



PROGRAMME
MAY 2019

EARLI
2019



RWTHAACHEN
UNIVERSITY

Policy Making Session: 1	Time: 10:30-11:45	Location: Lecture Hall - H01
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POLICY MAKING PANEL SESSION: EARLI 2019 POLICY MAKING SESSION

EARLI 2019 Policy Making Session
Sanna Järvelä, University of Oulu, Finland

Session A: 1	Time: 12:00-13:30	Location: Lecture Hall - H09
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SIG INVITED SYMPOSIUM: WIDENING PARTICIPATION? (RE)SEARCHING INSTITUTIONAL PATHWAYS OF TRANSITIONS FOR MARGINALIZED GROUPS

Chair

Charles Max, University of Luxembourg, Luxembourg

Organiser

Giulia Messina Dahlberg, University of Gothenburg, Sweden

Discussant

Sylvia Vigmo, University of Gothenburg, Sweden

Researching 21st century institutional trajectories.

Sangeeta Bagga-Gupta, Jönköping University, Sweden

Unaccompanied asylum-seeking children' multiple transitions in Italy

Alessio Surian, Università degli Studi di Padova, Italy; Diego Di Masi, University of Torino, Italy; Francesca Novella, University of Padova, Italy

Encouraging Student Participation in Intercultural Classroom Interaction

Karl Hedman, Jönköping University, Sweden

Holistic learning activities for the inclusion of marginalized youths: the case of Luxembourg

Jinyoung Choi, multi-LEARN Institute, Luxembourg; Philippe Blanca, multi-LEARN Institute for Interaction and Development in Diversity, Luxembourg; Gudrun Ziegler, multi-LEARN Institute for Interaction and Development in Diversity, Luxembourg

Session A: 2	Time: 12:00-13:30	Location: Seminar Room - S04
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SIG INVITED SYMPOSIUM: SIG 20 INVITED SYMPOSIUM: EPISTEMIC TOOLS FOR INQUIRY

Chair

Cindy Hmelo-Silver, Indiana University, United States

Organisers

Bram De Wever, Ghent University, Belgium; Ingo Kollar, University of Augsburg, Germany; Yiannis Georgiou, Cyprus University of Technology, Cyprus

Discussant

Jim Slotta, OISE, University of Toronto, Canada

Investigating concept-mapping in support of students' epistemic practices in outdoors inquiry

Eleni Kyza, Cyprus University of Technology, Cyprus; Nicoletta Pantela, Cyprus University of Technology, Cyprus

Constructive and Example-Based Scaffolds: Effects for Individual and Collaborative Science Learning

Sarah Bichler, Ludwig-Maximilians-Universität (LMU), Germany; Marcia Linn, University of California-Berkeley, United States; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Scaffolding Inquiry with Multiple Documents: The Knowledge Society Sandbox

Sarit Barzilai, University of Haifa, Israel; Asnat R. Zohar, University of Haifa, Faculty of Education, Israel; Shiri Mor-Hagani, haifa university, Israel; Talia Shlomi-Elooz, University of Haifa, Faculty of Education, Israel; Ruti Ben-Yishai, University of Haifa, Faculty of Education, Israel

Scaffolding Explanations and Epistemic Development for Systems (SEEDS)

Cindy Hmelo-Silver, Indiana University, United States; Joshua Danish, Indiana University, United States; Ravit Golan Duncan, Rutgers University, United States; Clark Chinn, Rutgers University, United States; Zachary Ryan, University of Indiana at Bloomington, United States; Melissa Moreland, University of Indiana at Bloomington, United States; Na'ama Av-Shalom, Rutgers University, United States

Session A: 3	Time: 12:00-13:30	Location: Lecture Hall - H05
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SYMPOSIUM: ENACTING AGENCY IN TEACHER EDUCATION: PERSPECTIVES ON PRE-SERVICE TEACHERS AND TEACHER EDUCATORS

Chair

Hege Hermansen, Department of Education, University of Oslo, Norway

Organisers

Mirva Heikkilä, University of Turku, Finland; Mirjamaja Mikkilä-Erdmann, University of Turku, Finland

Discussant

Natasa Pantic, University of Edinburgh, United Kingdom

Research skills in action: Voices of Finnish pre-service teachers' professional agency

Mirva Heikkilä, University of Turku, Finland; Mirjamaja Mikkilä-Erdmann, University of Turku, Finland; Anu Warinowski, University of Turku, Finland

Heading for the future: Building professional agency among Finnish teacher educators

Päivi Hökkä, University of Jyväskylä, Finland; Katja Vähäsantanen, University of Jyväskylä, Finland

Tracing the enactment of agency in program design and development in teacher education

Hege Hermansen, Department of Education, University of Oslo, Norway

Fostering Professional Digital Competence through transformative agency in Teacher Education

Torunn Aanesland Strømme, University of Oslo, Norway; Greta Gudmundsdottir, University of Oslo, Faculty of Education, Norway; Lisbeth M Brevik, University of Oslo, Norway; Andreas Lund, University of Oslo, Norway

Session A: 4

Time: 12:00-13:30

Location: Lecture Hall - H07

SINGLE PAPER: GOAL ORIENTATION AND MOTIVATION**Chair**

Inge Molenaar, Radboud University Nijmegen, Netherlands

The risk of implementing an approach to enhance motivation

Esther Canrinus, University of Agder, Norway; Marianne Engen Matre, University of Agder, Norway

Athlete and non-athlete students' perfectionistic strivings and achievement goal orientations

Jenny Ståhlberg, University of Helsinki, Finland; Antti Pulkka, National Defence University, Finland; Heta Tuominen, University of Helsinki, Finland; Markku Niemivirta, University of Oslo, Norway

A cross-cultural comparison of the patterning of achievement goal orientations

Markku Niemivirta, University of Oslo, Norway; Christian Brandmo, University of Oslo, Norway; Svjetlana Kolic-Vehovec, University of Rijeka, Faculty of Humanities and Social Sciences, Croatia; Pahljina-Reinic Rosanda, University of Rijeka, Croatia; Barbara Roncovic Zubkovic, University of Rijeka, Faculty of Humanities and Social Sciences, Croatia

Using metaphors to understand students' mindsets about intelligence in Germany and Canada

Elisabeth Wegner, University of Freiburg, Germany; Nigel Mantou Lou, University of Alberta, Canada; Christina Späth, University of Freiburg, Germany; Pauline Mertens, University of Freiburg, Germany; Matthias Nückles, University of Freiburg, Germany

Session A: 5

Time: 12:00-13:30

Location: Seminar Room - S07

SINGLE PAPER: LEARNING AND PROFESSIONAL DEVELOPMENT**Chair**

Stephen Billett, Griffith University, Australia

Teacher collaboration in an independent research project: implications for self-regulated learning

Ivy Lau, The University of Hong Kong, Hong Kong; Susan Bridges, The University of Hong Kong, Hong Kong

Specialists' Views on Feedback at the Medical Workplace

Helen Jossberger, University of Regensburg, Germany; Miriama Schlachтова, University of Regensburg, Germany; Hans Gruber, University of Regensburg, Germany

Exploring student futures as business graduates: insights from capstone and internship experiences

Colin Jevons, Monash Business School, Australia; Sophie Lindsay, Monash, Australia; Dawn Bennett, Curtin University, Australia; Kelly Benati, Monash University, Australia

Teacher self-regulation and stress: an intervention study to strengthen professional competence

Simone Berweger, Schwyz University of Teacher Education, Switzerland; Christine Wolfram, University of Teacher Education Zurich, Switzerland; Andrea Keck Frei, Zürich University of Teacher Education, Switzerland; Zippora Bühner, Zurich University of Teacher Education, Switzerland; Christine Bieri Buschor, Zurich University of Teacher Education, Switzerland

Session A: 6

Time: 12:00-13:30

Location: Seminar Room - S15

SINGLE PAPER: COMPETENCIES IN LEARNING AND PROFESSIONAL DEVELOPMENT**Chair**

Valerie Sotardi, University of Canterbury, NZ, New Zealand

Influence of Attended Courses on Domain-specific Knowledge Growth in Higher Education Economics

Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany; Jasmin Schlax, Johannes Gutenberg-University Mainz, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Judith Jitomirski, Humboldt University Berlin, Germany; Carla Kühling-Thees, Johannes Gutenberg-Universität Mainz, Germany; Roland Happ, Johannes Gutenberg University Mainz, Germany

Entrepreneurial competences in student companies at school: Development of a research instrument

Taiga Brahm, University of Tübingen, Germany; Ute Grewe, University of Tuebingen, Germany

Career competence in secondary schools: the impact of endogenous factors

Svenja Ohlemann, Technische Universität Berlin, Germany; Katja Driesel-Lange, Westfälische Wilhelms-Universität Münster, Germany

Disentangling the interplay of knowledge, intelligence and general competences in problem solving

Andreas Rausch, University of Mannheim, Germany; Kristina Kögler, University of Hohenheim, Germany

Session A: 7

Time: 12:00-13:30

Location: Lecture Hall - H11

SINGLE PAPER: QUANTITATIVE METHODS IN HIGHER EDUCATION**Chair**

Irina Lokhtina, University of Central Lancashire Cyprus, Cyprus

Interrelations between perceived learning environment in higher education and students' test anxiety

Gerda Hagenauer, University of Salzburg, Austria; Doris Ittner, PH Bern - School of Teacher Education, Switzerland; Florian Hofmann, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany; Melanie Stephan, University of Erlangen-Nuremberg, Germany; Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany; Annette Lohbeck, Universität Hamburg, Germany; Andrea Bernholt, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Barbara Moschner, Carl von Ossietzky Universität Oldenburg, Germany

Valid Measurement of Professional Competencies in Higher Education – Challenges and Perspectives

Hans Anand Pant, Humboldt Universität zu Berlin, Germany; Jennifer Fischer, Johannes Gutenberg-Universität, Germany; Olga Zlatkin-Troitschanskaja, Johannes Gutenberg-Universität Mainz, Germany; Corinna Lautenbach, Humboldt Universität Berlin, Germany

Modeling and predicting sustainable changes in university students' satisfaction

Christoph Kiefer, RWTH Aachen University, Germany; Axel Mayer, RWTH Aachen University, Germany

The effects of a Biomedical Sciences curriculum reform on students' competence development

Sanne Rovers, Maastricht University, Netherlands; Anique de Bruin, Maastricht University, Netherlands; Jeroen Van Merriënboer, Maastricht University, Netherlands; Hans Savelberg, Maastricht University, Netherlands

Session A: 8

Time: 12:00-13:30

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SINGLE PAPER: ONLINE LEARNING AND TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION**Chair**

Eleftheria Gonida, Aristotle University of Thessaloniki, Greece

Lifelong learning: The formal and informal learning in technology-rich environments

Hanna Nygren, Finnish Institute for Educational Research, University of Jyväskylä, Finland; Juhani Rautopuro, University of Jyväskylä, Finland; Raija Hamalainen, University of Jyväskylä, Finland; Kari Nissinen, University of Jyväskylä, Finland; Bram De Wever, Ghent University, Belgium

An empirical study on factors influencing barriers to learning in Massive Open Online Courses.

Maartje Henderikx, Open University of the Netherlands, Netherlands; Karel Kreijns, Open University of the Netherlands, Netherlands; Marco Kalz, University of Education Heidelberg, Germany

A lossless person-oriented analysis of web lecture beliefs, motivation and lecture utilization

Cornelis de Brabander, Leiden University, Netherlands; Nadira Saab, Leiden University, Netherlands; Folke Glastra, Leiden University, Netherlands

Webinars in Higher Education and Professional Training: A Meta-Analysis

Andreas Gegenfurtner, University of Passau, Germany; Christian Ebner, Technische Hochschule Deggendorf, Germany

Session A: 9

Time: 12:00-13:30

Location: Seminar Room - S14

SINGLE PAPER: SOCIAL INTERACTION IN LEARNING AND INSTRUCTION**Chair**

Sabine Schlag, University of Wuppertal, Germany

A dialogical approach to large-scale assessments: Students' reasoning about items in PISA and TIMSS

Jelena Radisic, University of Oslo, Norway; Aleksander Baucal, University of Belgrade, Serbia; Smiljana Josic, Institute for Educational Research (Belgrade), Serbia

Hybrid minds and the socio-material nature of human cognition: Learning research in a digital age

Roger Säljö, University of Gothenburg, Sweden

Inclusive Classroom Norms and Children's Attitudes toward Students with Hyperactive Behavior

Luciano Gasser, University of Teacher Education Lucerne (PH Luzern), Switzerland; Jeanine Grütter, University of Teacher Education Lucerne (PH Luzern), Switzerland; Loredana Torchetti, University of Teacher Education Lucerne (PH Luzern), Switzerland

The implementation of participatory approaches in interviews involving adolescents

Gilles Dieumegard, Université de Montpellier, France; Emma Cunningham, University of Auckland, Faculty of Education, New Zealand

Session A: 10

Time: 12:00-13:30

Location: Seminar Room - S03

SINGLE PAPER: PEER INTERACTION

Chair

Lauren Barth-Cohen, University of Utah, United States

Perceived Teacher Affective Support and Relatedness to Peers in Relation to EFL Achievement Emotions

Ezgi Guney, Middle East Technical University, Turkey; Yesim Capa Aydin, Middle East Technical University, Turkey

Investigating functional participatory roles in productive collaborative science learning

Olli-Pekka Heinimäki, University of Turku, Finland; Simone Volet, Murdoch University, Australia; Marja Vauras, University of Turku, Finland

School engagement, peer academic support, and peer networks among Finnish 7th graders

Tuire Palonen, University of Turku, Finland; Katariina Salmela-Aro, Helsinki University, Finland; Kai Hakkarainen, University of Helsinki, Finland

The Networked Student: Contextualizing Scientific Knowledge for Educational Practice

Marjan Vermeulen, Heerlen Open Universiteit, Netherlands; Femke Nijland, Open University, Netherlands; Olga Firssova, Open University of the Netherlands, Netherlands; Stefan Robbers, Open University Netherlands, Netherlands

Session A: 11

Time: 12:00-13:30

Location: Lecture Hall - H08

SINGLE PAPER: ARGUMENTATION, DIALOGUE AND REASONING

Chair

Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France

Learning by Arguing

Kalypso Iordanou, University of Central Lancashire, Cyprus; deanna kuhn, Teachers College, Columbia University, United States

Why is dialogic instruction so difficult to implement? The forces of rituals in the math classroom

Einat Heyd-Metzuyanim, The Technion Israel Institute of Technology, Israel

Reasoning like a student vs. reasoning like an engineer: Can PBL shift students' thinking?

Susan Nolen, University of Washington, United States; Edward Michor, Oregon State University, United States; Milo Koretsky, Oregon State University, United States

Developing and validating proof comprehension tests in university mathematics

Juan Pablo Mejia-Ramos, Rutgers University, United States; Keith Weber, Rutgers University, United States; Kristen Lew, Texas State University, United States

Session A: 12

Time: 12:00-13:30

Location: Seminar Room - S02

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS

Chair

Irma Talic, University of Luxembourg, Luxembourg

In situ, synchronous self-assessment: a new research strategy for accessing individual SA processes.

ANA REMESAL ORTIZ, Universitat de Barcelona, Spain; Abolfazl Khanbeiki, Universitat de Barcelona, Spain; Sareh Attareivani, Universitat de Barcelona, Spain; Zarah Parham, Universitat de Barcelona, Spain

Factor structure of the CLASS in Singapore preschools serving mainstream and special needs children

EeLynn Ng, National Institute of Education, Singapore; Rebecca Bull, Macquarie University, Australia; Alfredo Bautista Arellano, National Institute of Education, Singapore; Kenneth Poon, National Institute of Education, Singapore

Student perceptions of testing accommodations in university mathematics: An analysis of power

Juuso Henrik Nieminen, University of Helsinki, Finland

No matter the grain size, retrieval practice promotes long term retention.

Alice Latimier, Ecole Normale Supérieure, France; Arnaud Riegert, Didask, France; Thierry Ly, Didask, France; Franck Ramus, Ecole Normale Supérieure, France

Session A: 13

Time: 12:00-13:30

Location: Seminar Room - S01

SINGLE PAPER: TEACHING AND INSTRUCTION

Chair

Bernadette Dilger, University of St.Gallen, Institute of Business Education and Educational Management, Switzerland

A video portfolio instrument for the summative assessment of teacher candidates' teaching competence

Kerstin Baeuerlein, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

Student teacher learning in teacher education: Teacher educators' and student teachers' perspectives

Auli Toom, University of Helsinki, Finland; Tiina Soini-Ikonen, University of Tampere, Finland; Janne Pietarinen, University of Eastern Finland, Finland; Kirsi Pyhältö, University of Oulu / University of Helsinki, Finland

Primary teachers' understanding and practices as related to students' interest in science learning

Anne-Mai Näkk, Tallinn University, Estonia; Inge Timoštšuk, Tallinn University, Estonia

One teacher, several classes=same instruction? Between-classes-variability of instructional quality

Thamar Voss, University of Freiburg, Germany; Lisa Henke, Hector Research Institute of Education Sciences and Psychology, Germany; Benjamin Caspar Fauth, University of Tübingen, Germany; Joerg Wittwer, University of Freiburg, Germany

Session A: 14

Time: 12:00-13:30

Location: Seminar Room - S13

SINGLE PAPER: INSTRUCTIONAL DESIGN AND INQUIRY LEARNING

Chair

Attila Pásztor, MTA-SZTE Research Group on the Development of Competencies, Hungary

How to guide effective student questioning?

