achievement at university

Keywords: Achievement, Higher education, Secondary education, Student learning

Presenting Author: Katri Kleemola, University of Helsinki, Finland

As Finnish university admissions are being reformed, more information is needed on transition from the upper secondary school to university. Students with weak prior performance have more difficulties in their transition. Internationally, strong relations have been found between prior performance and university GPA, but in Finland research on this matter has been scarce and the existing research is in part contradictory. Previous research indicates that performance in Mathematics would predict later academic achievement relatively well. The present study investigated if prior performance of English Philology students (N=112) in a Finnish university is related to their study success (GPA) and study progress (ECTS credits) in first three years of university studies, and if the students with different Mathematics course choices are different in study success and study progress. Both variable- and person-oriented approaches are used. Pearson correlation analysis and ANOVAs are conducted. It was found that students’ grade in the Native Language and their Average Grade in the National Matriculation Examination were positively correlated with study success, but no significant relations were found between prior performance and study progress. It was also found that students with low overall performance in the Matriculation Examination were less successful in their university studies than the students with high overall performance. However, no differences between these groups were found in study progress. Students with different course choices in Mathematics were not different from each other in study success or study progress. The findings suggest that associations between the prior performance and university academic achievement are weak in English Philology students. Being in part contradictory with previous studies in a Finnish context, our findings indicate that there could be disciplinary differences in these associations. Impacts of the Finnish university admissions reform need to be tracked not only in general level but also in individual disciplines.

Measuring honours students’ progression on interdisciplinary understanding

Keywords: Cognitive skills, Higher education, Interdisciplinary, Student learning

Presenting Author: Jennifer Schijf, University of Groningen, Netherlands; Co-Author: Ellen Jansen, University of Groningen, Netherlands; Co-Author: Greetje van der Werf, University of Groningen, Netherlands

In the Netherlands, almost all research universities offer an extracurricular honours programme for high achieving students. Several research universities opted for an interdisciplinary honours programme, since interdisciplinary understanding and interdisciplinary knowledge sharing are considered to be key skills to innovate and to contribute to complex problem-solving. An important question for both educational practice and research is whether interdisciplinary (honours) programmes indeed succeed in fostering the development of interdisciplinary understanding. In our study we developed a questionnaire that includes factors constituting interdisciplinary understanding and that measures honours students’ level of interdisciplinary understanding and could be used to evaluate students’ growth over time. A validation study (N = 91) shows that parts of questionnaire fit the model well, however some alterations are necessary for future use of it. Students’ levels of openness to new experiences, respectful behaviour and self-efficacy are significant predictors of honours students’ score on interdisciplinary understanding. In Spring 2019 the adapted questionnaire will be used to conduct a baseline measurement in the first year of the honours programme (N = 300) and as a control group non-honours students will be included in our study. Findings of this measurement moment will be discussed at JURE 2019.

Students’ agentic engagement A design-based study on how to involve students in curriculum design

Keywords: Design based research, Higher education, Instructional design, Student learning

Presenting Author: Liu Hu, The University of Hong Kong, Hong Kong; Co-Author: Baozhi Zhang, Shaanxi Normal University, China; Co-Author: Pengfei Li, Shaanxi Normal University, China; Co-Author: Jinian Yu, The University of Hong Kong, Hong Kong

How can the learning sciences help pre-service teacher preparation? We invited graduate students in a Normal University in China to be co-designers of a curriculum they took. Agentic engagement refers to students’ constructivist contributions to the flow of instruction. This study was aimed at promoting students’ agentic engagement by involving them in the design of a curriculum. Using a design-based research method, the study tracked two cycles of a graduate course on research methods, with 26 first-year postgraduate students in the fall of 2014 and 21 first-year postgraduate students in the fall of 2015. Different types of course scaffolding were developed and refined based on the data comprising minutes of course design meetings, online discussion records, pre- and post-course questionnaires, classroom videos, field notes, and student assignments. It was found that students showed increased levels of agentic engagement in the co-designing process. Students’ shaping of the instruction flow also benefited their own learning as well as teachers’ professional development. Challenges in the process were also discussed and addressed through different strategies in the two cycles. Guiding principles on how to involve students as co-designers of a curriculum so as to promote their agentic engagement and learning were summarized.

Session IX 3

11 August 2019 14:00 - 15:30

ST 5

Single Paper
Developmental Aspects of Instruction, Learning and Social Interaction, Learning and Special Education

Early Childhood Education

Keywords: Developmental processes, Early childhood education, Language (Foreign and second), Language (L1/Standard Language), Learning and developmental difficulties, Learning disabilities, Mathematics, Metacognition, Multicultural education, Reasoning, Social interaction

Interest group: SIG 05 - Learning and Development in Early Childhood, SIG 16 - Metacognition

Chairperson: Angela de Jong, Netherlands

Linguistic and mathematical competence development in children with different learning weaknesses

Keywords: Language (L1/Standard Language), Learning and developmental difficulties, Learning disabilities, Mathematics

Presenting Author: Nurit Viesel-Nordmeyer, Technische Universität Dortmund, Germany; Co-Author: Ute Ritterfeld, Technical University of Dortmund, Germany; Co-Author: Wilfried Bos, Technical University of Dortmund, Germany

About 25 % of primary school children show low achievements in mathematics, language or both – weaknesses that are not recognized as learning disabilities. Especially the occurrence of combined learning weaknesses suggests a close relationship between linguistic and mathematical learning. Some research indicates that children with language delays in preschool years may overcome these difficulties in their later school career while mathematical weaknesses seem to persist. In contrast, subtype comparisons for mathematics show a fluctuating development for children with reading weaknesses compared to an improving development for children with underlying mathematical weaknesses. The present study aims to examine mathematical and linguistic competence development (4-10 years) of children with different learning weaknesses more closely to answer the following questions:

(1) Do mathematical and linguistic development differ between subgroups of children with different and without learning deficits?
(2) To what extent can existing differences be explained by different phonological and central executive requirements?
Data were derived from the starting cohort 2 of the German National Educational Panel Study (NEPS) (n = 301; age 4-10). Groups with (mathematics: MLA, 8.6 %; linguistics: LLA, 7.6 %; combined: MLA/LLA, 6 %) and without (TA, 77.7 %) learning weaknesses measured in preschool age were composed (< -1 SD). Longitudinal group comparisons used repeated measurements as well as univariate ANOVAs while controlling for background variables.

Results demonstrate that LLA overcome their initial linguistics deficits while linguistic performance in MLA decreased, particularly in grammar. In contrast, mathematical skills develop rather similar in all four groups until age 10. Children with combined deficits (MLA/LLA) performed the weakest in linguistic and mathematical parameters. If phonological and central executive are controlled, differences between MLA/LLA and the one-weaknesses groups decrease in favor of the combined group. The importance of the results for a better understanding of domain specific competence development will be discussed.

Learning opportunities and academic development of mono- and multilingual kindergarteners

Keywords: Early childhood education, Language (Foreign and second), Multicultural education, Social interaction

Presenting Author: Annegieng Langeloh, University of Groningen, Netherlands; Co-Author: Mayra Mascareño, University of Groningen, Netherlands; Co-Author: Marjolein Deurk, University of Groningen, Netherlands; Co-Author: Jennifer LoCasale-Crouch, University of Virginia, United States; Co-Author: Jan-Willem Strijbos, University of Groningen, Netherlands