Harry Stokhof, HAN University of Applied Sciences (UAS), Netherlands; Bregje De Vries, VU University Amsterdam, Netherlands; Theo Bastiaens, Open University of the Netherlands, Netherlands; Rob Martens, Open University of the Netherlands, Netherlands

Impact of prior knowledge and targeted inquiry abilities on the effectiveness of explicit instruction

Andreas Vorholzer, Justus Liebig University Giessen, Germany; Claudia von Aufschnaiter, Justus Liebig University Giessen, Germany

Teens and Robots in Search of a Superbug - a New Approach to Authentic Inquiry

Bat-Shahar Dorfman, Weizmann Institute of Science, Israel; Amir Mitchell, University of Massachusetts, United States; Orna Dahan, Weizmann Institute of Science, Israel; Anat Yarden The Weizmann Institute of Science, Weizmann Institute of Science, Israel

Developing Competencies for Scientific Theory Building

Hillary Swanson, Northwestern University, United States

Session A: 15

Time: 12:00-13:30

Location: Seminar Room - S16

SINGLE PAPER: ATTITUDES AND BELIEFS, MOTIVATION AND EMOTION

Chair

Eva Brante, Malmö University, Sweden

Unpacking the Female Advantage Myth in Language and Literacy: Perspectives of Parents in China

Jing Li, University of Cambridge, UK, United Kingdom

Math, anxiety and occupational preferences association via developmental perspective

Hili Eidlin-Levy, University of Haifa, Faculty of Education, Israel; Laurain Fares, University of Haifa, Faculty of Education, Israel; Orly Rubinsten, Haifa University, Israel

Can we promote adaptive reactions to academic errors? Experimental findings and implications

Maria Tulis, University of Salzburg, Austria; Markus Dresel, University of Augsburg, Germany

Students' attributional profiles: Prevalence, development and links with motivation and achievement

Astrid Poorthuis, Utrecht University, Netherlands; Jaap Schuitema, University of Amsterdam, Netherlands; Lisette Hornstra, Utrecht University, Netherlands

Session A: 16

Time: 12:00-13:30

Location: Seminar Room - S06

SINGLE PAPER: LEARNING APPROACHES**Chair**

Mari-Pauliina Vainikainen, Tampere University, Finland

Implementing pedagogical innovation: A multiple-case study approach

Irit Sasson, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel; Itamar Yehuda, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel; Shirley Miedijensky, Oranim Academic College of Education, Shamir Research Institute - University of Haifa, Israel

Exploring the material mediation of dialogic space

Josephine Moate, University of Jyväskylä, Finland

Learning profiles and the (re)design of a learning environment

Gerry Geitz, NHL Stenden University of Applied Sciences, Netherlands; Anouk Donker-Bergstra, NHL-Stenden University of Applied Sciences, Netherlands

Using journal writing to support future teachers' acquisition of applicable knowledge for teaching

Martina Graichen, University of Freiburg, Germany; Elisabeth Wegner, University of Freiburg, Germany; Matthias Nückles, University of Freiburg, Germany

Session A: 17

Time: 12:00-13:30

Location: Seminar Room - S12

SINGLE PAPER: MATHEMATICS IN EARLY CHILDHOOD EDUCATION**Chair**

Andrea Haenni Hoti, University of Teacher Education of Lucerne, Switzerland

Fine motor skills and executive functions in early childhood interact to predict academic skills

Kiat Hui Khng, National Institute of Education/Nanyang Technological University, Singapore, Singapore

Impact of Early Literacy and Numeracy on Later Reading and Mathematics Achievements

Benő Csapó, University of Szeged, Hungary; Attila Pásztor, MTA-SZTE Research Group on the Development of Competencies, Hungary; Ágnes Hódi, MTA-SZTE, Hungary; Attila Rausch, ELTE Eötvös Loránd University, Budapest, Hungary; Gyongyver Molnar, University of Szeged, Hungary

Phonological awareness mediates the effect of SES on math achievement across the kindergarten years

David Munez, National Institute of Education / Nanyang Technological University, Singapore; Rebecca Bull, Macquarie University, Australia; EeLynn Ng, National Institute of Education, Singapore

Performance to produce numerals with fingers contributes to mathematics achievement in children

Josexu Orrantia, University of Salamanca, Spain; Rosario Sánchez, University of Salamanca, Spain; David Munez, National Institute of Education / Nanyang Technological University, Singapore; Laura Matilla, University of Salamanca, Spain

Session A: 18

Time: 12:00-13:30

Location: Seminar Room - S11

SINGLE PAPER: STUDENT LEARNING IN HIGHER EDUCATION**Chair**

Katja Košir, Faculty of Arts, University of Maribor, Slovenia

Practices of dialogic feedback across disciplines

Edd Pitt, University of Kent, United Kingdom

Achievement emotions and learning in the first year at university

Alexandra Corina Niculescu, University of Oslo, Norway; Dirk Tempelaar, Maastricht University, Netherlands; Mien Segers, Maastricht University, Netherlands; Wim Gijssels, Maastricht University, Netherlands

Academic self-concept, motivational regulation, and cognitive learning strategies of students

Barbara Moschner, Carl von Ossietzky Universität Oldenburg, Germany; Annette Lohbeck, Universität Hamburg, Germany

Motivation-related competences and activities university students (intend to) do to learn

Eva Bosch, Institute of Psychology - Heidelberg University, Germany; Eva Seifried, Heidelberg University, Germany; Birgit Spinath, Heidelberg University, Germany

Session A: 19

Time: 12:00-13:30

Location: Lecture Hall - H10

SINGLE PAPER: INSTRUCTIONAL DESIGN**Chair**

Janina Krawitz, University of Münster, Germany

Development of a financial literacy-curriculum—the Effect of a Criterium-Based Construction

Ewelina Mania, German Institute for Adult Education - Leibniz Centre for Lifelong Learning, Germany; Monika Tröster, German Institut for Adult Education, Germany; Prof. Dr. Esther Winther, University of Duisburg-Essen, Vocational Education and Training, Germany

Can Digital Portrait Drawing Help to Enhance Socio-Emotional Skills of Adolescents?

Lydia Kastner, Leibniz Institut für Wissensmedien, Germany; Aiste Jusyte, LEAD Graduate School, Germany; Susana Ruiz Fernández, Leibniz Institut für Wissensmedien, Germany; Sven Nommensen, Herzog Anton Ulrich-Museum, Germany; Peter Gerjets, Leibniz Insitut für Wissensmedien, Germany

Multiperspectivity in history textbooks. A classroom experiment

Marc Kropman, University of Amsterdam, Netherlands; Jannet van Drie, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands; Marijke Scherjon, University of Amsterdam, Netherlands

Design patterns of asynchronous online problem-based learning for professional development

Susan Bridges, The University of Hong Kong, Hong Kong; Sdenka Zobeida SALAS PILCO, The University of Hong Kong, Hong Kong; Nancy W.Y Law, The University of Hong Kong, Hong Kong; LK Lap Ki Chan, The University of Hong Kong, Hong Kong; Ling Li, The University of Hong Kong, Hong Kong

Session A: 20

Time: 12:00-13:30

Location: Lecture Hall - H06 -
Amazon Hörsaal**SINGLE PAPER: METACOGNITION****Chair**

Antonio Iannaccone, Institut de Psychologie et Education, Switzerland

Trajectories of monitoring and control in high and low performing elementary school children

Martina Steiner, University of Bern, Switzerland; Mariette van Loon, University of Bern, Switzerland; Natalie Bayard-Guggisberg, University of Bern, Switzerland; Claudia Roebbers, University of Bern, Switzerland

The Role of Cognitive Engagement on Clinical Reasoning Performance

Shan Li, McGill University, Canada; Juan Zheng, McGill University, Canada; Susanne Lajoie, McGill University, Canada

Novice teachers' knowledge of effective study strategies

Tim Surma, Open University of the Netherlands, Netherlands; Gino Camp, Welten Institute - Open University of the Netherlands, Netherlands; Renate de Groot, Open University of the Netherlands, Netherlands; Paul A. Kirschner, Open University of the Netherlands, Netherlands

Which learner characteristics contribute to overestimations of text comprehension?

Stefanie Golke, University of Freiburg, Germany; Joerg Wittwer, University of Freiburg, Germany

Session A: 21

Time: 12:00-13:30

Location: Seminar Room - S10

SINGLE PAPER: THE CRUCIAL SKILLS OF EXECUTIVE FUNCTIONS AND ATTENTION IN THE FIRST SWEDISH PRESCHOOL RCT STUDY**Chair**

Daniela Raccanello, University of Verona, Italy

The background of the first evidence-based Swedish preschool study and educators' reception

Hillevi Lenz Taguchi, Stockholm University, Sweden

Set-up, hypotheses, and results from an RCT-study in Swedish Preschools

Tove Gerholm, Stockholm University, Sweden; Hillevi Lenz Taguchi, Stockholm University, Sweden; Sofia Frankenberg, Stockholm University, Sweden; Petter Kallioinen, Stockholm University, Sweden; Signe Tonér, Stockholm University, Sweden; Susanne Kjällander, Department of Child and Youth Studies, Sweden; Anna Palmer, Stockholm University, Sweden

Language, selective auditory attention and executive functions in Swedish preschoolers

Signe Tonér, Stockholm University, Sweden; Tove Gerholm, Stockholm University, Sweden

A pop-up brainwave lab at Swedish preschools – measuring brain function for selective attention

Petter Kallioinen, Stockholm University, Sweden; Signe Tonér, Stockholm University, Sweden

Session A: 22

Time: 12:00-13:30

Location: Seminar Room - S05

SINGLE PAPER: ATTITUDES, BELIEFS AND ACHIEVEMENT

Chair

Floris van Blankenstein, Leiden University Medical Center, Netherlands

Gender-science stereotypes: The secret participants in science competitions

Anneke Steegh, Leibniz Institute for Science and Mathematics Education at Kiel University, Germany; Tim Hoeffler, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Ilka Parchmann, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Young people's view on Democracy: a latent class analysis in Flanders considering civic knowledge

Ellen Claes, KULeuven, Belgium; Dimokritos Kavadias, Vrije Universiteit Brussel (VUB), Belgium

Young critical citizens? Predicting trust in political institutions among 14-year old students

Johanna Fee Ziemes, University of Duisburg-Essen, Germany; Hermann J. Abs, University of Duisburg-Essen, Germany

The good disobedient citizen. The relation of civic knowledge to concepts of ideal citizenship

Katrin Hahn-Laudenberg, University of Wuppertal, Germany; Vegard Svagård, OsloMet – Oslo Metropolitan University, Norway

Session B: 1

Time: 13:45-15:15

Location: Lecture Hall - H11

SIG INVITED SYMPOSIUM: USING TODAY'S TECHNOLOGY TO IMPROVE LEARNING AND PERFORMANCE IN (COMPLEX) PROFESSIONS

Chairs

Margot van Wermeskerken, Erasmus Medical Center, Netherlands; Milou van Harsel, Avans University of Applied Sciences / Utrecht University, Netherlands

Discussant

Guido Makransky, University of Copenhagen, Denmark

Virtual patients in medical education: Instructional bonanza for clinical reasoning?

Martin R. Fischer, University Hospital of LMU Munich, Germany

The use of simulation-based training for lifelong learning in health professions

Jeroen Van Merriënboer, Maastricht University, Netherlands

Simulation-based learning of non-technical skills in medicine

Hans Gruber, University of Regensburg, Germany; Thomas Bein, Faculty of Medicine, University of Regensburg, Germany; Michael Henninger, Department of Media Didactics, Pädagogische Hochschule Weingarten, Germany; Matthias Jacob, Department of Anesthesiology, Intensive Care Medicine and Pain Medicine, Brothers of Mercy Hospital St. Elizabeth, Straubing, Germany

Taking workplace safety at construction sites to greater heights: VR training for scaffolders

Bas Kollöffel, University of Twente, Netherlands

Session B: 2

Time: 13:45-15:15

Location: Lecture Hall - H07

SIG INVITED SYMPOSIUM: WHAT FEATURES OF INSTRUCTION PROMOTE HIGHER EDUCATION STUDENTS' INTEREST IN THEIR SUBJECT?

Chair

Kathleen M. Quinlan, University of Kent, United Kingdom

Discussant

Sari Lindblom, University of Helsinki, Finland

How interest and other domain values develop in five disciplines over three years

Kirsti Lonka, University of Helsinki, Finland; Elina E. Ketonen, University of Helsinki, Finland; Lauri Hietajärvi, University of Helsinki, Finland; Silja Silvento, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland

What triggers students' situational interest during higher education lectures?

Kathleen M. Quinlan, University of Kent, United Kingdom

Students' interest in tertiary science education laboratory

Niels Dohn, Aarhus University, Denmark

Interest and added value: Participation in both laboratory research and concurrent STEM teaching

K. Ann Renninger, Swarthmore College, United States; Yoi Tibbetts, University of Virginia, United States; Jena Gilbert-Merrill, Swarthmore College, United States

Session B: 3

Time: 13:45-15:15

Location: Lecture Hall - H05

INVITED SESSION: THE POTENTIAL OF BIOPHYSIOLOGY FOR UNDERSTANDING LEARNING AND TEACHING EXPERIENCES**Chair**

Tim Mainhard, Utrecht University, Netherlands

Organiser

Tim Mainhard, Utrecht University, Netherlands

Discussant

Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU), Germany

Salivary cortisol in teachers' stress research - correlates, pitfalls and promises

Anna-Liisa Jögi, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

A high heart rate during teaching: Indicator of challenge or threat?

Tim Mainhard, Utrecht University, Netherlands; Monika Donker, Utrecht University, Netherlands; Nora McIntyre, University of York, United Kingdom; Tamara Van Gog, Utrecht University, Netherlands

The control-anxiety-performance relationship: self-report and physiological measures

Anna-Lena Roos, University of Konstanz, Germany; Thomas Goetz, Department of Empirical Educational Research, Germany; Maike Krannich, University of Konstanz, Germany

Electrodermal activity (EDA) during university lectures and practicals: Exploring variance

Emma Burns, University of New South Wales, Australia; Andrew Martin, University of New South Wales, Australia; Roger Kennett, University of New South Wales, Australia; Joel Pearson, University of New South Wales, Australia; Marianne Mansour, University of New South Wales, Australia; Brad Papworth, University of New South Wales, Australia; Lars-Erik Malmberg, University of Oxford, United Kingdom

Session B: 4

Time: 13:45-15:15

Location: Lecture Hall - H10

INVITED SESSION: TEACHER DASHBOARDS FOR ORCHESTRATION OF THE CLASSROOM: THE ROLE OF TEACHER CHARACTERISTICS**Chair**

Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Organisers

Anouschka van Leeuwen, Utrecht University, Netherlands; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Discussant

Susan Goldman, University of Illinois at Chicago, United States

The relation between dashboard function, teaching experience, and technological self-efficacy

Anouschka van Leeuwen, Utrecht University, Netherlands; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Teacher dashboard use for orchestrating active learning in large lectures

Jennifer Olsen, École polytechnique fédérale de Lausanne, Switzerland; Stian Håklev, CHILI, EPFL, Switzerland; Louis Faucon, CHILI, EPFL, Switzerland; Pierre Dillenbourg, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

How teacher characteristics relate to teacher dashboard use and feedback practices

Inge Molenaar, Radboud University Nijmegen, Netherlands; Carolien A. N. Knoop-van Campen, Radboud University Nijmegen, Netherlands

Teachers' epistemic beliefs and orchestration through dashboards of groups working with CSDL tools

Baruch Schwarz, Hebrew University of Jerusalem, Israel; Osama Swidan, Ben-Gurion University, Israel, Israel; Naomi Prusak, Hebrew University, Israel, Israel; Alik Palatnik, Shaanan Academic Religious Teachers' College, Israel, Israel; Adva Livny, Hebrew University, Israel, Israel

Session B: 5

Time: 13:45-15:15

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

INVITED SESSION: WORLDCAFÉ PRACTICE-BASED RESEARCH**Chair**

Frank De Jong, Aeres University of Applied Sciences Wageningen & Open University Heerlen, Netherlands

Organiser

Martijn Willemse, Windesheim University of applied sciences, Netherlands

Discussant

Frank De Jong, Aeres University of Applied Sciences Wageningen & Open University Heerlen, Netherlands

Worldcafé 1

Erkko Sointu, University of Eastern Finland, Finland

Worldcafé 2

Harry Stokhof, HAN University of Applied Sciences (UAS), Netherlands

Worldcafé 3

Kati Mäkitalo, University of Oulu, Finland

Worldcafé 4

Hanne Tack, Ghent University, Belgium

Session B: 6

Time: 13:45-15:15

Location: Lecture Hall - H06 -
Amazon Hörsaal**INVITED SESSION: ADDRESSING STUDENT HETEROGENEITY IN LEARNING AND INSTRUCTION IN GERMAN-SPEAKING COUNTRIES****Chairs**

Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany

Discussants

Hilda Borko, Stanford University, United States; Sanna Järvelä, University of Oulu, Finland

Academic self-concept and intrinsic motivation as predictors of mathematics and reading achievement

Burkhard Gniewosz, University of Salzburg, Austria; Claudia Schreiner, University of Innsbruck, Austria; Alexander Steiger, Federal Institute for Education Research, Innovation, and Development of the Austrian School System, Austria; Maximilian Egger, University of Education Upper Austria, Linz, Austria; Andrea Kulmhofer-Bommer, Federal Institute for Education Research, Innovation, and Development of the Austrian School System, Austria; Christian Wiesner, Federal Institute for Education Research, Innovation, and Development of the Austrian School System, Austria

Self-regulation and -assessment in school – cognitive and affective effects of rubrics and portfolio

Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany; Florian Hofmann, Friedrich-Alexander-University of Erlangen-Nuremberg, Germany; Susi Kläß, Friedrich Schiller University Jena, Germany

Dealing with disruptions in heterogeneous classrooms - a training on prevention and intervention

Felicitas Thiel, Freie Universität Berlin, Germany; Victoria L. Barth, Freie Universität Berlin, Germany; Diemut Ophardt, Technische Universität Berlin, Germany; Irina-Rosa Kumschick, PH Luzern, Professions- und Unterrichtsforschung, Switzerland

How Productive Classroom Discourse Supports Teacher Judgment of Students' Self-concept of Ability

Maralena Pielmeier, Technical University of Munich (TUM), Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany; Tina Seidel, Technische Universität München (TUM), Germany; Ann-Kathrin Schindler, Technische Universität München (TUM), Germany

Session B: 7

Time: 13:45-15:15

Location: Lecture Hall - H09

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Saku Määttä, University of Turku / Faculty of Education, Finland

The impact of student teachers' prerequisites on their acquisition of pedagogical knowledge

Christina Dr. Watson, University of Paderborn, Germany

Using relevance instructions to support the integration of teacher knowledge

Alexander Renkl, University of Freiburg, Germany; Helene Rieche, University of Freiburg, Germany; Eileen Spitzmesser, University of Freiburg, Germany; Alisa Röddiger, University of Freiburg, Germany; Timo Leuders, University of Education Freiburg, Germany

Teachers' diagnosis of students' deep understanding

Satomi Shiba, University of Tokyo, Japan; Yuri Uesaka, The University of Tokyo, Japan; Bethany Rittle-Johnson, Vanderbilt University, United States; Eriko Ota, University of Tokyo, Japan; Mari Fukuda, University of Tokyo, Japan

Learning from teacher perspective: Teachers' professional vision of students' mathematical learning

Maikki Pouta, University of Turku, Finland; Erno Lehtinen, University of Turku, Finland; Tuire Palonen, University of Turku, Finland

Session B: 8

Time: 13:45-15:15

Location: Seminar Room - S04

SINGLE PAPER: INQUIRY LEARNING**Chair**

Vasileios Symeonidis, University of Innsbruck, Austria

Learning from reviewing peers' concept maps in an inquiry context: to comment or to grade?

Natalia Dmashinskaya, University of Twente, Netherlands; Hannie Gijlers, University of Twente, Netherlands; Ton de Jong, University of Twente, Netherlands

It's Not Only What You Say, But How You Say It: Prosodic and Content Analysis Of Teacher's Talk

Raija Hamalainen, University of Jyväskylä, Finland; Bram De Wever, Ghent University, Belgium; Teija Waaramaa, University of Tampere, Finland; Anne-Maria Laukkanen, University of Tampere, Finland; Joni Lämsä, University of Jyväskylä, Finland

Detrimental effects of constructive learning activities on students' learning

Andreas Lachner, University of Tübingen, Germany; Juliane Richter, Leibniz-Institut für Wissensmedien, Germany; Leonie Jacob, Leibniz-Institut für Wissensmedien (IWM), Germany; Friederike Bilgenroth, Eberhard Karls Universität Tübingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Views of middle school teachers and students on developing self-directed learning

Penny Van Deur, Flinders University of South Australia, Australia

Session B: 9

Time: 13:45-15:15

Location: Seminar Room - S12

POSTER PRESENTATION: EARLY CHILDHOOD EDUCATION**Chair**

Iva Stuchlikova, University of South Bohemia Ceske Budejovice, Czech Republic

Do Preschool Teachers Use the Classroom Library for Children's Mathematics Development?