Multilingual children often come to school with lower language levels than their monolingual peers, but seem to have better executive functioning skills. Furthermore, they often come from a different cultural background and from families with a low socioeconomic status. Therefore, they might benefit from different learning opportunities for their early literacy development in the majority language. As a child develops through interaction with the close environment, it is important to consider learning opportunities in the light of the interaction with the teacher. Earlier research showed that, for high quality learning opportunities, children should not only be exposed to good quality interactions at the classroom level and at the child level, but they should also productively engage in those interactions in order to learn from them. The proposed study therefore examined the unique contribution of classroom interaction, individual teacher-child interaction and engagement on the early literacy and executive functioning development for monolingual and multilingual young children. Data was collected at three time points within one school year, involving 80 children (5-6 years; 40 of whom were multilingual) from 20 classes using video observation, live observation and child assessment. The results showed that children are exposed to different learning opportunities within the same classroom. For multilingual children, general and individual interaction, as well as engagement are important predictors for academic outcomes. For multilingual children, previous performance was the primary predictor.

Effect of performance feedback on accuracy of predictive and postdictive judgments in preschoolers

Keywords: Developmental processes, Early childhood education, Metacognition, Reasoning

Presenting Author: Kamila Urban, Institute for Research in Social Communication, Slovak Academy of Sciences, Slovakia; Co-Author: Marek Urban, Jan Evangelista Purkyně University, Czech Republic

Children often have problems accurately monitoring their performance; most overestimate their performance in both postdictive judgments as well as predictive judgments. Being able to accurately recognize errors in performance is essential to succeeding in an educational setting. The present study examines the effect of performance feedback on the accuracy of metacognitive monitoring. Fifty-nine preschool children solved analogical reasoning tasks and provided postdictive and predictive judgments. The results revealed performance feedback had a significant effect on the accuracy of both judgments; the children ameliorated their predictions in line with feedback and also retrospectively monitored their performance more accurately. We also asked whether receiving negative feedback after supplying an incorrect answer affected monitoring in preschoolers. The analyses indicated performance feedback had a significant effect on the accuracy of monitoring of incorrect answers using both postdictive and predictive judgments. More importantly, when feedback was received, the external information became more important than actual task experience.

Session IX 4

11 August 2019 14:00 - 15:30

ST 7

Single Paper

Lifelong Learning

Keywords: At-risk students, Attitudes and beliefs, Citizenship education, Competencies, Intelligence, Professions and applied sciences, Qualitative methods, Secondary education, Teaching/instruction, Values education, Vocational education, Workplace learning

Interest group: SIG 14 - Learning and Professional Development

Chairperson: Carolina Caffarena, Pontificia Universidad Católica de Chile, Chile

Preventing extremism through education: reviewing the counter-radicalisation discourse in practice

Keywords: At-risk students, Attitudes and beliefs, Citizenship education, Values education

Presenting Author: Martin Sjøen, Høgskulen på Vestlandet, Norway

The counter-radicalisation efforts that have swept through much of the world seem to have placed schools and universities at the forefront of global counterterrorism. In this article, we review research to explore the impacts and implications of preventing radicalisation and violent extremism through education. We synthesised themes from the literature in relation to intervention models that differentiate between primary, secondary and tertiary prevention levels, in order to embrace the heterogeneity and complexity of radicalisation issues. Research is at an early stage in trying to make sense of the ‘causes and cures’ of radicalisation in the context of young people and education; yet our review suggests that educators should approach prevention through humanistic, relational and inclusive pedagogics. However, counter-radicalisation efforts tend to result in the use of ‘harder’ prevention strategies, which can have quite negative impacts on education. Although scholarly output is growing, effectiveness evidence on these issues remains weak. More consideration should be given to study how the counter-radicalisation discourse is merged with education, and with what consequences.

Gifted Adults at Work. How do gifted people cope with existing differences to non-gifted colleagues?

Keywords: Intelligence, Professions and applied sciences, Qualitative methods, Workplace learning

Presenting Author: Maren Schlegier, Frankfurt University of Applied Sciences, Germany

In recent years there has been increasing public and scientific interest in giftedness with a special focus on educational issues. Research mainly concentrates on gifted children and adolescents. Empirical findings of gifted adults in professional work life are lacking, even though it is a field of particular interest for vocational education, human resource management, and organizational psychology. Some authors point to the risk of social conflicts in the workplace. The aim of this contribution is to shed light upon the job satisfaction of gifted with a focus on differences between gifted and non-gifted employees and coping strategies developed by gifted employees to overcome these differences. Face-to-face-interviews on career biographies, the influence of giftedness on the job and job satisfaction with a focus on tasks, superiors, and colleagues were conducted. The sample consisted of n=17 members of Mensa in Deutschland e.V., a German association for gifted people. Members have a tested IQ equal to or larger than 130 points. Results show that the gifted participants experience a variety of differences in personality and behavior between them and their non-gifted colleagues. The higher speed of thinking and faster comprehension is considered to be the most important difference. Based on this, the participants develop coping strategies. The most frequently used strategy is to explain one’s own ideas to colleagues several times and step by step.

Teachers’ Perceptions on Upper-Secondary Vocational Graduate Competencies and Their Development

Keywords: Competencies, Secondary education, Teaching/instruction, Vocational education

Presenting Author: Sanni Lötjönen, University of Helsinki, Finland; Co-Author: Liisa Romä, University of Helsinki, Finland; Co-Author: Auli Toom, University of Helsinki, Finland

42
Teachers’ Perceptions on Upper-Secondary Vocational Graduate Competencies and Their Development
To evaluate graduate employability, the Finnish initial vocational education and training (IVET) system has been changed towards a more competence-based and workplace-learning-oriented model. Systemic changes have been profound and rapid and they set new demands for teachers’ role and tasks. However, little is known about what the teachers themselves think the students should learn, how the contemporary system affects students’ learning and what alterations the teachers consider in their roles and tasks. Therefore, this study aims to shed light on these topics from the viewpoint of vocational teachers. This study is a qualitative case-study conducted in cooperation with a large-size Finnish vocational education provider. Participants of the study were teachers in the vocational fields of automotive engineering, electrical and automation engineering, mechanical and metal engineering as well as building service technology. Research material has been collected with semi-structured qualitative interviews and analysed using qualitative content analysis with an abductive approach. The preliminary research findings indicate firstly, that teachers consider fundamental domain-specific knowledge and work-related attitudes as the most important learning content for students as they promote graduate employability. Secondly, student-centeredness and workplace learning are considered positive and the lack of teaching resources negative for students’ learning. Thirdly, teachers consider themselves primarily as mediators of domain-specific competence. Societally, research findings can be used to adjust the development of VET. Scientifically, they provide a viewpoint to the scarcely studied discussion on modern VET systems.

Keywords: vocational education & training; competencies; secondary education; teaching and instruction

Session IX 5
11 August 2019 14:00 - 15:30
ST 3
Single Paper
Writing / Literacy
Keywords: Case Studies, Computer-assisted learning, Developmental processes, Educational technology, Literacy, Primary education, Secondary education, Writing/Literacy
Interest group: SIG 12 - Writing
Chairperson: Simon Schmidt, Universität Regensburg, Germany

The Poetry Machine in developing poetic features and structures of lower secondary students’ poems
Keywords: Computer-assisted learning, Educational technology, Literacy, Secondary education
Presenting Author: Arja Kangasharju, University of Helsinki, Finland; Co-Author: Lisa Iломаки, University of Helsinki, Finland; Co-Author: Minna Lakkala, University of Helsinki, Finland; Co-Author: Auli Toom, University of Helsinki, Finland
This study investigates how a digital co-creative tool designed for writing poetry, the Poetry Machine, supports lower secondary students to learn poetic language features and structures. Despite poetry’s important role in the curriculum, students often find poetry writing difficult and boring, and teachers think that they do not have time to teach it. This study uses qualitative analysis of the log data of poems written by the seventh graders with the support of the Poetry Machine. It examines what kind of poetic language (a) features and (b) structures the students use in writing poems with the support of the digital tool; and (c) how, if at all, the features and structures produced in the draft poems of the Poetry Machine change during the writing process. The study suggests that many of the students made progress in using the poetic features with the support of the digital Poetry Machine. Although, few students changed the structures of the draft poems, and thus most poems remained free verse poems and many of them nonsense poems. The data of the writing process also suggest an association between the number of versions of the poem, and the development of the poem. Finally, the results suggest that a co-creative digital tool inspires and supports some students in their writing, and the poems are profoundly developed from the first versions.Keywords: technology in education, poetry writing, digital literacy, Poetry Machine