Michele Stites, University of Maryland Baltimore County, United States; Susan Sonnenschein, University of Maryland, Baltimore County, United States; Rebecca Dowling, University of Maryland, Baltimore County, United States; Brittany Gay, University of Maryland Baltimore County, United States

How do mothers support pre-schoolers in understanding emotions during picturebook reading?

Elisabeth Duursma, University of Wollongong/Early Start Research Institute, Australia; Cheryl Ho, University of Wollongong, Australia

A scale for measuring attitudes towards mathematics in preschoolers: ESAMAT

Carlos Mera, University of Cadiz, Spain; Manuel Aguilar-Villagran, University of Cadiz, Spain; Belén Román, University of Cadiz, Spain; Estibaliz Aragón, University of Cadiz, Spain; Jose I. Navarro-Guzman, University of Cadiz, Spain

A cross-cultural study on children's perception and play and learning: Results from Hong Kong

Doris Cheng, Tung Wah College, Hong Kong; James Ko, The Education University of Hong Kong, Hong Kong

Bilingualism and verbal self-regulation: A study on underlying processes of the bilingual advantage

Susanne Enke, University of Leipzig, Germany; Catherine Gunzenhauser, Leipzig University, Germany; Julia Karbach, University of Koblenz-Landau, Germany; Henrik Saalbach, University of Leipzig, Germany

Self-projection in pre-schoolers: Do diverse (socio)-cognitive skills share a common mechanism?

Anna-Sophie Immel, Donders Institute, Radboud University, Netherlands; Marlene Meyer, University of Chicago, United States; Hinke Endedijk, Utrecht University, Netherlands; Mareike Altgassen, Donders Institute, Radboud University, Netherlands; Sabine Hunnius, Donders Institute, Radboud University, Netherlands

Session B: 10

Time: 13:45-15:15

Location: Seminar Room - S10

POSTER PRESENTATION: ARGUMENTATION, REASONING AND INQUIRY LEARNING**Chair**

Sabine Manzel, Universität Duisburg-Essen, Germany

The effects of multimodal representations on students during cooperative, inquiry-based science

Robyn Gillies, The University of Queensland, Australia

Development of Instructions for Disagreement Resolutions in Reasoning about Diverging Information

Toshio Mochizuki, Senshu University, Japan; Clark Chinn, Rutgers University, United States; Randi Zimmerman, Rutgers University Graduate School of Education, United States; Etsuji Yamaguchi, Kobe University, Japan

Quality of Collaborative Group Engagement in Face-to-Face High-School Physics Argumentation

Dalila Dragnic-Cindric, University of North Carolina at Chapel Hill, United States; Nikki Lobaczowski, University of North Carolina at Chapel Hill, United States; Sara Baszczewski, The Pennsylvania State University, United States; Jeff Greene, University of North Carolina, United States; Ana Butler, The Pennsylvania State University, United States; P. Karen Murphy, The Pennsylvania State University, United States

Analyzing students' causal historical reasoning. Effects of a professional development program.

Jannet van Drie, University of Amsterdam, Netherlands; Gerhard Stoel, RICDE / University of Amsterdam, Netherlands

Linking out-of-school and in-classroom instruction using a Citizen Science Approach to Learning

Alena Rögele, University of Tuebingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany; Christoph Randler, University of Tuebingen, Germany

The effect of using smart devices for communication to support inquiry-based learning

Küllü Kori, Tallinn University, Estonia; Eliis Vana, University of Tartu, Estonia

Session B: 11

Time: 13:45-15:15

Location: Seminar Room - S11

POSTER PRESENTATION: EDUCATIONAL PSYCHOLOGY

Chair

Tobias Fredlund, University of Oslo, Sweden

Situation specificity of educational practitioners' subjective theories

Jean-Luc Patry, University of Salzburg, Austria

Do dimensional upward comparisons serve self-enhancement needs?

Tobias Baumann, Institut für Bildungsforschung, Germany

Building a New Model for the Formation and Regulation of Emotions in Collaborative Learning

Nikki Lobczowski, University of North Carolina at Chapel Hill, United States

FaceReader as a means to detect primary school students' emotions during science workshops

Elisa Vilhunen, University of Helsinki, Finland; Kalle Juuti, University of Helsinki, Finland; Anni Loukomies, University of Helsinki, Finland; Jari Lavonen, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland

The translation and validation of the interest/deprivation young children scale to Swedish

John Kaneko, Stockholm University, Sweden

The Longitudinal Interplay Among Early Family Risks, Self-Efficacy and Socio-Emotional Development

Fabio Sticca, Marie Meierhofer Children's Institute, Switzerland; Olivia Gasser-Haas, Marie Meierhofer Institute for the Child, Switzerland; Corina Wustmann Seiler, Pädagogische Hochschule Zürich, Switzerland

Session B: 12

Time: 13:45-15:15

Location: Seminar Room - S14

POSTER PRESENTATION: EDUCATIONAL EFFECTIVENESS, ACCOUNTABILITY AND SCHOOL IMPROVEMENT

Chair

Christopher Osterhaus, Ludwig-Maximilians-Universität (LMU), Germany

The contribution of school characteristics to secondary school students' citizenship skills

Eline Godaert, Ghent University, Belgium; Lisa De Schaepmeester, Ghent University, Belgium; Johan van Braak, Ghent University, Belgium; Koen Aesaert, Ghent University, Belgium

MOOC Effectiveness as a Reflection of MOOC Learner's Goals Set and Achieved

Polina Pekker, Lomonosov Moscow State University, Russian Federation

Applicability of an academic resilience model

Dóra Fanni Szabó, MTA-SZTE Research Group on the Development of Competencies, Hungary

Relationship between choices in general upper secondary school and admission to educational sciences

Jenni Kunnari, University of Oulu, Finland, Finland; Jouni Pursiainen, University of Oulu, Finland; Esa Laara, University of Oulu, Finland; Jarmo Rusanen, University of Oulu, Finland; Hanni Muukkonen, University of Oulu, Finland

Differential perception of the usefulness of standardized student assessments

Kathrin Vettorazzi, ISQ - Berlin Brandenburg Institute for School Quality Improvement, Germany; Marina Wenger, ISQ - Berlin Brandenburg Institute for School Quality Improvement, Germany; Anna Lena Schilling, Freie Universität Berlin, Germany; Holger Gaertner, Freie Universität Berlin, Germany

Significant learning experiences of Estonian students at a 'happy school'

Eda Heinla, Tallinn University, Estonia; Tiit Kuurme, Tallinn University, Sweden

Session B: 13

Time: 13:45-15:15

Location: Seminar Room - S16

POSTER PRESENTATION: PRE-SERVICE TEACHER EDUCATION

Chair

Martin Rehm, Pädagogische Hochschule Weingarten, Germany

What prevents Social Innovation in Kindergarten?

Jasmin Luthardt, University of Applied Science Potsdam, Germany

Authenticity in a role-play simulation of diagnostic interviews for pre-service mathematics teachers

Stefan Ufer, Ludwig-Maximilians-Universität (LMU), Germany; Bernhard Marczynski, University of Munich (LMU), Germany; Kathleen Stürmer, University of Tübingen, Germany; Christof Wecker, Universität Hildesheim, Germany; Matthias Siebeck, Ludwig Maximilians University, Germany

Simulations to help pre-service teachers in diagnosing scientific reasoning in physics and biology

Amadeus J. Pickal, University of Hildesheim, Germany; Christof Wecker, Universität Hildesheim, Germany; Birgit J. Neuhaus, LMU Munich, Germany; Raimund Girwidz, LMU Munich, Germany

Preservice teachers' experience in an innovative training activity: Serious games as protected space

Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile; María Josefa Smart Torrealba, Pontificia Universidad Católica de Chile, Chile; Sebastián ZAPAPA, Pontificia Universidad Católica de Chile, Chile; Martín Vergara Wilson, Pontificia Universidad Católica de Chile, Chile; Macarena Sanhueza Céspedes, Pontificia Universidad Católica de Chile, Chile; María Rosa LISSI, Pontificia Universidad Católica de Chile, Chile

Comparing strategies to develop teachers' epistemological beliefs in the interpsychological plane

Martín Vergara Wilson, Pontificia Universidad Católica de Chile, Chile; Macarena Sanhueza Céspedes, Pontificia Universidad Católica de Chile, Chile; Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile; María Josefa Smart Torrealba, Pontificia Universidad Católica de Chile, Chile; María Rosa Lissi, Pontificia Universidad Católica de Chile, Chile

Aggression-management competence development: the effect of online clinical simulations

Delphine Franco, University of Ghent, Belgium; Martin Valcke, Ghent University, Belgium

Session B: 14

Time: 13:45-15:15

Location: Seminar Room - S07

POSTER PRESENTATION: LEARNING AND EDUCATIONAL TECHNOLOGY

Chair

Ivy Lau, The University of Hong Kong, Hong Kong

Word count and helpfulness ratings in online peer reviews: creating effective learning environments

Sarah Faye, University of California, Davis, United States

Measuring higher education students' engagement through multimodal data

Pieter Vanneste, KU Leuven KULAK, Belgium; Annelies Raes, imec-ITEC-KU Leuven Centre for Instructional Psychology and Technology, Belgium; Ine Windey, KU Leuven KULAK, Belgium; Fien Depaepe, KU Leuven, Belgium; Wim Van den Noortgate, imec-ITEC, KU Leuven campus Kulak Kortrijk, Etienne Sabbelaan 51, 8500 Kortrijk, Belgium; Faculty of Psychology and Educational Sciences, KU Leuven, Dekenstraat 2, 3000 Leuven, Belgium, Belgium

Supporting learners' self-regulated learning in Massive Open Online Courses

Renee Jansen, Utrecht University, Netherlands; Anouschka van Leeuwen, Utrecht University, Netherlands; Jeroen Janssen, Utrecht University, Netherlands; Rianne Conijn, Tilburg University, Netherlands; Liesbeth Kester, Utrecht University, Netherlands

Heuristics in software modelling: An eye tracking study

Florian Hauser, Regensburg University of Applied Sciences, Germany; Rebecca Reuter, Regensburg University of Applied Sciences, Germany; Andreas Gegenfurtner, University of Passau, Germany; Hans Gruber, University of Regensburg, Germany; Jürgen Mottok, Regensburg University of Applied Sciences, Germany; Ivonne Hutzler, Regensburg University of Applied Sciences, Germany

The E-Learning Setting Circle: Critical Issues for E-Learning Research and Theory Development

Marco Rüdth, University of Cologne, Germany; Kai Kaspar, University of Cologne, Germany

Informal learning via using webpages and its potential for developing financial literacy

Baerbel Fuerstenau, TU Dresden, Germany; Mandy Hommel, TU Dresden, Germany

Session B: 15

Time: 13:45-15:15

Location: Lecture Hall - H08

POSTER PRESENTATION: ATTITUDES AND BELIEFS

Chair

Markus H. Hefter, Bielefeld University, Germany

Happy victimizing in the form of cyber mobbing: an attitudinal approach

Fritz Oser, University of Fribourg, Switzerland; Horst Biedermann, University of Teacher Education St.Gallen, Switzerland

The influence of teaching approach on students' conceptual learning in Physics

Christian Tarchi, University of Florence, Italy; Lucia Bigozzi, University of Florence, Italy; Federica Stefanelli, University of Florence, Italy

Understanding Students' Perceptions of Writing Feedback

Sarah Marrs, Virginia Commonwealth University, United States; Sharon Zumbrunn, Virginia Commonwealth University, United States; Eric Ekholm, Virginia Commonwealth University, United States

What is Inclusion – Developing a Questionnaire to Assess Concepts of Inclusive Education

Jennifer Lambrecht, University of Potsdam, Germany; Stefanie Bosse, University of Potsdam, Germany; Katja Bogda, University of Potsdam, Germany; Jessica Jaeuthe, University of Potsdam, Germany; Nadine Spörer, University of Potsdam, Germany

Acquiring entrepreneurial competences in higher education studies: learners' preliminary intentions

Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Richard Tunstall, University of Leeds, United Kingdom; Susan Whittle, University of Leeds, United Kingdom; Karen Burland Clark, University of Leeds, United Kingdom

Exploring Happy Victimization in the context of business and organizations

Karin Heinrichs, Pädagogische Hochschule Oberösterreich, Austria; Christian Schadt, Georg-August-Universität Göttingen, Germany

Session B: 16

Time: 13:45-15:15

Location: Seminar Room - S09

POSTER PRESENTATION: TEACHING AND TEACHER EDUCATION

Chair

Chiel vander Veen, VU University Amsterdam, Netherlands

Learning journals support knowledge integration of history teacher students

Christina Schuba, Albert-Ludwigs-University Freiburg, Germany; Matthias Nückles, University of Freiburg, Germany

Development of an Instrument for Measuring Teachers' Knowledge of Mathematical Equivalence

Emine Simsek, Loughborough University, United Kingdom; Ian Jones, Loughborough University, United Kingdom; Iro Xenidou-Dervou, Loughborough University, United Kingdom; Margaret Dowens, The University of Nottingham Ningbo China, China

Are educational sciences too soft? Student teachers' attitudes towards educational sciences

Joerg Wittwer, University of Freiburg, Germany; Thamar Voss, University of Freiburg, Germany; Helen Ernst, University of Freiburg, Germany

Learning tasks: Which role do they play in music lessons? A mixed-method approach

Sandra Degen, University of Zurich, Switzerland

Planning for sensemaking: What do pre-service teachers consider when designing modeling activities?

Candice Guy-Gaytán, University of Nevada, Reno, United States

Designing Flexible, Web-based forms of Professional Development to Impact Teacher Learning

Nanette Seago, WestEd, United States; Elizabeth Dyer, WestEd, United States

Session B: 17

Time: 13:45-15:15

Location: Seminar Room - S02

POSTER PRESENTATION: LITERACY

Chair

Rola Ajjawi, Deakin University, Australia

Peer assessment to enhance primary school pupils' oral competencies. The peer best designed feedback

Stéphane Colognesi, Université catholique de Louvain (UCL), Belgium; Liesje Coertjens, Université catholique de Louvain (UCL), Belgium; Caroline Vassart, Université catholique de Louvain (UCL), Belgium; Benoit Blondeau, Université catholique de Louvain (UCL), Belgium

Prevalence and stability of comorbid reading and arithmetic fluency problems in primary school

Mikko Aro, University of Jyväskylä, Finland; Jenni Puttonen, University of Jyväskylä, Finland; Riikka Heikkilä, University of Jyväskylä, Finland; Tuire Koponen, University of Jyväskylä, Finland

Reference to Rhetoric: Children's Metalinguistic Awareness and their Achievement in Writing

Moira Newton, The University of Auckland, New Zealand

Cultivation of STEM professionals: Evidences from top-15 participating economies in PISA 2015 Study

Soi-kei Mak, University of Macau, Macao; Pou Seong Sit, University of Macau, Macao; Kwok-cheung Cheung, University of Macau, Macao; Man-kai Ieong, University of Macau, Macao

Improving preschool language outcomes via professional development: an RCT

Sandra Mathers, University of Oxford, United Kingdom; Iram Siraj, University of Oxford, United Kingdom

Enhancing the home language environment using digital technology

Alex Hodgkiss, University of Oxford, United Kingdom; Sandra Mathers, University of Oxford, United Kingdom; Fiona Jelley, University of Oxford, United Kingdom

Session B: 18

Time: 13:45-15:15

Location: Seminar Room - S13

POSTER PRESENTATION: MIXED-METHOD RESEARCH

Chair

Kit Double, University of Oxford, United Kingdom

Support Programmes at Primary Schools - a Multimethod Study of Good-practice Schools

Stefanie Schnebel, University of Education Weingarten, Germany; Sandra Langer, University of Education Weingarten, Germany

Characteristics of planning, implementation and evaluation of additional professional support

Tina Vrsnik Perse, Faculty of Education, University of Maribor, Slovenia; Marta Licardo, University of Maribor Faculty of Education, Slovenia; Katja Košir, Faculty of Arts, University of Maribor, Slovenia

Eliciting socially shared metacognitive regulation in ill-structured problems

Mari Ader, Welten Institute - Open University of the Netherlands, Netherlands; Jan van Bruggen, Open Universiteit, Netherlands; Marjan Vermeulen, Heerlen Open Universiteit, Netherlands

Teaching immigrant children: A multi-method approach to teacher identity negotiation

Sotiria Pappa, University of Jyväskylä, Finland; Anneli Eteläpelto, University of Jyväskylä, Finland; Virpi-Liisa Kykyri, University of Jyväskylä, Finland; Josephine Moate, University of Jyväskylä, Finland

Examining Teachers' Strategies to Judge Student Achievement from a Cue Utilization Perspective

Chunjie Zhu, University of Passau, Germany; Qiguang Yang, Jiangnan University, China; Detlef Urhahne, University of Passau, Germany

Network analysis as a unifying element in quantitative and qualitative research approaches

Mathias Mejehe, University of Bern, Switzerland

Session B: 19

Time: 13:45-15:15

Location: Seminar Room - S03

POSTER PRESENTATION: SOCIAL INTERACTION IN LEARNING AND INSTRUCTION

Chair

Hege Hermansen, Department of Education, University of Oslo, Norway

Nurturing the fluid body language of receptive-responsive dialogue – Key pedagogic challenges

Eva Vass, Western Sydney University, Australia; Gabriella Deszpot, Liszt Academy of Music, Hungary

Productive deviations: learner agency, interest development and learning

Jaakko Hilppö, University of Helsinki, Finland; Reed Stevens, Northwestern University, United States

On the Move to Learn: Combining physical and academic activity in a fourth-grade math class

Magnus Hontvedt, University of Southeast Norway, Norway; Ingeborg Krangle, Kristiania University College, Norway

Time on Task of Students in Inclusive Classrooms - Results of a multi-perspective video analysis

Bianka Troll, Leuphana Universität Lüneburg, Germany; Michael Besser, Leuphana University of Lüneburg, Germany

What is learning for secondary-school students? Students' perceptions examined in Brazil and Finland

Juliene Ferreira, University of Tampere, Finland

Learning Language using a Digital Communication Plattform

Kristin Kibsgaard Sjøhelle, Volda University College, Norway

Session B: 20

Time: 13:45-15:15

Location: Seminar Room - S15

POSTER PRESENTATION: TEACHER PROFESSIONAL DEVELOPMENT

Chair

Anne Nevgi, University of Helsinki, Finland

An Analytic Framework for Inter-organizational Collaboration in Inclusive Education

Jantien Gerdes, Vrije Universiteit Amsterdam, Netherlands; Sui Lin Goei, Windesheim University of Applied Sciences, Netherlands; Mariette Huizinga, Vrije Universiteit Amsterdam, Netherlands; Doret de Ruyter, University of Humanistic Studies, Netherlands

Veteran and Novice Teacher Participation in Collaborative Reflective Inquiry

Livat Eshchar - Netz, Ben-Gurion University of the Negev, Israel; Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel; Adam Lefstein, Ben-Gurion University of the Negev, Israel

Reforming Vocational Teacher Education - Workplace-orientated and Technology enhanced approach

Jiri Vilppola, Tampere University of Applied Sciences, Finland; Raija Hamalainen, University of Jyväskylä, Finland; Katja Vähäsantanen, University of Jyväskylä, Finland

Teacher-reflection and organizational knowledge development in master-teacher programmes in Hungary

Krisztián Urbán, Eötvös Loránd University, Budapest, Hungary; Judit Szivák, Eötvös Loránd University, Budapest, Hungary; Nóra Rapos, ELTE University, Faculty of Education and Psychology, Hungary

Effects of a teacher-training program on reading strategy instruction in history classrooms

Marlies ter Beek, University of Groningen, Netherlands; Marie-Christine Opendakker, University of Groningen, Netherlands; Jan-Willem Strijbos, University of Groningen, Netherlands

Audio diaries: developing pre-service teachers' reflective practices

NOEMI BIRTA-SZEKELY, Babes-Bolyai University, Romania

Session B: 21

Time: 13:45-15:15

Location: Seminar Room - S01

POSTER PRESENTATION: MOTIVATION**Chair**

Tine Nielsen, University of Copenhagen, Denmark

It's still learning a language: Motivational profiles for learning own and new languages

Quint Oga-Baldwin, Waseda University, Japan; Luke Fryer, The University of Hong Kong, Hong Kong

A Multilevel, Longitudinal Examination of Students' and Teachers' Growth Orientation in Mathematics

Keiko Bostwick, UNSW, Australia; Andrew Martin, University of New South Wales, Australia; Rebecca Collie, University of New South Wales, Australia; Tracy Durksen, University of New South Wales, Australia

Quantitative Self-Efficacy Across the First Year of College: Trajectories by Gender and STEM Major

Jaeyun Han, University of Kentucky, United States; Ellen Usher, University of Kentucky, United States; Caihong Li, University of Kentucky, United States; Calah Ford, University of Kentucky, United States; Xiao-Yin Chen, University of Kentucky, United States; Kelsey Corcoran, University of Kentucky, United States; Cara Worick, University of Kentucky, United States; Christia Brown, University of Kentucky, United States

Effects of different design features on the motivation to participate in non-formal music programs

Kathrin Smolarczyk, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; Verena Wießnet, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany; Lisa Birnbaum, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; Stephan Kroener, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany

Exploring the Within-Person Structure of Motivation and Emotion

Ayame Tamura, Doshisha University, Japan; Ryo Ishii, Nara University of Education, Japan; Ayano Yagi, Kochi University of Technology, Japan; Noriaki Fukuzumi, Kochi University, Japan; Aya Hatano, Japan Society for the Promotion of Science & Kochi University of Technology, Japan; Michiko Sakaki, University of Reading, United Kingdom; Ayumi Tanaka, Doshisha University, Japan; Kou Murayama, University of Reading, United Kingdom

The effects of nudges on reading motivation, reading frequency, and reading comprehension.

Lisa van der Sande, Vrije Universiteit Amsterdam, Netherlands; Ilona Wildeman, Vrije Universiteit Amsterdam, Netherlands; Roel van Steensel, Erasmus University Rotterdam, Netherlands; Adriana Bus, Vrije Universiteit Amsterdam, Netherlands

Session B: 22

Time: 13:45-15:15

Location: Seminar Room - S06

SYMPOSIUM: MIXED METHODS SOCIAL NETWORK ANALYSIS IN LEARNING AND EDUCATION: THE PAST, THE PRESENT, THE FUTURE**Chair**

Bart Rienties, Open University, United Kingdom

Organiser

Dominik E. Froehlich, University of Vienna, Austria

Discussant

Jasperina Brouwer, University of Groningen, Netherlands

Networks of musicians at different expert levels

Manuel Laengler, University of Regensburg, Germany; Markus Nivala, University of Gothenburg, Sweden; Jasperina Brouwer, University of Groningen, Netherlands; Tuire Palonen, University of Turku, Finland; Hans Gruber, University of Regensburg, Germany

Understanding the social transition experiences of doctoral students

Jenna Mittelmeier, University of Manchester, United Kingdom; Bart Rienties, Open University, United Kingdom; Divya Jindal-Snape, University of Dundee, United Kingdom; Kate Zhang, The American University of Paris, France

Unpacking beginning teachers' collegial network structure: A mixed-method social network study

Laura Monique Thomas, Ghent University, Belgium; Melissa Tuytens, University of Ghent, Belgium; Geert Devos, Ghent University, Belgium; Geert Kelchtermans, KU LEUVEN, Belgium; Ruben Vanderlinde, Ghent University, Belgium

Mapping Mixed Methods Approaches to Social Network Analysis in Learning and Education

Dominik E. Froehlich, University of Vienna, Austria

Session B: 23

Time: 13:45-15:15

Location: Seminar Room - S05

SINGLE PAPER: SELF-EFFICACY AND MOTIVATION

Chair

Sonia Ilie, University of Cambridge, United Kingdom

Do achievement goals influence students' causal attributions for success in the context of writing?

Francesca Suter, University of Zurich, Switzerland; Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Carmen Hirt, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Switzerland; Katharina Maag Merki, University of Zurich, Switzerland

Development and Validation of the Situation-Specific Expectancy-Value Form of Learning Motivation

Kerstin Kisielski, TU Dresden - Psychology of Learning and Instruction, Germany; Susanne Narciss, TU Dresden, Germany

Mutual predictions between interest, self-efficacy, and perceived difficulty during a task

Katriina Nuutila, University of Helsinki, Finland; Samuel Greiff, University of Luxembourg, Luxembourg; Sirkku Kupiainen, University of Helsinki, Finland; Matthias Stadler, Ludwig-Maximilians-Universität (LMU), Germany; Anna Tapola, University of Helsinki, Finland; Heta Tuominen, University of Helsinki, Finland; Markku Niemivirta, University of Oslo, Norway

Promoting Motivational Regulation with a Learning Diary

Thomas Martens, Medical School Hamburg, Germany

Session C: 1

Time: 15:30-17:00

Location: Lecture Hall - H09

SIG INVITED SYMPOSIUM: LEARNING WITH CONCEPTUAL CHANGE IN PROFESSIONAL WORKING LIFE AND TEACHER TRAINING

Chair

Gertraud Benke, Klagenfurt University, Austria

Organiser

Konstantinos Christou, University of Western Macedonia, Greece

Discussant

Lina Markauskaite, University of Sydney, Australia

Teaching for conceptual change. How about the teachers?

Erik Meij, Windesheim University of Applied Sciences, Netherlands; Anneke Smits, Windesheim University, Netherlands

Applying Conceptual Change Research to Teacher Professional Development

Stella Vosniadou, Flinders University, Australia

How can knowledge restructuring and conceptual change be coupled?

Hans Gruber, University of Regensburg, Germany; Jörg Marienhagen, University of Regensburg, Germany; Barbara Moschner, Carl von Ossietzky Universität Oldenburg, Germany

Career-long Conceptual Change in the Medical Profession

Els Boshuizen, Open University of the Netherlands, Netherlands

Session C: 2

Time: 15:30-17:00

Location: Seminar Room - S04

SIG INVITED SYMPOSIUM: MIXED METHODS SOCIAL NETWORK ANALYSIS FOR LEARNING AND EDUCATION

Chair

Jasperina Brouwer, University of Groningen, Netherlands

Organiser

Dominik E. Froehlich, University of Vienna, Austria

Discussant

Dominik E. Froehlich, University of Vienna, Austria

Around and around: The concentric circle method as powerful tool to collect MMSNA data

Piet Van den Bossche, University of Antwerp, Belgium; Sara Van Waes, University of Antwerp, Belgium

Social network analysis and activity theory: A symbiotic relationship

Victoria Murphy, Open University, United Kingdom; Bart Rienties, Open University, United Kingdom; Allison Littlejohn, Open University, United Kingdom

The Role of Mixed-Method Social Network Analysis in Educational Sciences

Natasa Pantic, University of Edinburgh, United Kingdom; Laura Monique Thomas, Ghent University, Belgium; Jasperina Brouwer, University of Groningen, Netherlands; Sarah Galey, University of Edinburgh, United Kingdom; Dominik E. Froehlich, University of Vienna, Austria

Nomination data in classroom settings. SNA and peer relationships

Tuire Palonen, University of Turku, Finland

Session C: 3

Time: 15:30-17:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: ANALYTICAL APPROACHES FOR INVESTIGATING KNOWLEDGE CO-CREATION IN HIGHER EDUCATION

Chair

Hanni Muukkonen, University of Oulu, Finland

Organisers

Hanni Muukkonen, University of Oulu, Finland; Crina Damsa, University of Oslo, Norway

Discussant

Monika Nerland, University of Oslo, Norway

Constructing shared understanding of complex problems: An inscriptional blending perspective
Natasha Arthars, The University of Sydney, Australia; Lina Markauskaite, University of Sydney, Australia**Analyzing learning through co-creation of knowledge objects in software engineering education**
Crina Damsa, University of Oslo, Norway; Rachelle Esterhazy, University of Oslo, Norway**Collaborative reasoning over domain knowledge and strategic processes - an exploratory case study**

Piia Naykki, University of Oulu, Finland; Jaana Isohätälä, University of Oulu, Finland; Nikki Lobcowski, University of North Carolina at Chapel Hill, United States, United States; Sanna Järvelä, University of Oulu, Finland; Jeff Greene, University of North Carolina, United States

Learning knowledge work practices in different types of courses in agricultural sciences

Minna Lakkala, University of Helsinki, Finland; Hanni Muukkonen, University of Oulu, Finland; Hanna-Riitta Kymäläinen, Department of Agricultural Sciences, University of Helsinki, Finland; Liisa Ilomäki, University of Helsinki, Finland; Auli Toom, University of Helsinki, Finland

Session C: 4

Time: 15:30-17:00

Location: Lecture Hall - H10

SYMPOSIUM: IMPLICIT THEORIES IN EDUCATION

Chairs

Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany; Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

Organiser

Katharina Kriegbaum, Heidelberg University, Germany

Discussant

Barbara Schober, University of Vienna, Austria

Manipulation of implicit theories and effects on parental co-regulation in preschoolers

Maren Stern, University of Heidelberg, Germany; Kim Gärtner, Heidelberg University, Germany; Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany

The role of implicit theories and grit in predicting students' academic motivation and achievement

Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Francesca Suter, University of Zurich, Switzerland; Carmen Hirt, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Switzerland; Katharina Maag Merki, University of Zurich, Switzerland

A malleable view of excellence can help attract underrepresented minorities to elite organizations

Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany; Katharina Kriegbaum, Heidelberg University, Germany; Christina Bauer, Freie Universität Berlin, Germany; Bettina Hannover, FU Berlin, Germany

Profiles of implicit theories and their relation to aspects of self-regulated learning

Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany; Katharina Kriegbaum, Heidelberg University, Germany; Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

Session C: 5

Time: 15:30-17:00

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: THE ROLE OF ATTITUDES AND EPISTEMIC BELIEFS FOR LEARNING AND INSTRUCTION

Chair

Martin Daumiller, University of Augsburg, Germany

Organiser

Stefan Siegel, University of Augsburg, Germany

Discussant

Robert Kordts-Freudinger, University of St. Gallen, Switzerland

Attitudes Towards Heterogeneity of Secondary Students

Stefanie Dotzel, University of Mannheim, Germany; Karina Karst, University of Mannheim, Germany

Conditional effects of epistemic beliefs on attitudes, vaccine misconceptions, and conceptual change

James Vivian, McGill University, Canada; Krista Muis, McGill University, Canada

Theory-related Attitudes and Beliefs of Students and Lecturers: Results of a Mixed-Methods-Study

Stefan Siegel, University of Augsburg, Germany; Martin Daumiller, University of Augsburg, Germany

The Evidence-Based Teaching Knowledge, Beliefs and Attitudes Scale

Despoina Georgiou, Ludwig-Maximilian University of Munich (LMU), Germany; Sog Yee Mok, University of Zurich, Switzerland; Anne Wiesbeck, TUM School of Education, Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Session C: 6

Time: 15:30-17:00

Location: Seminar Room - S05

SYMPOSIUM: TEACHER WELLBEING: WHAT DOES IT MEAN AND HOW CAN IT BE SUPPORTED?**Chair**

Susan Beltman, Curtin University, Australia

Discussant

Carmela Aprea, University of Mannheim, Chair of Business and Economic Education - Instructional Design and Evaluation, Germany

A systematic review of the research literature on teacher well-being

Tina Hascher, University of Bern, Switzerland; Jennifer Waber, University of Bern, Switzerland

On the path of mindfulness with Quebec student teachers

Mylene Leroux, Université du Québec en Outaouais (UQO), Canada; Nancy Goyette, Université du Québec à Trois-Rivières, Canada; Catherine Malboeuf-Hurtubise, Bishop's University, Canada

Fostering school teachers' resilience and wellbeing through professional learning

José Castro Silva, ISPA-Instituto Universitário, Portugal; Luisa Fernandes, ISPA - Instituto Universitário/CIE-ISPA, Portugal; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Maria João Gouveia, ISPA - Instituto Universitário, Portugal

"I actually felt more confident": Using online modules to develop preservice teacher self-efficacy.

Caroline Mansfield, University of Notre Dame Australia, Australia; Susan Beltman, Curtin University, Australia

Session C: 7

Time: 15:30-17:00

Location: Lecture Hall - H08

SINGLE PAPER: COMPREHENSION OF TEXT AND GRAPHICS**Chair**

Christopher Anson, North Carolina State University, United States

OER accessibility and the effect of simplification on text processing among English learners

Irina Rets, The Open University, United Kingdom, United Kingdom; Ursula Stickler, The Open University, United Kingdom, United Kingdom; Tim Coughlan, The Open University, United Kingdom, United Kingdom; Luísa Astruc, The Open University, United Kingdom, United Kingdom

Human vis-a-vis Nature: Analytical perspective implicated in Chinese ESL textbooks

Ka Lok Cheng, The University of Hong Kong, Hong Kong

Learning from texts and mind maps: an eye-tracking and retrospective interview study

Emmelen Merchie, Ghent University, Belgium; Rielke Bogaert, Ghent University, Belgium; Hilde Van Keer, Ghent University, Belgium; Leen Catrysse, University of Antwerp, Belgium

Errors in Bayesian situations

Andreas Eichler, Mathematics, Germany; Katharina Böcherer-Linder, Institute for Mathematics, Germany; Markus Vogel, University of Education Heidelberg, Germany

Session C: 8

Time: 15:30-17:00

Location: Seminar Room - S06

SINGLE PAPER: COMPREHENSION OF TEXT AND GRAPHICS AND MULTIMEDIA LEARNING**Chair**

Antonia Zachariou, University of Roehampton, United Kingdom

Perceptual challenges for learning from animations in educational multimedia

Richard Lowe, Curtin University, Australia; Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France; Laurie Porte, University of Burgundy, France

Multimedia Effects of Representational Pictures in Testing: Does the Response Format Matter?

Marlit Annalena Lindner, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Johannes Schult, Landesinstitut für Schulentwicklung, Germany

Learning with Dynamic and Static Visualizations: Influence of Observing Hands and Spatial Ability

Birgit Brucker, Leibniz-Institut für Wissensmedien (IWM), Germany; Nadine Marcus, University of New South Wales, Australia; Björn De Koning, Erasmus University Rotterdam, Netherlands; Ann-Christine Ehls, University Hospital Tübingen, Germany; Paul Ayres, University of New South Wales, Australia; Peter Gerjets, Leibniz-Institut für Wissensmedien (IWM), Germany

Presenting a Visualization Holistically versus Sequentially - Does It Make any Difference?

Mandy Steinbach, University of Education Freiburg, Germany; Josef Nerb, Department of Psychology, Freiburg University of Education, Germany; Anika Dreher, Department of Mathematics, Freiburg University of Education, Germany; Alexander Eitel, University of Freiburg, Germany

Session C: 9

Time: 15:30-17:00

Location: Lecture Hall - H05

SINGLE PAPER: QUANTITATIVE METHODS AND WORKPLACE LEARNING**Chair**

Doris Holzberger, Technical University of Munich (TUM), Germany

A short measurement for professional agency in work organisations

Eija Räikkönen, University of Jyväskylä, Faculty of Education and Psychology, Finland; Katja Vähäsantanen, University of Jyväskylä, Finland; Susanna Paloniemi, University of Jyväskylä, Finland; Päivi Hökkä, University of Jyväskylä, Finland

Teaming under Uncertainty - Reflexivity and Psychological Safety for Information Sharing

Therese Grohnert, Maastricht University, Netherlands; Roger Meuwissen, Maastricht University, Netherlands; Wim Gijssels, Maastricht University, Netherlands

Effects of learning culture on transfer results in critical work situations

Jolanda Botke, VU University Amsterdam, Netherlands

Digital competencies: A review of the literature and applications at the workplace

Maren Oberländer, University of Würzburg, Germany; Andrea Beinicke, Würzburg University, Germany; Tanja Bipp, University of Würzburg, Germany

Session C: 10

Time: 15:30-17:00

Location: Seminar Room - S01

SINGLE PAPER: MATHEMATICS IN PRIMARY EDUCATION**Chair**

Stephan Vogel, University of Graz, Austria

Predictive power of first graders' characteristics for mathematics achievement 5 years later

Kirsten Winkel, University of Mainz, Germany; Kristina Mueller, University of Mainz, Germany; Daniel Schunk, University of Mainz, Germany

Teacher competence as a predictor of student achievement - Differential effects on students

Simone Dunekacke, Freie Universität Berlin, Germany; Francesca Muntoni, University of Hamburg, Germany; Jan Retelsdorf, University of Hamburg, Germany; Aiso Heinze, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Children's shifts of attention in phases of stable performance in arithmetic tasks

Chronoula Voutsina, University of Southampton, United Kingdom; Lois George, The University of the West Indies, Jamaica; Keith Jones, University of Southampton, United Kingdom

A tale of two fraction sub-constructs: The part-whole and quotient

Lois George, University of the West Indies, Mona Campus, Jamaica

Session C: 11

Time: 15:30-17:00

Location: Seminar Room - S02

SINGLE PAPER: SOCIAL INTERACTION IN EARLY CHILDHOOD EDUCATION**Chair**

Percival Matthews, University of Wisconsin - Madison, United States

Children's epistemic beliefs and their justifications for including others: A longitudinal study

Susan Walker, Queensland University of Technology, Australia; Jo Lunn Brownlee, Queensland University of Technology, Australia; Laura Scholes, Queensland University of Technology (QUT), Australia; Eva Marianne Johansson, University of Stavanger, Faculty of Arts and Education, Norway

A Friend's Presence in Daycare Promote Toddlers' Prosocial Behavior Toward Peers

Esther Adi-Japha, Bar-Ilan University, Israel; Cilly Shohet, Bar Ilan University, Israel

Mother's Interaction Behavior: Profiles, Predictors, and Competence Development of Children

Gwendolin Blossfeld, University of Bamberg, Germany; Manja Attig, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Sabine Weinert, University of Bamberg, Germany

A Systematic Review on Teacher-Child Interactions with Multilingual and Monolingual Young Children

Annegien Langeloo, University of Groningen, Netherlands; Mayra Mascareño, University of Groningen, Netherlands; Marjolein Deunk, University of Groningen, Netherlands; Nikolai Klitzing, University of Groningen, Netherlands; Jan-Willem Stribos, University of Groningen, Netherlands

Session C: 12

Time: 15:30-17:00

Location: Seminar Room - S03

SINGLE PAPER: CITIZENSHIP EDUCATION**Chair**

Auli Toom, University of Helsinki, Finland

Teaching the Good Citizen? Teacher's Approaches to Education for Democratic Citizenship in Portugal

Shaima Muhammad, University of Innsbruck, Austria

Civic knowledge and expected civic engagement among lower-secondary students

Wolfram Schulz, Australian Council for Educational Research (ACER), Australia; Julian Fraillon, Australian Council for Educational Research (ACER), Australia

Perceived democratic school climate and adolescents' civic attitudes and prosocial behavior

Aileen Edele, Humboldt-Universität zu Berlin, Germany; Franziska Schwabe, TU Dortmund University, Germany; Birgit Heppt, Humboldt-Universität zu Berlin, Germany

Participative teaching and democracy in the classroom - important for present and future?