Wading through the muddle: the child’s world of revision
Keywords: Case Studies, Developmental processes, Primary education, Writing/Literacy
Presenting Author: Yinglin Wang, The University of Auckland, New Zealand; Co-Author: Janet Gaffney, University of Auckland, New Zealand; Co-Author: Rebecca Jesson, University of Auckland, New Zealand
The majority of studies focussed on children’s writing are designed from adults’ perspectives, which override children’s voices. Educational research is generally conducted to understand and improve children’s learning experiences. Child’s acts and feelings, not always an adult’s, should also be paid close attention in this context. Thus, writing research, in which children’s self-expression is central, is an ideal area to foreground children’s other than adults’ perspectives. Children’s revision development in writing is crucial in facilitating metacognitive competence and authorship. Existing empirical studies have shown that beginning writers are not inclined to make revisions, and the revisions they do make are mechanical changes such as spelling and grammar (Chanquoy, 2001; Fitzgerald & Markham, 1987; Graves, 1979). The New Zealand literature has further shown that children seldom revise their writing even though they have the capabilities (Dix, 2006). According to the New Zealand curriculum, writers are expected to engage in revision: “add or delete details and comments, showing some selectivity in the process” (Ministry of Education, 2007, p. 8) by level 2 (Years 3-4, 7- and 8-year-olds). In this study, I explored four children’s revision development for three terms (30 weeks) in an Auckland primary school. This study examined children perspectives about revision by observing, documenting and engaging them as an “adult friend” (Dyson & Genishi, 2005) in classrooms. In order to help children to grow as writers, teachers and researchers need to acquire the knowledge of how children develop revision competency over time and across different contexts.

Session IX 6
11 August 2019 14:00 - 15:30
ST 6
Single Paper
Learning and Social Interaction, Learning and Special Education, Motivational, Social and Affective Processes
Peer Interaction
Keywords: Case Studies, Cooperative/collaborative learning. Early childhood education, Mixed-method research, Motivation, Peer interaction, Primary education, Qualitative methods, Secondary education, Social interaction
Interest group: SIG 08 - Motivation and Emotion, SIG 10 - Social Interaction in Learning and Instruction, SIG 15 - Special Educational Needs
Chairperson: Karen Vogelpohl, University of Oldenburg, Germany

A School Based Social Network Study Investigating Similarities in Gender Stereotyping Behaviours
Keywords: Motivation, Peer interaction, secondary education, Social interaction
Presenting Author: Laura Burgess, University of Reading, United Kingdom; Co-Author: Carolyn McNabb, University of Reading, United Kingdom; Co-Author: Patricia Riddell, University of Reading, United Kingdom; Co-Author: Amy Fancourt, BrainCanDo Centre for Research, United Kingdom; Co-Author: Kou Maruyama, University of Reading, United Kingdom
Up to now, few studies examine the interaction between peer groups and the gender biases held by adolescents in school. Despite this, social contagion literature suggests that beliefs and attitudes can be shared between connected individuals. This considered, we examine the effect of adolescent peer
relationships on gender biases, using a gender equity questionnaire and a gender stereotyping implicit association task (IAT), administered to a whole school sample. Social network information was taken in conjunction and analysed using two different methods from network science, assortativity and centrality. Assortativity evaluates similarity at the friendship dyad level, whereas centrality evaluates similarity across the network as a whole, here, we focus specifically on degree and eigenvector centrality. Data were analysed at the school level, controlling for year group differences, however, neither analyses were able to significantly show that social network dynamics influence the level of gender bias that individuals hold. To conclude, we discuss the interesting line of enquiry that these results open up, and encourage further investigation in this field, to tease apart the belief systems that are shared between friends, versus those that are less susceptible to social environment and peer influences.

**On the relationship between learning, interaction and participant’s characteristics in peer learning**

**Keywords:** Cooperative/collaborative learning, Mixed-method research, Peer interaction, Primary education

**Presenting Author:** Valentina Reitenbach, DIPF | Leibniz Institute for Research and Information in Education, Germany

Peer learning promotes academic achievement across different subject areas and motivational as well as affective variables (e.g., Robinson et al., 2005). While there are empirical findings that achievement in peer learning depends on individual factors and group composition (e.g., ability, gender; Rohrbeck et al., 2003) as well as peer interaction (Littleton & Mercer, 2010), research has rarely addressed the mechanisms of these relationships. My PhD-project aims at a better understanding of the peer interaction’s potential to initiate learning while referring to different theoretical perspectives (socio-constructivist, socio-cultural, socio-behaviourist) and frameworks that build upon them (e.g., Chi & Menkeke, 2005). I chose an exploratory sequential mixed methods design (Cresswell & Plano Clark, 2011) to answer the following research questions:

1. (QUAL) How can peer interaction be assessed in the specific context?
2. (QUANT) Can the mediating role of peer interaction be shown empirically?

The context is a peer learning intervention with 84 dyads. Third and fourth graders participated in a structured training (12 sessions) for either reading or arithmetic strategies in reciprocal roles. For each dyad, about 20 min from session nine were transcribed from audio records. Regarding my first research question a category system has been developed. The categories cover “task-relatedness” and “theme of utterance” as selecting criteria and the central category “grade of elaboration”. Interrater reliability has been calculated with 33% of the sample and is adequate with an average Kappak ($kappa \) or $kappa \_n\) (Brennan & Prediger, 1981) between .72 and .95. The quantitative analyses referring to the second research question will be finalised in the next weeks. The presentation at JURE will cover some of the dissertation project’s main results.

**The Network of Meanings and the role of peer interactions in inclusive early childhood education**

**Keywords:** Case Studies, Early childhood education, Peer interaction, Qualitative methods

**Presenting Author:** Juliene Ferreira, University of Tampere, Finland

This paper focused on analysing the developmental role of peer interactions among children with intellectual disabilities and children with typical development in early childhood education and care (ECEC), identifying what elements within such interactions can indicate participation and achievement - evidencing the principals of inclusion. The hypothesis raised was that within the network of relationships constituting the lived experiences of children with intellectual disability within ECEC contexts, peers are a reference point for the materialization of inclusion. In order to do so, we adopted a qualitative research design based on theoretical contributions of the Network of Meanings. Two case studies were conducted where participants were two three-year-old children and their peers in ECEC. Data was collected through video recordings, and analysis was performed in two distinct stages. In the first stage, consisted of mapping central elements to identify the interactions, categorization of type of activities and location of interactions. Second phase of analysis consisted of micro analysis of specific episodes of interaction, prioritizing the microgenetic analysis of the episodes, focusing on the joint attention, coregulations of behaviours and the communication constructed among the children. Results point that joint attention followed by physical contact is a fundamental condition for the initiation of interactions among peers but are not enough to sustain the interaction. The most relevant component for such maintenance was the coregulations of behaviours, particularly the ones that allowed different directions of transit of information and the repetition or creation of subsequent behaviours involving play. In such situations, the interaction allowed the child with intellectual disability to fully take part of the process, create adequate responses and contribute to the activity in place, evidencing participation and achievement under a developmental perspective.