Elke Hildebrandt, Pädagogische Hochschule FHNW, Switzerland; Katja Maischatz, Pädagogische Hochschule FHNW, Switzerland; Annemarie Ruess, PH FHNW, Switzerland; Sabine Campana, Pädagogische Hochschule FHNW, Switzerland

Session C: 13

Time: 15:30-17:00

Location: Seminar Room - S07

SINGLE PAPER: EDUCATIONAL TECHNOLOGY AND INSTRUCTIONAL DESIGN**Chair**

Cristian Simoni, University of Padua, Italy

Effects of Prior Knowledge and Gaze Following on Learning from Eye Movement Modeling Examples

Ellen Kok, Utrecht University, Netherlands; Lucia Chisari, Utrecht University, Netherlands; Akvile Mockeviciute, Utrecht University, Netherlands; Sterre Ruitenberg, Utrecht University, Netherlands; Lian van Vemde, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Fear of the unknown – student reluctance to engage in blended learning in undergraduate economics

Julie Buhl-Wiggers, Copenhagen Business School, Denmark; Annemette Kjærgaard, Copenhagen Business School, Denmark; Lisbeth la Cour, Copenhagen Business School, Denmark

For whom and how? –Effects of digital tools for spatial task solving

Vanessa Yepes-Serna, Bauhaus University of Weimar, Germany; Michael Montag, Bauhaus-University of Weimar, Germany; Steffi Zander, University of Applied Sciences Magdeburg-Stendal, Germany

Wrong Predictions > Right Predictions: Generating Predictions as a Productive Exercise in Failure

Garvin Brod, German Institute for International Educational Research (DIPF), Germany

Session C: 14

Time: 15:30-17:00

Location: Seminar Room - S10

SINGLE PAPER: VIDEO ANALYSIS AND MATHEMATICS IN TEACHING AND INSTRUCTION**Chair**

Carol Aldous, Flinders University, Australia

What is The TALIS VIDEO Study? Rationale, Conceptualization and Design

V Darleen Opfer, RAND Corporation, United States

The Role of Subject Matter in Studying Teaching Across Countries

Eckhard Klieme, German Institute for International Educational Research (DIPF), Germany; Anna-Katharina Praetorius, Institut für Erziehungswissenschaft, Switzerland; Kristina Reiss, Technische Universität München (TUM), Germany

Initial Fielding Results from the TALIS Video Study

Kata Mihaly, RAND Corporation, United States

Code Development and Rating of Video Recordings and Artefacts

Jonathan Schweig, RAND Corporation, United States; Courtney Bell, Educational Testing Service, United States; Brian Stecher, RAND Corporation, United States

Session C: 15

Time: 15:30-17:00

Location: Seminar Room - S12

SINGLE PAPER: ATTITUDES AND BELIEFS, MOTIVATION AND EMOTION**Chair**

Kate Xu, Welten Institute - Open University of the Netherlands, Netherlands

Why are some subjects less popular than others? Extending the debate

Filio Constantinou, Cambridge Assessment, University of Cambridge, United Kingdom

Measuring vocational teacher students autonomy-supportive beliefs. Validation of the PIS.

Juliane Breitschopf, Technical University of Munich, Germany; Eveline Wittmann, TUM School of Education, Germany

Estonian and Finnish 4th grade students' mindsets about intelligence

Elina Kuusisto, University of Humanistic Studies, Netherlands; Kati Aus, Institute of Psychology, Estonia; Grete Arro, Tallinn University, Estonia; Kirsí Tirri, University of Helsinki, Finland

Determinants of musical leisure time activities in boys and girls

Marcus Penthin, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany; Eva Susanne Fritzsche, Department of Teacher Education, Germany; Stephan Kroener, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany

Session C: 16

Time: 15:30-17:00

Location: Seminar Room - S15

SINGLE PAPER: TEACHING AND TEACHER EDUCATION**Chair**

Marco Longhitano, PH Schwyz, Switzerland

Content Knowledge and Pedagogical Content Knowledge of Teachers – A Meta-Analysis across 7 subjects

Stefan Krauss, University of Regensburg, Germany; Alfred Lindl, University of Regensburg, Bavaria, Germany; Anita Schilcher, University of Regensburg, Bavaria, Germany

Art therapy technique of collage as a tool to reflect on teachers' professional identity development

Iva Stuchlikova, University of South Bohemia Ceske Budejovice, Czech Republic; Yvona Mazehoova, University of South Bohemia Ceske Budejovice, Czech Republic; Jana Kourilova, University of South Bohemia Ceske Budejovice, Czech Republic

Teacher collaboration and teacher motivation in the context of school improvement

Nina Kolleck, Freie Universität Berlin, Germany

General pedagogical knowledge and school practice revisited—reconstruction as a backward design tool

Christian Kraler, Teacher Education and School Research, Austria; Ann-Kathrin Dittrich, Teacher Education and School Research, Austria

Session C: 17

Time: 15:30-17:00

Location: Seminar Room - S16

SINGLE PAPER: IN-SERVICE TEACHER EDUCATION**Chair**

Diego Oswaldo Camacho Vega, UNIVERSIDAD AUTONOMA DE BAJA CALIFORNIA, Mexico

Examining the impact of PD on teacher knowledge, instructional practice, and student achievement

Nanette Seago, WestEd, United States; Karen Koellner, Hunter College--CUNY, United States

The Preparation of Facilitators for Adaptive Professional Development

Hilda Borko, Stanford University, United States; Janet Carlson, Stanford University, United States

Developing teacher laterality in a centralized education system

Junsong Huang, National Institute of Education, Singapore; Imran Sha'ari, National Institute of Education/Nanyang Technological University, Singapore, Singapore

Validating the Spanish Approaches to Teaching Inventory with Mexican telesecundaria teachers

Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain; Anna Ciraso, Universitat Autònoma de Barcelona, Italy; Lori Caudle, Western Carolina University, United States; Edith Mariana Rebollar Sánchez, Instituto Superior de Ciencias de la Educación del Estado de México, Mexico

Session C: 18

Time: 15:30-17:00

Location: Seminar Room - S09

SINGLE PAPER: ATTITUDES, BELIEFS AND MOTIVATION**Chair**

Ann Dowker, University of Oxford, United Kingdom

A review of writing motivation research since 2000

Ana Camacho, University of Porto, Portugal; Pietro Boscolo, Università di Padova, Italy; Rui Alexandre Alves, University of Porto, Portugal

How do teachers decide on the classroom time they invest in different learning goals?

Michiel Voet, Ghent University, Belgium; Bram De Wever, Ghent University, Belgium; Iris Huiders, Ghent University, Belgium

Values and 'Cultural Heritage' in Early Childhood Education and Care in Finland and Sweden

Anniika Kuusisto, Stockholm University, Sweden

Learning as Identity Change in Augmented Virtual Learning Environments

Aroutis Foster, Drexel University, United States; Amanda Barany, Drexel University, United States; Hamideh Talafian, Drexel University, United States; Mamta Shah, Drexel University, United States

Session D: 1

Time: 08:30-10:00

Location: Lecture Hall - H10

SIG INVITED SYMPOSIUM: SOCIAL INTERACTIONS IN SCHOOL IMPROVEMENT AND THEIR RELATION TO TEACHERS' AND STUDENTS' LEARNING**Chair**

Katharina Maag Merki, University of Zurich, Switzerland

Discussant

Tobias Feldhoff, Johannes Gutenberg University of Mainz, Germany

Social interactions in schools concerned with new ideas for teaching, teamwork and school design.

Andrea Wullschleger, University of Zurich, Switzerland; Katharina Maag Merki, University of Zurich, Switzerland; Beat Rechsteiner, Institute of Education, University of Zurich, Switzerland; Nathanael Schori, Institute of Education, University of Zurich, Switzerland; Ariane Rickenbacher, Institute of Education, University of Zurich, Switzerland

Teacher collaboration and teacher motivation in the context of school improvement

Nina Kolleck, Freie Universität Berlin, Germany

Cooperative regulation activities of teachers, analysed based on time-sampling data

Katharina Maag Merki, University of Zurich, Switzerland; Urs W. Grob, University of Zurich, Switzerland; Beat Rechsteiner, Institute of Education, University of Zurich, Switzerland; Ariane Rickenbacher, Institute of Education, University of Zurich, Switzerland; Andrea Wullschleger, University of Zurich, Switzerland

The Impact of a Two-Year Intervention on Improving School Effectiveness: The Dynamic Approach

Maria Vrikki, University of Cyprus, Cyprus; Leonidas Kyriakides, University of Cyprus, Cyprus; Evi Charalambous, Department of Education, University of Cyprus, Cyprus

Session D: 2

Time: 08:30-10:00

Location: Lecture Hall - H11

SYMPOSIUM: POSSIBILITIES OF DIFFERENT RESEARCH INSTRUMENTS FOR INVESTIGATING EMOTIONS ON LEARNING OF EMPLOYEES**Chair**

Regina Mulder, University of Regensburg, Germany

Organiser

Verena Watzek, University of Regensburg, Germany

Discussant

Tina Hascher, University of Bern, Switzerland

Using self-reports and electrodermal activity (EDA) measurement in studying emotions in learning

Susanna Paloniemi, University of Jyväskylä, Finland; Markku Penttonen, University of Jyväskylä, Finland; Päivi Hökkä, University of Jyväskylä, Finland; Katja Vähäsantanen, University of Jyväskylä, Finland; Anneli Eteläpelto, University of Jyväskylä, Finland

The rocky road to emotion measurement in learning and career development: on the use of self-reports

Thomas Pirsoul, Université catholique de Louvain (UCL), Belgium; Michaël Parmentier, Université catholique de Louvain (UCL), Belgium; Frédéric Nils, Université catholique de Louvain (UCL), Belgium

The use of questionnaires and observations in investigating affective reactions within teamwork

Verena Watzek, University of Regensburg, Germany; Andreas Widmann, University of Regensburg, Germany; Regina Mulder, University of Regensburg, Germany

Using online data to identify strategies that teachers use to regulate emotions

Susan Beltman, Curtin University, Australia; Emily Poulton, Curtin University, School of Education, Australia

Session D: 3

Time: 08:30-10:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: IMPORTANCE OF TEACHER CHARACTERISTICS FOR INSTRUCTIONAL QUALITY**Chair**

Justine Stang, TU Dortmund University, Germany

Organisers

Justine Stang, TU Dortmund University, Germany; Nele McElvany, TU Dortmund University, Germany

Discussant

Christoph Helm, Johannes Kepler University Linz, Austria

Relations between heterogeneity-related teaching attitudes and motivation and instructional quality

Justine Stang, TU Dortmund University, Germany; Miriam Gebauer, Institute for School Development Research, TU Dortmund University, Germany; Nele McElvany, Institute for School Development Research (IFS), TU Dortmund, Germany

Relations between teachers' professional knowledge and instructional quality in mathematics teaching

Christian Bruehwiler, University of Teacher Education St.Gallen, Switzerland; Lena Hollenstein, University of Teacher Education St.Gallen, Switzerland; Benita Affolter, University of Teacher Education, St. Gallen, Switzerland

Teacher motivation and changes in perceived teaching after the transition to secondary school

Rebecca Lazarides, University of Potsdam, Germany; Benjamin Caspar Fauth, University of Tübingen, Germany; Hanna Gaspard, University of Tübingen, Germany; Richard Goellner, University of Tuebingen, Germany

Quality of learning environments over time: Relationships with teacher characteristics

Marie-Christine Opendakker, University of Groningen, Netherlands

Session D: 4

Time: 08:30-10:00

Location: Lecture Hall - H06 -
Amazon Hörsaal**SYMPOSIUM: LEARNING FROM MULTIPLE DOCUMENTS AND MULTIPLE REPRESENTATIONS****Chair**

Patricia A. Alexander, University of Maryland, United States

Organiser

Alexandra List, The Pennsylvania State University, United States

Discussant

Peggy Van Meter, The Pennsylvania State University, United States

INVESTIGATING INTEGRATION PROCESSES DURING LEARNING FROM A VIDEO

Anne Schueler, Leibniz-Institut für Wissensmedien, Germany; Martin Merkt, Deutsches Institut für Erwachsenenbildung (DIE), Germany

READING MEDIUM AND READING PURPOSE IN A MULTIPLE DOCUMENT CONTEXT

Øistein Anmarkrud, Department of Special Needs Education, Norway; Natalia Latini, University of Oslo, Norway; Ivar Braten, University of Oslo, Norway; Ladislao Salmeron, University of Valencia, Spain

READING PROCESS DATA AND LEARNING OUTCOMES FROM READING MULTIPLE ILLUSTRATED TEXTS

Jennifer Cromley, University of Illinois at Urbana-Champaign, United States; Andrea Kunze, University of Illinois, United States; Aygul Parpucu Dane, University of Illinois, United States; Colin Castleberry, University of Illinois, United States

LEARNING FROM MULTIPLE VERBAL AND VISUAL DOCUMENTS

Peggy Van Meter, The Pennsylvania State University, United States; Chelsea Cameron, Penn State University, United States

Session D: 5

Time: 08:30-10:00

Location: Lecture Hall - H07

SYMPOSIUM: COMPOSITION IN SCHOOL AND CLASS: WHAT EFFECTS DO PEERS HAVE ON STUDENTS' INDIVIDUAL DEVELOPMENT?**Chair**

Marianne Schuepbach, Freie Universität Berlin, Germany

Organiser

Marianne Schuepbach, Freie Universität Berlin, Germany

Discussant

Eckhard Klieme, German Institute for International Educational Research (DIPF), Germany

Short and long term effects of school composition in primary education

Jan VAN DAMME, KU Leuven, Belgium

Mathematics Achievement and the Association with Language Achievement in All-day Schools

Marianne Schuepbach, Freie Universität Berlin, Germany; Lukas Frei, University of Bamberg, Switzerland; Benjamin von Allmen, University of Bamberg, Switzerland; Nanine Lilla, University of Bamberg, Germany; Wim Nieuwenboom, Otto Friedrich University Bamberg / University of Applied Sciences Northwestern Switzerland Olten, Switzerland

Effects of Extended Education on Internalizing Behavior: Class Composition as Possible Moderator

Wim Nieuwenboom, Otto Friedrich University Bamberg / University of Applied Sciences Northwestern Switzerland Olten, Switzerland; Lukas Frei, University of Bamberg, Switzerland; Marianne Schuepbach, Freie Universität Berlin, Germany; Benjamin von Allmen, University of Bamberg, Switzerland

Outsiders inside inclusive classes? Class composition effects on friendship networks of SEN students

Katja Scharenberg, University of Education Freiburg, Germany; Sebastian Röhl, University of Education Freiburg, Germany

Session D: 6

Time: 08:30-10:00

Location: Lecture Hall - H08

SYMPOSIUM: SELF-, CO-, AND SHARED REGULATION: WHAT DO THEY LOOK LIKE IN DIFFERENT CONTEXTS? WHY DO THEY MATTER?**Chair**

Sarah Davis, University of Victoria, Canada

Organisers

Aishah Bakhtiar, University of Victoria, Canada; Marijn Wijga, University of Twente, Netherlands

Discussant

Simone Volet, Murdoch University, Australia

Social Regulation at the Workplace: Different Modes of Regulation and Variation in Quality

Marijn Wijga, University of Twente, Netherlands; Maaike Endedijk, University of Twente, Netherlands; Bernard Veldkamp, University of Twente, Netherlands

Dynamic interplay between regulatory modes when regulating motivation in collaboration

Allyson Hadwin, University of Victoria, Canada; Aishah Bakhtiar, University of Victoria, Canada; Mariel Miller, University of Victoria, Canada; Annie Wu, University of Victoria, Canada

Identifying sequences of adaptive and maladaptive regulation in collaboration using multimodal data

Jonna Malmberg, University of Oulu, Finland; Márta Sobocinski, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland; Muhterem Dindar, University of Oulu, Finland; Antti Isosalo, University of Oulu, Finland

Interdependent Emotion Regulation Modes: Similarities between Self-, Co- and Shared Regulation

Maedeh Kazemitabar, McGill University, Iran; Susanne Lajoie, McGill University, Canada

Session D: 7

Time: 08:30-10:00

Location: Seminar Room - S05

SYMPOSIUM: DYNAMIC RELATIONS: SELF-REGULATION AND EARLY ACADEMIC SKILLS IN YOUNG CHILDREN ACROSS EUROPE**Chair**

Catherine Gunzenhauser, Leipzig University, Germany

OrganisersCatherine Gunzenhauser, Leipzig University, Germany;
Dieuwer ten Braak, University of Stavanger, Norway**Discussant**

Joana Cadima, University of Porto, Portugal

Testing a Bidirectional Model of Executive Functions and Fluid Intelligence Across Early Childhood

Fitim Uka, University of Prishtina, Kosovo; Catherine Gunzenhauser, Leipzig University, Germany; Ross Larsen, Brigham Young University, United States; Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates

How self-regulation mediates the relation between early math and later academic achievement

Dieuwer ten Braak, University of Stavanger, Norway; Ragnhild Lenes, University of Stavanger, Norway; Ingunn Storksen, University of Stavanger, Norway

Cross-domain effects between self-regulation and vocabulary skills across toddlerhood

Joana Cadima, University of Porto, Portugal; Carolina Guedes, Faculty of Psychology and Educational Sciences of the University of Porto, Portugal; Teresa Aguiar, Faculty of Psychology and Educational Sciences, University of Porto, Porto, Portugal; Cecilia Aguiar, ISCTE - Instituto Universitário de Lisboa, Portugal; Clara Barata, Faculty of Psychology and Educational Sciences of the University of Porto, Portugal

Bidirectional Associations between Behavioral Regulation and Pre-literacy Skills in Preschoolers

Eija Pakarinen, University of Jyväskylä, Finland; Jenni Salminen, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland; Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates

Session D: 8

Time: 08:30-10:00

Location: Lecture Hall - H09

SYMPOSIUM: UNDERSTANDING FRACTION MAGNITUDE – LEARNING TO PROCESS FRACTION MAGNITUDE**Chair**

Andreas Obersteiner, University of Education Freiburg, Germany

Organisers

Andreas Obersteiner, University of Education Freiburg, Germany; Wim Van Dooren, KU Leuven, Belgium

Discussant

Xenia Vamvakoussi, University of Ioannina, Greece

Constructing Fraction Concepts as Reorganization of Whole Number Concepts

Ron Tzur, University of Colorado Denver, United States

Assessing and teaching intuitive fraction magnitude sense using touchscreen devices

Frank Reinhold, Technical University of Munich, Germany; Stefan Hoch, Technical University of Munich, Germany; Bernhard Werner, Technical University of Munich, Germany; Jürgen Richter-Geber, Technical University of Munich, Germany; Kristina Reiss, Technische Universität München (TUM), Germany

Perceptions of Rational Number Magnitudes

Percival Matthews, University of Wisconsin - Madison, United States; Edward Hubbard, University of Wisconsin-Madison, United States

Training induced modulation of brain activation during fraction magnitude processing

Korbinian Moeller, Leibniz-Institut für Wissensmedien, Germany; Silke Maria Bieck, LEAD Graduate School, Germany; Johannes Blöchl, Leibniz-Institut für Wissensmedien (IWM), Germany; Manuel Ninaus, Leibniz-Institut für Wissensmedien, Germany; Kristian Kiili, Tampere University of Technology, Finland; Julia Bahnmüller, Leibniz-Institut für Wissensmedien (IWM), Germany; Elise Klein, Leibniz-Institut für Wissensmedien (IWM), Germany

Session D: 9

Time: 08:30-10:00

Location: Seminar Room - S01

SINGLE PAPER: COMPUTER-ASSISTED LEARNING**Chair**

Helen Jossberger, University of Regensburg, Germany

"Hands-on, mind off": Can demonstration further improve learning from a novel animation design?

Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France; Richard Lowe, Curtin University, Australia; Marie Lefils, University of Dijon, LEAD-CNRS, France; Marine Léveillé, University of Dijon, LEAD-CNRS, France

Animation improve Highway Code Rules learning in deaf candidates

Sebastien Laurent, IFSTTAR, France; Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France; Stéphane Argon, University of Dijon, LEAD-CNRS, France; Laurence Paire-Ficout, IFSTTAR, France

Wait a second! Learning from multiple choice questions with an opportunity for recall

Gesa van den Broek, Utrecht University, Netherlands; Liesbeth Kester, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Multimedia learning in dyslexia: an eye tracking study on learning processes and outcomes

Carolien A. N. Knoop-van Campen, Radboud University Nijmegen, Netherlands; Eliane Segers, Radboud University Nijmegen / University of Twente, Netherlands; Ludo Verhoeven, Radboud University Nijmegen, Netherlands

Session D: 10

Time: 08:30-10:00

Location: Seminar Room - S10

SINGLE PAPER: COMPETENCIES IN HIGHER EDUCATION**Chair**

Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal

Measuring Prospective Teachers' Non-Cognitive Characteristics Using Multiple Mini Interviews

Riitta-Leena Metsapelto, University of Jyväskylä, Finland; Jukka Utriainen, University of Jyväskylä, Finland; Joona Muotka, University of Jyväskylä, Finland; Anna-Maija Poikkeus, University of Jyväskylä, Finland

Clumping of peer-assessment grades: Is comparative judgement an alternative for rubrics rating?

Liesje Coertjens, Université catholique de Louvain (UCL), Belgium; Quentin Hody, Université catholique de Louvain (UCL), Belgium; Florence Van Meenen, Université catholique de Louvain (UCL), Belgium; Marie-Claire Van Nes, Université catholique de Louvain (UCL), Belgium; Franck Verschuren, Université catholique de Louvain (UCL), Belgium

Students' presentation self-efficacy and its relations with teaching behavior

Marco Schickel, Berlin School of Economics and Law, Germany; Tobias Ringeisen, Berlin School of Economics and Law, Germany

Fostering the Comprehension and Evaluation of Informal Scientific Arguments

Hannes Muenchow, University of Würzburg, Germany; Tobias Richter, University of Würzburg, Germany; Sebastian Schmid, University of Regensburg, Germany

Session D: 11

Time: 08:30-10:00

Location: Seminar Room - S09

SINGLE PAPER: READING COMPREHENSION**Chair**

Ariane S. Willems, University of Goettingen, Germany

Interleaving promotes coherence construction while learning with expository texts

Roman Abel, University of Kassel, Germany; Matthias Mai, Leibniz University of Hannover, Germany; Martin Haenze, University of Kassel, Germany

Simple View of Reading Made Complex by Morphological Decoding Fluency in Young L2 Readers of English

Dongbo Zhang, University of Exeter, United Kingdom

Does Reading Comprehension Affect German and Taiwanese Students' Mathematical Problem Solving?

Janina Krawitz, University of Münster, Germany; Stanislaw Schukajlow, University of Münster, Germany; Yu-Ping Chang, National Taiwan Normal University, Taiwan; Kai-Lin Yang, National Taiwan Normal University, Taiwan

Testing the Validity of Score Interpretations of Standardized Reading Comprehension Tests

Daniel Dinsmore, University of North Florida, United States; John White, University of North Florida, United States

Session D: 12

Time: 08:30-10:00

Location: Seminar Room - S04

SINGLE PAPER: ARGUMENTATION**Chair**

Yiannis Georgiou, Cyprus University of Technology, Cyprus

Measuring argumentation skills of upper-elementary students

Alina Reznitskaya, Montclair State University, United States; Ian Wilkinson, The University of Auckland, New Zealand

Epistemic cognition in argumentation. Taking a walk on the interpsychological plane

Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile; Martín Vergara Wilson, Pontificia Universidad Católica de Chile, Chile; Macarena Sanhueza Céspedes, Pontificia Universidad Católica de Chile, Chile; María Josefa Smart Torrealba, Pontificia Universidad Católica de Chile, Chile; María Rosa LISSI, Pontificia Universidad Católica de Chile, Chile

Learner Preferences for Collaboration Scripts. Impact on Argumentation, Acceptance and Attitude

Armin Weinberger, Saarland University, Germany; Thomas Puhl, Saarland University, Germany; Rola Sayegh, Saarland University, Germany

Pre-Post-Study on Argumentation and Political Judgement in Civic Education within Language Skills

Sabine Manzel, Universität Duisburg-Essen, Germany; Claudia Luft, Fak. für Gesellschaftswissenschaften / Institut für Politikwissenschaft / Didaktik der Sozialwissenschaften, Germany

Session D: 13

Time: 08:30-10:00

Location: Seminar Room - S06

SINGLE PAPER: INSTRUCTIONAL DESIGN

Chair

Venance Timothy, Ludwig-Maximilians-Universität (LMU), Tanzania, United Republic of

Designing a Multimedia Training to Understand Electric Circuits: Modality & Prior Knowledge Effects

Bernhard Ertl, Universität der Bundeswehr München, Germany; Andras Csanadi, Bundeswehr University Munich, Germany; Bianca Watzka, Ludwig-Maximilians-Universität (LMU), Germany; Christoph Hoyer, Ludwig-Maximilians-Universität (LMU), Germany; Raimund Girwidz, Ludwig-Maximilians-Universität (LMU), Germany

Individual preparation for collaborative learning: systematic review and synthesis

Stephan Mende, TU Dresden, Germany; Antje Proske, TU Dresden, Germany; Susanne Narciss, TU Dresden, Germany

The influence of the perceived instructional quality on the acceptance and use of an online course

Charlotte Larmuseau, KU Leuven, Belgium; Piet Desmet, KU Leuven KULAK, Belgium; Fien Depaepe, KU Leuven, Belgium

How computational thinking and scientific reasoning are taught in schools: a systematic review

Marjaana Veermans, University of Turku, Finland; Jenni Airola, University of Turku, Department of Teacher Education, Finland; Teemu Leinonen, Aalto University, Finland; Linda Mannila, Linköping University, Sweden

Session D: 14

Time: 08:30-10:00

Location: Seminar Room - S15

SINGLE PAPER: MATHEMATICS AND MOTIVATION

Chair

Nele Kampa, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Effects of enjoyment and anxiety on strategy use and performance in mathematics

Stanislaw Schukajlow, University of Münster, Germany; Judith Blomberg, University of Münster, Germany; Johanna Rellensmann, University of Münster, Germany

Individual interest and learning in secondary school mathematics and science context

Erkka Laine, University of Turku, Finland; Marjaana Veermans, University of Turku, Finland; Koen Veermans, University of Turku, Finland; Andreas Gegenfurtner, University of Passau, Germany

Math anxiety changes in response to math task, difficulty, and learning

Kelly Trezise, University of Chicago, United States; Robert Reeve, University of Melbourne, United Kingdom; Lindsey Richland, University of California Irvine, United States

“Good” or “well calculated”? Effects of feedback on performance and self-concept of preschoolers

Valerie Berner, Catholic University of Eichstaett-Ingolstadt, Germany; Frank Niklas, University of Augsburg, Germany; Robin Segerer, University of Basel, Switzerland; Eva Oesterlen, Catholic University of Eichstaett-Ingolstadt, Germany; Katja Seitz-Stein, Catholic University of Eichstaett-Ingolstadt, Germany

Session D: 15

Time: 08:30-10:00

Location: Seminar Room - S12

SINGLE PAPER: DEVELOPMENT OF EARLY NUMERICAL COMPETENCIES

Chair

Janina Lehmann, Ulm University, Germany

The role of spontaneous focusing on Arabic number symbols in early mathematical development

Bert De Smedt, KU Leuven - University of Leuven, Belgium; Sanne Rathé, KU Leuven, Belgium; Joke Torbeyns, KU Leuven, Belgium; Lieven Verschaffel, KU Leuven, Belgium

Cognitive Markers of Exceptionally High and Low Mathematical Performance in Preschoolers

Merel Bakker, KU Leuven - University of Leuven, Belgium; Joke Torbeyns, KU Leuven, Belgium; Lieven Verschaffel, KU Leuven, Belgium; Bert De Smedt, KU Leuven - University of Leuven, Belgium

Finger numeral representations contribute to acquiring number semantics in 4-year-old children

Josetxu Orrantia, University of Salamanca, Spain; Rosario Sanchez, University of Salamanca, Spain; David Munez, National Institute of Education / Nanyang Technological University, Singapore; Laura Matilla, University of Salamanca, Spain

Writing in the 21st century – global educational discourse about writing

Eva Lindgren, Umeå University, Sweden

Session D: 16

Time: 08:30-10:00

Location: Seminar Room - S11

SINGLE PAPER: POSTHUMAN OPENINGS: PARTICIPATORY METHODOLOGIES AND ETHICAL STRATEGIES IN NORDIC EDUCATION RESEARCH**Chair**

Jessica Summers, University of Arizona, United States

Preschoolers ability and opportunity to participate in environmental inquiries and society

Teresa Elkin Postila, Stockholm University, Sweden

Turning up and down the volume: Ethics and participation in research involving young children

Linnea Bodén, Stockholm University, Sweden

Animalizing education – Multispecies storytelling in examining child-animal relations and care

Riikka Hohti, Manchester Metropolitan University/University of Oulu, Finland

The development of undergraduates' mechanistic explanations of gene environment interaction

Michal Haskel-Ittah, Weizmann Institute of Science, Rehovot, ISRAEL, Israel; Ravit Duncan, Rutgers University, United States; Anat Yarden The Weizmann Institute of Science, Weizmann Institute of Science, Israel

Session D: 17

Time: 08:30-10:00

Location: Seminar Room - S13

SINGLE PAPER: INDIVIDUAL LEARNING IN GROUP-BASED PRESCHOOL SETTINGS**Chair**

Minna Törmänen, University of Applied Sciences of Special Needs Education: Zurich; University of Helsinki, Switzerland

Conditions for individual scaffolding and learning in group-based investigative practices

Hillevi Lenz Taguchi, Stockholm University, Sweden; Anna Palmer, Stockholm University, Sweden; Sofia Frankenberg, Stockholm University, Sweden; Tove Gerholm, Stockholm University, Sweden; Petter Kallionen, Stockholm University, Sweden; Susanne Kjällander, Department of Child and Youth Studies, Sweden; Signe Tonér, Stockholm University, Sweden

Digital Individual Learning for Body & Mind in group based preschool contexts

Sofia Frankenberg, Stockholm University, Sweden; Susanne Kjällander, Department of Child and Youth Studies, Sweden; Hillevi Lenz Taguchi, Stockholm University, Sweden; Anna Palmer, Stockholm University, Sweden; Tove Gerholm, Stockholm University, Sweden; Petter Kallionen, Stockholm University, Sweden; Signe Tonér, Stockholm University, Sweden

Group-based vs. individual teaching & one vs. multiple epistemologies in preschool literacy practice

Lena Aronsson, Stockholm University, Sweden

Are high-IQ students more at risk of school failure?

Ava Guez, Ecole Normale Supérieure, France; Hugo Peyre, Robert Debré Hospital, APHP, France; Marion Le Cam, Direction de l'Evaluation, de la Prospective et de la Performance (DEPP), Ministère de l'Education Nationale, France; Nicolas Gauvrit, Ecole Pratique des Hautes Etudes, France; Franck Ramus, Ecole Normale Supérieure, France

Session D: 18

Time: 08:30-10:00

Location: Seminar Room - S03

SINGLE PAPER: TOMORROW'S MATHEMATICS EDUCATION: THE ROLE OF INSTRUCTION STYLE AND TASK DIFFICULTY**Chair**

Martin J. Tomasik, University of Zurich, Switzerland

Working Memory and Numeracy Intervention for Children with Poor Mathematical Performance

Kerry Lee, The Education University of Hong Kong, Hong Kong; Rebecca Bull, National Institute of Education/Nanyang Technological University, Singapore, Singapore; David Munez, National Institute of Education / Nanyang Technological University, Singapore; Kiat Hui Khng, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Fiona Cheam, Ministry of Education, Singapore; Ridzuan Abd Rahim, Ministry of Education, Singapore

Persistence of the Building Blocks' impact on Ecuadorian children' early numerical abilities

Lieven Verschaffel, KU Leuven, Belgium; Gina Bojorque, KU Leuven, Belgium; Joke Torbeyns, KU Leuven, Belgium; Jo Van Hoof, KU LEUVEN, Belgium

Effects of Mathematics Interventions for Students with Intellectual Disabilities

Susanne Schnepel, Institute of Education, Switzerland; Pirjo Aunio, University of Helsinki, Finland

Thinking with data: Which factors predict successful interpretations of covariation data?

Christopher Osterhaus, Ludwig-Maximilians-Universität (LMU), Germany; Erika Stauss, University of Wisconsin-Madison, United States; Martha W. Alibali, University of Wisconsin-Madison, United States

Session D: 19

Time: 08:30-10:00

Location: Seminar Room - S02

SINGLE PAPER: LEARNING TECHNOLOGIES

Chair

Malin Tväråna, Stockholm University, Sweden

A Display of Agency. Student Teachers as Advisors for an Environmental Learning Centre

Astrid Camilla Wiig, University of South-Eastern Norway, Norway; Magnus Hontvedt, University of Southeastern Norway, Norway

Promoting Collective Cognitive Responsibility through Idea-Friend Maps in Large Class

Xueqi Feng, The University of Hong Kong, China; Jan van Aalst, University of Hong Kong, Hong Kong; Carol Chan, The University of Hong Kong, Hong Kong

Leveraging Theoretical and Methodological Innovations for Supporting Identity Exploration and Change

Aroutis Foster, Drexel University, United States; Mamta Shah, Drexel University, United States; Amanda Barany, Drexel University, United States; Hamideh Talafian, Drexel University, United States; Mark Petrovich, Drexel University, United States

Topic Modeling of Pre-Service Teachers' Computational Thinking Reflections

Maria Cutumisu, University of Alberta, Canada; Qi Guo, University of Alberta, Canada

Session D: 20

Time: 08:30-10:00

Location: Lecture Hall - H05

SINGLE PAPER: SECONDARY EDUCATION

Chair

Enrico Postiglione, University of Modena & Reggio Emilia, Italy

Characteristics and effectiveness of a summer school for secondary education

Sandy Verbruggen, KU Leuven, Centre for Instructional Psychology and -Technology (Vesaliusstraat 2, 3000 Leuven), Belgium; Joke Torbeyns, KU Leuven, Belgium; Fien Depaepe, KU Leuven, Belgium; Bieke De Fraine, KU LEUVEN, Belgium

How Instructional Experiences Shape Climate Perceptions in Science Classrooms: An Exploratory Study

Jose Felipe Martinez, University of California, Los Angeles, United States; Jonathan Schweig, RAND Corporation, United States

Steps towards a more inclusive education system: A case study in Flanders

Aster Van Mieghem, University of Antwerp, Belgium; Karine Verschueren, KU Leuven, Belgium; Katja Petry, KU LEUVEN, Belgium; Elke Struyf, University of Antwerp, Belgium

Epistemology and social identity in history teachers' experiences with teaching sensitive issues

Geerte M. Savenije, University of Amsterdam, Netherlands; Bjorn Wansink, Utrecht University, Netherlands; Albert Logtenberg, Amsterdam University of Applied Sciences, Netherlands

Session E: 1

Time: 10:15-11:45

Location: Lecture Hall - H06 - Amazon Hörsaal

INVITED SESSION: MEET THE EARLI JOURNAL EDITORS

Chair

Äli Leijen, University of Tartu, Estonia

Discussant

Äli Leijen, University of Tartu, Estonia

Learning and Instruction

Lars-Erik Malmberg, University of Oxford, United Kingdom

Educational Research Review

Hans Gruber, University of Regensburg, Germany

Frontline Learning Research

Thomas Martens, Medical School Hamburg, Germany

EARLI Book Series New Perspectives on Learning and Instruction

Mien Segers, Maastricht University, Netherlands

Session E: 2

Time: 10:15-11:45

Location: Lecture Hall - H10

INVITED SESSION: INTERACTIVE LEARNING ENVIRONMENTS THAT SUPPORT COGNITIVE, EMOTIONAL AND IDENTITY DEVELOPMENT**Chair**

Sandra Racionero-Plaza, Universidad Loyola Andalucía, Spain

Discussant

Rocio Garcia-Carrion, University of Lleida, Spain

Interactive Learning Environments in Special Schools

Silvia Molina Roldán, Universitat Rovira i Virgili, Spain

The role of peer interactions in the prevention of gender violence among adolescents

Sandra Racionero-Plaza, Universidad Loyola Andalucía, Spain; Ana Vidu, University of Deusto, Spain; Lidia Puigvert, University of Barcelona, Spain

Dialogic Gatherings in teacher education: affordances for pre-service teachers' identity formation

NEREA GUTIERREZ FERNANDEZ, University of Deusto, Spain; Rocio Garcia-Carrion, University of Lleida, Spain; Andrea Khalfaoui, University of Deusto, Spain; Beatriz Villarejo, University of Deusto, Spain

The language of desire towards non-violent relationships in Dialogic Literary Gatherings

Garazi Lopez de Aguilera, University of Barcelona, Spain

Session E: 3

Time: 10:15-11:45

Location: Lecture Hall - H09

INVITED SESSION: MEASURING STUDENTS' SOCIAL PARTICIPATION: INNOVATING THE FIELD WITH BEHAVIORAL DATA**Chair**

Nadine Spörer, University of Potsdam, Germany

Discussant

Alexander Minnaert, University of Groningen, Netherlands

Using RFID technology to measure social interactions: A journey towards a real time social network

Thorsten Henke, Faculty of Humanities, Germany; Timon Elmer, ETH Zürich, Switzerland; Christoph Stadtfeld, ETH Zurich, Switzerland

Two examples of RFID research and the potential for applying RFID devices in educational settings

Julia Eberle, Ruhr-Universität Bochum, Germany; Christoph Stadtfeld, ETH Zurich, Switzerland; Timon Elmer, ETH Zürich, Switzerland; Thorsten Henke, Faculty of Humanities, Germany

Beyond mere counting: How experience sampling can help to understand social interactions

Carmen Zurbriggen, University of Bielefeld, Germany; Christian Huber, University of Wuppertal, Germany

Applicability of ESM in school: Quality of students' social interaction

Margarita Knickenberg, University of Bielefeld, Germany; Chantal Hinni, University of Fribourg, Switzerland; Carmen Zurbriggen, University of Bielefeld, Germany

Session E: 4

Time: 10:15-11:45

Location: Lecture Hall - H08

INVITED SESSION: ACHIEVEMENTS IN MEASURING AND SUPPORTING STUDENT'S SELF-REGULATED LEARNING IN LEARNING TECHNOLOGIES**Chair**

Sanna Järvelä, University of Oulu, Finland

Organiser

Inge Molenaar, Radboud University Nijmegen, Netherlands

Discussant

Roger Azevedo, University of Central Florida, United States

Progress in research on regulation in collaborative learning – triangulation of multimodal data

Sanna Järvelä, University of Oulu, Finland

Progress in Research on Data Analytics Techniques for Self-Regulated Learning

Dragan Gasevic, Monash University, Australia

Process Mining Techniques to analyse Temporal Data of Self-Regulated Learning

Maria Bannert, Technical University of Munich (TUM), Germany

Visualization of learning processes to reveal students' self and socially shared regulation

Inge Molenaar, Radboud University Nijmegen, Netherlands

Session E: 5

Time: 10:15-11:45

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

INVITED SESSION: TEACHING FOR CONCEPTUAL CHANGE-IN SEARCH FOR LEARNING ENVIRONMENTS TO TACKLE THE NATURAL NUMBER BIAS**Chair**

Jo Van Hoof, KU Leuven, Belgium

Organisers

Wim Van Dooren, KU Leuven, Belgium; Jo Van Hoof, KU Leuven, Belgium

Discussant

Andreas Obersteiner, University of Education Freiburg, Germany

Tackling the natural number bias – A comparative textbook analysis

Wim Van Dooren, KU Leuven, Belgium; Konstantinos Christou, University of Western Macedonia, Greece; Fien Depaepe, KU Leuven, Belgium; Matthew Inglis, Loughborough University, United Kingdom; Saku Määttä, University of Turku, Finland; Jake McMullen, University of Turku, Finland; Andreas Obersteiner, University of Education Freiburg, Germany; Patricia Heck Ribeiro, University of Education Freiburg, Germany; Jo Van Hoof, KU Leuven, Belgium; Maria Triandafyllou, University of Ioannina, Greece; Xenia Vamvakoussi, University of Ioannina, Greece; Lieven Verschaffel, KU Leuven, Belgium; Gerald Wittmann, University of Education Freiburg, Germany; Beth Woollacott, Loughborough University, United Kingdom

Increasing Primary Teachers' Fraction Understanding by Decreasing the Natural Number Bias

Tobias Hell, University of Innsbruck, Austria, Austria; Florian Stampfer, Department of Subject-Specific Education, Austria

Using refutational text to remedy the Multiplication Makes Bigger misconception

Konstantinos Christou, University of Western Macedonia, Greece; Argyro Prokopou, National and Kapodistrian University of Athens, Greece

Training adaptivity with rational numbers: The development of NanoRoboMath

Tomi Kärki, University of Turku, Finland; Jake McMullen, University of Turku, Finland; Erno Lehtinen, University of Turku, Finland

Session E: 6

Time: 10:15-11:45

Location: Lecture Hall - H11

SYMPOSIUM: BEYOND GRADE POINT AVERAGE: CONCEPTUALIZATION AND MEASUREMENT OF LEARNING GAINS IN HIGHER EDUCATION**Chair**

Jan Vermunt, Eindhoven University of Technology, Netherlands

Organisers

Edith Braun, Justus-Liebig-Universität Giessen, Germany; Jan Vermunt, Eindhoven University of Technology, Netherlands

Discussant

Johannes Bauer, University of Erfurt, Germany

Conceptualisation and Assessment of communication skills as learning gains in higher education

Edith Braun, Justus-Liebig-Universität Giessen, Germany; Ulrike Schwabe, DZHW - German Centre for Research on Higher Education and Science Studies, Germany; Daniel Klein, University of Kassel, Germany

Assessing and providing feedback on cognitive and non-cognitive skills in the transition to HE

Lien Demulder, KU LEUVEN, Belgium; Elisabeth Roels, Ghent University, Belgium; Jordi Heeren, KU LEUVEN, Belgium; Jonas Willems, University of Antwerp, Belgium; Wouter Duyck, Ghent University, Belgium; Lieve dewachter, KU Leuven, Belgium; Sofie Vispoel, Arteveldehogeschool, Belgium; Marlies Lacante, Faculty Psychology and Educational Sciences, Belgium; Vincent Donche, University of Antwerp, Belgium

Learning gain across disciplines in selective universities

Sonia Ilie, University of Cambridge, United Kingdom; Ashton Brown, University of Cambridge, United Kingdom; Jan Vermunt, Eindhoven University of Technology, Netherlands

Measuring learning gains: University students' epistemic profiles and their conceptions of learning

Kirsti Lonka, University of Helsinki, Finland; Elina E. Ketonen, University of Helsinki, Finland; Jan Vermunt, Eindhoven University of Technology, Netherlands

Session E: 7

Time: 10:15-11:45

Location: Lecture Hall - H07

SYMPOSIUM: TEACHER-STUDENT RELATIONSHIPS FOR AT-RISK CHILDREN**Chair**

Tessa Weyns, KU Leuven, Belgium

Organiser

Debora Roorda, University of Amsterdam, Netherlands

Discussant

Karine Verschueren, KU Leuven, Belgium

Connecting home and school relationships: Child self-control as a linking mechanism?

Tiago Ferreira, University of Porto, Portugal; Joana Cadima, University of Porto, Portugal; Marisa Matias, University of Porto, Portugal; Teresa Leal, University of Porto, Portugal; Paula Mena Matos, University of Porto, Portugal

Teacher perceptions of gifted children and possible moderators: An experimental study

Tessa Weyns, KU Leuven, Belgium; Franzis Preckel, University of Trier, Germany; Svenja Matheis, Koblenz-Landau University, Germany; Karine Verschueren, KU Leuven, Belgium

Racial/ethnic differences in teacher-child relationships in early elementary school

Kathleen Rudasill, Virginia Commonwealth University, United States; Paul Dizon, University of Nebraska-Lincoln, United States; Colin McGinnis, University of Nebraska-Lincoln, United States; Kenji Madison, University of Nebraska-Lincoln, United States

Relationships between Teachers and Students With Autism Spectrum Disorder and Students' Engagement

Debora Roorda, University of Amsterdam, Netherlands; Marjolein Zee, University of Amsterdam, Netherlands; Helma Koomen, University of Amsterdam, Netherlands

Session E: 8

Time: 10:15-11:45

Location: Lecture Hall - H05

SYMPOSIUM: STUDENTS' READING MOTIVATION: INFLUENCING FACTORS AND EFFECTS**Chair**

Chantal Lepper, Center for Research on Education and School Development, Germany

Organisers

Chantal Lepper, Center for Research on Education and School Development, Germany; Justine Stang, TU Dortmund University, Germany; Nele McElvany, TU Dortmund University, Germany

Discussant

Maik Philipp, University of Teacher Education Zurich, Switzerland

Students' interest in reading dependent on gender and text characteristics: an experimental study

Chantal Lepper, Center for Research on Education and School Development, Germany; Justine Stang, TU Dortmund University, Germany; Nele McElvany, Center for Research on Education and School Development (IFS), Germany

The role of HLE in Children's Reading Motivation across Preschool and First Grade

Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland

Reciprocal effects of reading motivation, reading amount and reading comprehension in middle school

Kristjan K. Stefansson, Independent scholar, Iceland; Freyja Birgisdóttir, University of Iceland, Iceland; Steinunn Gestsdóttir, University of Iceland, Iceland; Hafdis Guðrún Hilmarsdóttir, University of Iceland, Iceland

Effectiveness of interventions that foster reading motivation: A meta-analysis

Roel van Steensel, Erasmus University Rotterdam, Netherlands; Lisa van der Sande, Vrije Universiteit Amsterdam, Netherlands; Lidia Arends, Erasmus Universiteit Rotterdam, Netherlands; Suzanne Fikrat-Wevers, Erasmus University Rotterdam, Netherlands

Session E: 9

Time: 10:15-11:45

Location: Seminar Room - S01

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT AND WORKPLACE LEARNING**Chair**

Trinidad Garcia, University of Oviedo, Spain

Finnish teachers' professional development on interacting with pupils

Lais Oliveira Leite, University of Eastern Finland, Finland; Wooryeon Go, University of Eastern Finland, Korea, Republic of; Sari Havu-Nuutinen, University of Eastern Finland, Finland

Teachers' perspectives on professional development: a focus group study at three Dutch universities

Margje W.J. van de Wiel, Maastricht University, Netherlands; Esther de Ponti, Tilburg University, Netherlands; Kathleen Schlusmans, Open University the Netherlands, Netherlands

Teacher educators' work contexts, basic needs satisfaction, and their research disposition

Hanne Tack, Ghent University, Belgium; Ruben Vanderlinde, Ghent University, Belgium

Teachers' career entry motivations: A comparative study from India, Spain, Finland, and England

Sindu George, Monash University, Australia; Gloria Gratacos, C.U. Villanueva, Spain; Jaana Viljaranta, University of Eastern Finland, Finland; John Thornby, University of Warwick, United Kingdom; Ilpo Jappinen, University of Eastern Finland, Finland; Jingoo Kang, University of Eastern Finland, Finland; David Mendez, University of Villanueva, Spain; Graciela Salazar, University of Villanueva, Spain

Session E: 10

Time: 10:15-11:45

Location: Seminar Room - S13

SINGLE PAPER: ACHIEVEMENT, EDUCATIONAL PSYCHOLOGY AND MOTIVATION AND EMOTION**Chair**

Ching-Shu Chen, Tainan University of Technology, Taiwan

Influences of Perfectionism on New Zealand University Students' Self-Perceptions and Performance

Valerie Sotardi, University of Canterbury, NZ, New Zealand

Exploring changes in student-teacher agreement on goal structures

Lisa Bardach, University of York, Department of Education, United Kingdom; Takuya Yanagida, University of Vienna, Austria; Barbara Schober, University of Vienna, Austria; Marko Lüftenegger, University of Vienna, Austria

Being an Emerging Engineer in Biology Courses: Future Oriented Value, Belongingness, and Achievement

Jenefer Husman, University of Oregon, United States; Matthew Graham, University of Oregon, United States; Cameron Hecht, University of Wisconsin-Madison, United States; Bobbie Bermudez, University of Oregon, United States; Mengfan Zhai, University of Oregon, United States; Judith Harackiewicz, University of Wisconsin-Madison, United States

Implementing intelligence facets as predictors into the generalised I/E model

Jennifer Hausen, University of Luxembourg, FLSHASE, Luxembourg; Jens Möller, University of Kiel, Germany; Samuel Greiff, University of Luxembourg, Luxembourg; Christoph Niepel, University of Luxembourg, Luxembourg

Session E: 11

Time: 10:15-11:45

Location: Seminar Room - S03

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION

Chair

Raija Hamalainen, University of Jyväskylä, Finland

Validating a Simulation-Based Learning Environment Measuring Biology Teachers' Professional Vision

Maria Kramer, Ludwig-Maximilians-Universität Munich, Germany; Julia Stürmer, Ludwig-Maximilians-Universität Munich, Germany; Christian Förtsch, Ludwig-Maximilians-Universität Munich, Germany; Sonja Förtsch, Ludwig-Maximilians-Universität Munich, Germany; Birgit J. Neuhaus, Ludwig-Maximilians-Universität Munich, Germany

Challenges, socio-emotional expressions and emotion regulation in collaborative Learning

Piia Naykki, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland; Tiina Törmänen, University of Oulu, Finland; Jaana Isohätälä, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland

To debate or to play a conflict? Development of sociocognitive conflicts in two teaching strategies

Macarena Sanhueza Céspedes, Pontificia Universidad Católica de Chile, Chile; Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile; María Josefa Smart Torrealba, Pontificia Universidad Católica de Chile, Chile; Martín Vergara Wilson, Pontificia Universidad Católica de Chile, Chile; María Rosa Lissi, Pontificia Universidad Católica de Chile, Chile

Student perceptions toward flipped Classroom: the role of the teacher

Camila Barahona, Pontificia Universidad Católica de Chile, Chile; Miguel Nussbaum, Pontificia Universidad Católica de Chile, Chile; Alejandra Meneses, Pontificia Universidad Católica de Chile, Chile; Maximiliano Montenegro, Facultad de Educación, Pontificia Universidad Católica de Chile, Chile; Macarena Santana, Pontificia Universidad Católica de Chile, Chile; Isabel Hilliger, Pontificia Universidad Católica de Chile, Chile

Session E: 12

Time: 10:15-11:45

Location: Seminar Room - S05

SINGLE PAPER: METACOGNITION

Chair

Laure Kloetzer, Institute of Psychology & Education, Switzerland

Improving calibration accuracy with outcome feedback: a longitudinal study

Marloes Nederhand, Erasmus University Rotterdam, Netherlands; Huib Tabbers, Erasmus University Rotterdam, Netherlands; Joran Jongerling, Erasmus University Rotterdam, Netherlands; Remigius (Remy) Rikers, UCR / Utrecht University, Netherlands

Mixed Methods? A comparison of different Judgments and Indicators for Metacomprehension

Simone Goppert, University of Bamberg, Germany; Maximilian Pfost, University of Bamberg, Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany; Nora Neuenhaus, University of Bamberg, Germany

The Effect of Self-Regulated Learning Interventions on Achievement: a Meta-Analysis

Renee Jansen, Utrecht University, Netherlands; Anouschka van Leeuwen, Utrecht University, Netherlands; Jeroen Janssen, Utrecht University, Netherlands; Liesbeth Kester, Utrecht University, Netherlands

How much impact does growth mindset have on course grades?

Jose Luis Suarez-Garcia, Colorado State University, United States; Ani Aghababayan, McGraw-Hill Education, United States; Neil Zimmerman, McGraw-Hill Education, United States; Sean Burns, Colorado State University, United States

Session E: 13

Time: 10:15-11:45

Location: Seminar Room - S02

SINGLE PAPER: WORKPLACE AND LIFELONG LEARNING

Chair

Anu Tammeleht, University of Helsinki, Estonia

Emerging directions in research on lab capacity strengthening for drug-resistant infections in LMICs

Koula Charitonos, The Open University UK, United Kingdom; Allison Littlejohn, Open University, United Kingdom; Tim Seal, The Open University, United Kingdom, United Kingdom

Expertise related misconceptions and weaknesses in medical knowledge; a review

Els Boshuizen, Open University of the Netherlands, Netherlands; Kosala N. Marambe, University of Peradeniya, Sri Lanka

Self-regulated professional learning: insights from a longitudinal field-study in clinical practice

Katrien Cuyvers, University of Antwerp, Belgium; Piet Van den Bossche, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium

Transforming campus learning landscapes - Building common ground through a service design process

Caj Niclas Sandström, University of Helsinki, Finland; Anne Nevgi, University of Helsinki, Finland

Session E: 14

Time: 10:15-11:45

Location: Seminar Room - S04

SINGLE PAPER: MISCONCEPTIONS**Chair**

Nina Kolley, Freie Universität Berlin, Germany

Processes and earthquakes - investigating Swedish students' conceptions and relational thinking

Mattias Arrhenius, Department of humanities and social science education, Sweden; Cecilia Lundholm, Stockholm University, Sweden; Gabriel Bladh, Karlstad University, Sweden

Students' explanations of river landforms and processes: a framework theory perspective

Rod Lane, Macquarie University, Australia

Reducing Reliance on Misinformation through Psychoeducation and an Error Marking Task

Steffen Gottschling, Leibniz-Institut für Wissensmedien (IWM), Germany; Yvonne Kammerer, Leibniz-Institut für Wissensmedien (IWM), Germany

Science students' noticing of appropriate frames

Tobias Fredlund, University of Oslo, Sweden; Erik Knain, University of Oslo, Norway

Session E: 15

Time: 10:15-11:45

Location: Seminar Room - S06

SINGLE PAPER: LEARNING IN HIGHER EDUCATION**Chair**

Jori Beck, Old Dominion University, United States

Practising Fiercely: Lifting Teacher Fulfilment through Stance, Supports and Stamina

Wendy Holley-Boen, Massey University, New Zealand

Shaping PhD students teaching conceptions through the interplay of formal and informal learning

Mari Karm, University of Tartu, Estonia; Triinu Soomere, University of Tartu, Estonia

The contemporary function of the student voice in higher education: exploring the Chilean case

Stephen Darwin, Universidad Alberto Hurtado, Chile

Pre-service teacher research in intended, implemented and attained curriculum of teacher education

Lidewij van Katwijk, NHL-Stenden / University of Groningen, Netherlands; Ellen Jansen, University of Groningen, Netherlands; Klaas van Veen, University of Groningen, Netherlands

Session E: 16

Time: 10:15-11:45

Location: Seminar Room - S11

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS IN HIGHER EDUCATION**Chair**

Timo Leuders, University of Education Freiburg, Germany

Advancing peer assessment in higher education [ASSET: Erasmus+ co-funded project]

Dorit Alt, Kinneret College on the Sea of Galilee, Israel; Nirit Raichel, Kinneret College on the Sea of Galilee, Israel

Using Learning Analytics to Identify Efficient Indicators for Grading Group Essays

Mei-Shiu Chiu, National Chengchi University, Taiwan; Ya Ping (Amy) Hsiao, Tilburg University, Netherlands

Co-regulated learning in dialogic peer feedback

Qiyun Zhu, Guangdong University of Foreign Studies, China

Assessment of reasoning skills at the beginning of higher education studies

Attila Pásztor, MTA-SZTE Research Group on the Development of Competencies, Hungary; Erzsébet Korom, University of Szeged, MTA-SZTE Science Education Research Group, Hungary; Gyongyver Molnar, University of Szeged, Hungary

Session E: 17

Time: 10:15-11:45

Location: Seminar Room - S12

SINGLE PAPER: EMOTION AND AFFECT

Chair

Martin J. Tomasik, University of Zurich, Switzerland

A Structural Model of the Relationship among Meta-Affect, Self-Efficacy, and Science Achievement

Esen Uzuntiryaki Kondakci, Middle East Technical University, Turkey; Zubeyde Demet Kirbulut, Harran University, Turkey

How mistakes can benefit learning

Nicholas Garnett, Keele University, United Kingdom; Yvonne Skipper, Keele University, United Kingdom

When emotion regulation emerges in collaboration? - Relation to valence and physiological arousal

Hanna Jarvenoja, University of Oulu, Finland; Tiina Törmänen, University of Oulu, Finland, Finland; Kristiina Kurki, University of Oulu, Finland

Anxiety and Hope Interact with Regulation Strategies close to an Exam

Anna-Lena Rottweiler, Augsburg University, Germany; Ulrike Nett, Augsburg University, Germany

Session E: 18

Time: 10:15-11:45

Location: Seminar Room - S15

SINGLE PAPER: MOTIVATION AND EMOTION

Chair

Miriam Losse, Saxion University of Applied Sciences, Netherlands

Testing the Gap Hypothesis: Longitudinal Relations between Digital Engagement and School Engagement

Lauri Hietajärvi, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland; Kai Hakkarainen, University of Helsinki, Finland; Kirsti Lonka, University of Helsinki, Finland

Exploring Goal Complexes: Achievement Goals, Reasons for Performance Goals, and Emotional Correlates

Jeannine Turner, Florida State University, United States; Jinjushang Chen, Florida State University, United States; Juhee Kim, Florida State University, United States

Motivation co-construction: How students build group-level motivation in collaborative learning

Kayley Lyons, Monash University, Australia

Effects of an intervention on personal and social competences of adolescents

Dölf Looser, Institut für Professionsforschung & Kompetenzentwicklung, Switzerland

Session E: 19

Time: 10:15-11:45

Location: Seminar Room - S07

SINGLE PAPER: TEACHING AND LEARNING IN STUDENT-CENTRED LEARNING ENVIRONMENTS

Chair

Victoria Johansson, Lund University, Sweden

Student hesitancy to active participation in student-centred learning environments

Monika Nerland, University of Oslo, Norway

Perceptions of quality feedback- depending on contextual factors?

Trine Fosslund, Center for teaching, learning and technology, Norway; Odd Rune Stalheim, Inland Norway University of Applied Sciences, Norway; Rachelle Esterhazy, University of Oslo, Norway

Law students' perceptions of legal reasoning

Anne Haarala-Muhonen, University of Helsinki, Finland; Heidi Hyytinen, University of Helsinki, Finland; Tarja Tuononen, University of Helsinki, Finland

Pedagogical designs fostering student engagement in group-based learning

Crina Damsa, University of Oslo, Norway; Anne Line Wittek, University of Oslo, Faculty of Education, Norway

Session E: 20

Time: 10:15-11:45

Location: Seminar Room - S14

SINGLE PAPER: AT-RISK STUDENTS AND HIGHER EDUCATION**Chair**

Baerbel Fuerstenau, TU Dresden, Germany

Master students' experiences of using Design Thinking for solving an authentic challenge

Ebba Berggren, The Royal Institute of Technology (KTH), Sweden; Maria Weurlander, The Royal Institute of Technology (KTH), Sweden; Niall Seery, Athlone Institute of Technology, Ireland

Influence of Media Consumption during Studies on University Dropout Rates

Hans Anand Pant, Humboldt Universität zu Berlin, Germany; Judith Jitomirski, Humboldt-University Berlin, Germany; Carla Kühling-Thees, Johannes Gutenberg-Universität Mainz, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Jasmin Schlax, Johannes Gutenberg-Universität, Germany; Roland Happ, Johannes Gutenberg University Mainz, Germany; Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany

The role of social support in students' transition to university: The case of problem-based learning

Patrick Bijsmans, Maastricht University, Netherlands; Jeanine de Bruin, Maastricht University, Netherlands; Afke Groen, Maastricht University, Netherlands

Online education as an effective solution to integrate refugees into higher education

Roland Happ, Johannes Gutenberg University Mainz, Germany; Franziska Reinhardt, Johannes Gutenberg-Universität Mainz, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Tobias Deribo, Johannes Gutenberg Universität Mainz, Germany; Sarah Nell-Müller@uni-mainz.de, Johannes Gutenberg Universität Mainz, Germany

Session E: 21

Time: 10:15-11:45

Location: Seminar Room - S09

SINGLE PAPER: MATHEMATICS AND NEUROSCIENCE**Chair**

Signe Tonér, Stockholm University, Sweden

The neural correlates of numerical order processing and their relationship to arithmetic performance

Stephan Vogel, University of Graz, Austria; Gerrit Sommerauer, Karl-Franzens-Universität Graz, Austria; Karl-Heinz Graß, University College of Teacher Education Styria, Austria; Roland H. Grabner, University of Graz, Austria

Neural correlates of number mapping in elementary school children

Courtney Pollack, Massachusetts Institute of Technology, United States; Anila D'Mello, Massachusetts Institute of Technology, United States; Dayna Wilmot, Massachusetts Institute of Technology, United States; Isabelle Frosch, Massachusetts Institute of Technology, United States; Rachel Romeo, Massachusetts Institute of Technology, United States; Andrea Imhof, Massachusetts Institute of Technology, United States; Karolina Wade, Massachusetts Institute of Technology, United States; Jimmy Capella, Massachusetts Institute of Technology, United States; Tracy Centanni, Massachusetts Institute of Technology, United States; Kelly Halverson, Massachusetts Institute of Technology, United States; John D. E. Gabrieli, Massachusetts Institute of Technology, United States; Joanna A. Christodoulou, MGH Institute of Health Professions; Massachusetts Institute of Technology, United States

Congruency and gap effects in fraction comparison by expert young adults

David Maximiliano Gomez Rojas, Universidad de O'Higgins, Chile; Pablo Dartnell, Universidad de Chile, Chile

Improving performance in proportional reasoning by reducing the interference of natural numbers

Reuven Babai, Tel Aviv University, Israel; Eldad Cohen, Tel Aviv University, Israel; Ruth Stav, Tel Aviv University, Israel

Session E: 22

Time: 10:15-11:45

Location: Seminar Room - S16

SINGLE PAPER: ACHIEVEMENT, EMOTION AND AFFECT**Chair**

Jeffrey DeVries, Technical University of Dortmund, Germany

Are Concepts of Achievement Emotions Universal Across Cultures? A Semantic Profiling Approach

Kristina Loderer, Ludwig-Maximilians-Universität (LMU), Germany; Kornelia Gentsch, Akademie für Psychotherapie Erfurt, Germany; Melissa Duffy, University of South Carolina, United States; Mingjing Zhu, CAS Key Laboratory of Behavioral Science, Institute of Psychology, P. R. China, China; Xiyao Xie, Research Team of Behavior Change & Patient Engagement, Philips Research China, China; Jason Andres Chavarria, University of Antioquia, Colombia; Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU), Germany; Elisabeth Vogl, Ludwig-Maximilians-Universität (LMU), Germany; Klaus R. Scherer, Ludwig-Maximilians-Universität (LMU), Germany; Johnny J. R. Fontaine, Ghent University, Belgium; Cristina Soriano Salinas, University of Geneva, Switzerland

Performing during a presentation: The role of self-efficacy, enjoyment, and cortisol

Tobias Ringeisen, Berlin School of Economics and Law, Germany; Tobias Eckart, Goethe-Universität Frankfurt am Main, Germany; Wubamlak Endale, Goethe-Universität Frankfurt am Main, Germany; Kristina Klug, Goethe-Universität Frankfurt am Main, Germany; Marco Schickel, Berlin School of Economics and Law, Germany; Sonja Rohrmann, Goethe-Universität Frankfurt am Main, Germany

Better grades through better planning? Achievement goals, goal planning effort, and exam performance

Martin Greisel, University of Augsburg, Germany; Martin Daumiller, University of Augsburg, Germany

Learning by doing

Esther Odilia Breuer, Universität zu Köln/ University of Cologne, Germany

Session E: 23

Time: 10:15-11:45

Location: Seminar Room - S10

SINGLE PAPER: ACHIEVEMENT**Chair**

Ayelet Becher, Ben-Gurion University of the Negev, Israel

Is generating oral explanations more effective than writing explanations? Text difficulty matters

Leonie Jacob, Leibniz-Institut für Wissensmedien (IWM), Germany; Andreas Lachner, University of Tübingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Exploring the culture of motivated persistence for Chinese graduate students

Karen NGEOOW, The University of Hong Kong, Hong Kong; Yoon San Kong, CCGSS, Hong Kong

Development of calculation, word problem solving and reading comprehension skills from grades 3 to 9

Kaja Mädamürk, Tallinn University, Estonia; Eve Kikas, Tallinn University, Estonia; Piret Soodla, Tallinn University, Estonia

The impact of heterogeneity on students' development using different heterogeneity measures

Stefanie Dotzel, University of Mannheim, Germany; Karina Karst, University of Mannheim, Germany; Natalie Foerster, University of Münster, Germany; Elmar Souvignier, University of Münster, Germany; Karin Hebbeker, University of Münster, Germany

Session F: 1

Time: 12:00-13:30

Location: Lecture Hall - H11

SIG INVITED SYMPOSIUM: POTENTIALS OF SIMULATIONS ACROSS PROFESSIONS**Chair**

Helen Jossberger, University of Regensburg, Germany

Organiser

Helen Jossberger, University of Regensburg, Germany

Discussant

Andreas Rausch, University of Mannheim, Germany

Expanding Apprentices' Experiences in the Digital World

Catharine Oertel, École polytechnique Fédérale de Lausanne (EPFL), Switzerland; Kevin Kim, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Jennifer K. Olsen, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Pierre Dillenbourg, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Authenticity, role-play and simulation: In-scenario corrections in maritime training

Charlott Sellberg, University of Gothenburg, Sweden; Hans Rystedt, University of Gothenburg, Sweden

How participating in a role-play simulation contributes to students' self-efficacy development

Dorothy Duchatelet, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium; Peter Bursens, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium; Pieter Spooren, University of Antwerp, Belgium

Simulation as Assessment Tool for Mountain Rescuers (Non-)Technical Skills

Stefan Hanus, University of Regensburg, Germany; Helen Jossberger, University of Regensburg, Germany; Michael Scheumann, University of Regensburg, Germany; Hans Gruber, University of Regensburg, Germany

Session F: 2

Time: 12:00-13:30

Location: Lecture Hall - H08

SIG INVITED SYMPOSIUM: SCARY AND EXCITING! EMOTIONAL AND MOTIVATIONAL FACTORS IN LEARNING FROM MULTIMEDIA DOCUMENTS**Chair**

Mireille Betrancourt, University of Geneva, Switzerland

Organisers

Alexander Eitel, University of Freiburg, Germany; Janina Lehmann, Ulm University, Germany

Discussant

Ulrike Nett, Augsburg University, Germany

The hunt for elusive 'emotional design' elements in instructional multimedia: The Czech case.

Cyril Brom, Charles University, Czech Republic; Vít Šisler, Faculty of Arts, Charles University, Czech Republic; Tereza Hannemann, Charles University, Faculty of Mathematic and Physics, Czech Republic

Emotional Design and Video-Based Learning: situational Interest as a mediator for persistence

Alexander Eitel, University of Bamberg, Germany; Tino Endres, University of Freiburg, Germany; Steffen Weyreter, University of Freiburg, Institute of Psychology, Germany; Alexander Renkl, University of Freiburg, Germany

The relationship of achievement goal orientations and multiple document comprehension

Cornelia Schoor, University of Bamberg, Germany; Carolin Hahnel, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Nina Mahlov, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Ulf Kroehne, DIPF, Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany

When a Picture may Not be Worth a 1000 Words: Emotional Aversive Pictures in Multimedia Learning

Tim Köhl, University of Mannheim, Germany; Stefan Münzer, Universität Mannheim, Germany

Session F: 3

Time: 12:00-13:30

Location: Seminar Room - S01

SYMPOSIUM: SUPPORT TEACHERS WITH THE CHALLENGES OF TECHNOLOGY-INTEGRATION**Chair**

Andreas Lachner, University of Tübingen, Germany

Organiser

Iris Backfisch, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany

Discussant

Dominik Petko, University of Zurich, Institute of Education, Switzerland

Technology in teacher education? A profile analysis of Turkish teacher educators

Jo Tondeur, Vrije Universiteit Brussel, Belgium; Müge Adnan, Muğla Sıtkı Koçman University, Turkey; Ronny Scherer, University of Oslo, Norway

Effects of Teachers' Professional Competence on Technology-Enhanced Teaching Quality

Iris Backfisch, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany; Andreas Lachner, University of Tübingen, Germany; Christoff Hische, University of Tuebingen, Germany; Frank Loose, University of Tuebingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Using scripts to enhance pre-service teachers' technology-related reasoning skills

Christina Wekerle, University of Augsburg, Germany; Ingo Kollar, University of Augsburg, Germany

Simulation practice using real actors: Changing teachers' beliefs about technology integration

Bracha Kramarski, Bar-Ilan University, Israel; Yafitt Moradot, Bar Ilan University, Israel

Session F: 4

Time: 12:00-13:30

Location: Seminar Room - S11

SINGLE PAPER: MOTIVATION IN TEACHING AND INSTRUCTION**Chair**

Lara Forsblom, ISPA - Instituto Universitário de Ciências Psicológicas, Sociais e da Vida, Portugal

On the Relation between Students' Intrinsic Reading Motivation and Book Reading

Franziska Locher, Otto-Friedrich-University of Bamberg, Germany; Sarah Becker, Otto-Friedrich-University of Bamberg, Germany; Maximilian Pfost, University of Bamberg, Germany

Do instructions to make a drawing and strategic knowledge affect drawing use and math performance?

Johanna Rellensmann, University of Münster, Germany; Stanislaw Schukajlow, University of Münster, Germany; Claudia Leopold, University of Fribourg, Switzerland

Reading attitude and text difficulty affect gains from 1:1 reading instruction in primary school

Suzanne Mol, Leiden University, Netherlands; Christine Espin, Leiden University, United States

Continuous professional development on reading for newly qualified teachers: A mixed-method approach

Iris Vansteelandt, AP University College/Ghent University, Belgium; Suzanne Mol, Leiden University, Netherlands; Hilde Van Keer, Ghent University, Belgium

Session F: 5

Time: 12:00-13:30

Location: Seminar Room - S05

SINGLE PAPER: INSTRUCTIONAL DESIGN**Chair**

Hanna Jarvenoja, University of Oulu, Finland

Performing the past? Benefits and challenges of a drama task in history education.

Tessa de Leur, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands; Tim Huijgen, University of Groningen, Netherlands

Drawing Boundaries: Effects of Learner-Generated and Instructor-Provided Illustrations

Logan Fiorella, University of Georgia, United States; Qian Zhang, University of Georgia, United States

Extending Productive Failure to a Non-STEM Domain: Testing the Effect on Learning Social Sciences

Valentina Nachtigall, Ruhr University Bochum, Germany; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany; Katja Serova, Ruhr University Bochum, Institute of Educational Research, Germany

Generating a Teaching Video at Home: More Effective and Enjoyable than Restudying or Summarizing?

Vincent Hoogerheide, Utrecht University, Netherlands; Joran Visee, Utrecht University, Netherlands; Andreas Lachner, University of Tübingen, Germany; Tamara Van Gog, Utrecht University, Netherlands

Session F: 6

Time: 12:00-13:30

Location: Seminar Room - S15

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION, TEACHING AND TEACHER EDUCATION**Chair**

Julie Moote, University College London, United Kingdom

Occupational embeddedness of early career teachers – the importance of role stress and support

Anita Sandmeier, The Schwyz University of Teacher Education, Switzerland; Julia Mühlhausen, Work and Organizational Psychology, University of Bern, Switzerland; Martin Gubler, Lucerne University of Applied Sciences and Arts, Switzerland

What are the perspectives of expert educators on core practices in foreign language education?

Malba Barahona, Pontificia Universidad Católica de Valparaíso, Chile

Disentangling Task Demands – Preparing Prospective EFL Teachers for Their Future Diagnostic Tasks

Judith Sebastiani, University of Koblenz - Landau, Germany; Ingmar Hosenfeld, University of Koblenz - Landau, Germany

Testing measurement invariance of beginning and advanced student teachers' perceptions of coherence

Katharina Hellmann, University of Education Freiburg, Germany; Jan Henning-Kahmann, University of Education, Freiburg, Germany

Session F: 7

Time: 12:00-13:30

Location: Seminar Room - S16

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Clara Schumacher, University of Mannheim, Germany

Three cycles of teaching to weld: Developing vocational teaching on a scientific basis

Nina Kilbrink, Karlstad University, Sweden; Stig-Börje Asplund, Karlstad University, Sweden

Disciplinary and Multidisciplinary Teacher Learning Communities: Equal Opportunities to Learn?

Adi Mendler, Ben-Gurion University, Israel; Aliza Segal, Ben Gurion University of the Negev, Israel

HUNGARIAN SCIENCE AND MATHEMATICS TEACHERS' PROFESSIONAL DEVELOPMENTAL NEEDS

Gábor Z. Orosz, Doctoral School of Education, University of Szeged; MTA-SZTE Science Education Research Group, Hungary; Davaajav Purejav, Doctoral School of Education, University of Szeged, Hungary; Edit Katalin Molnár, University of Szeged, Hungary

Using PIAAC data to explore the problem-solving skills of adults working in the educational sector

Bram De Wever, Ghent University, Belgium; Raija Hamalainen, University of Jyväskylä, Finland; Kari Nissinen, University of Jyväskylä, Finland; Joonas Mannonen, University of Jyväskylä, Finland

Session F: 8

Time: 12:00-13:30

Location: Lecture Hall - H07

SINGLE PAPER: HIGHER EDUCATION

Chair

Paul Swan, Monash University, Australia

Understanding students' acceptance of educational technology reform: a longitudinal study.

Ine Windey, KU Leuven KULAK, Belgium; Annelies Raes, imec-ITEC-KU Leuven Centre for Instructional Psychology and - Technology, Belgium; Fien Depaepe, KU Leuven, Belgium

Criteria based assessment of teaching qualifications: Issues of validity

Camilla Østerberg Rump, University of Copenhagen, Denmark; Sofie Kobayashi, University of Copenhagen, Denmark

Shared challenges and solutions in digital pedagogy – a case of joint workshop of two teacher groups

Marjaana Veermans, University of Turku, Finland; Essi Ryymin, Häme University of Applied Sciences, Finland; Anne-Maria Korhonen, Hamk University of Applied Sciences, Finland; Jenni Airola, University of Turku, Finland; Jiri Lallimo, University of Turku, Finland; Jukka Niinimäki, Häme University of Applied Sciences, Finland

Socio-Cognitive Openness in Online Knowledge Building: Does Openness keep Conversations Going?

Hennie van Heijst, Aeres University of Applied Sciences, Netherlands; Frank De Jong, Aeres University of Applied Sciences Wageningen & Open University Heerlen, Netherlands; Jan van Aalst, University of Hong Kong, Hong Kong; Natascha de Hoog, Open University the Netherlands, Netherlands; Paul A. Kirschner, Open University of the Netherlands, Netherlands

Session F: 9

Time: 12:00-13:30

Location: Seminar Room - S07

SINGLE PAPER: INQUIRY LEARNING

Chair

Jenefer Husman, University of Oregon, United States

The role of two types of scaffolds in technology-enhanced collaborative inquiry-based learning

Joni Lämsä, University of Jyväskylä, Finland; Raija Hamalainen, University of Jyväskylä, Finland; Pekka Koskinen, University of Jyväskylä, Finland; Jouni Viiri, University of Jyväskylä, Finland; Joonas Mannonen, University of Jyväskylä, Finland

Metacognitive prompts facilitate teachers' reflections on dynamic open inquiry

Michal Zion, Bar Ilan University, Israel; Esther Rimmerman, Bar Ilan University, Israel; Idit Adler, Bar-Ilan University, Israel

The Emergence of Source Evaluation Criteria: A Microgenetic Study

Clark Chinn, Rutgers University, United States; Sarit Barzilai, University of Haifa, Israel

Understanding Climate Change Through Constructive and Example-Based Scaffolds

Sarah Bichler, Ludwig-Maximilians-Universität (LMU), Germany; Sonya Richards, No academic affiliation, Germany; Lisa Hasenbein, Eberhard Karls Universität Tübingen, Germany; Marcia Linn, University of California-Berkeley, United States; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Session F: 10

Time: 12:00-13:30

Location: Lecture Hall - H09

SINGLE PAPER: HIGHER EDUCATION

Chair

Alessia Eletta Coppi, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland

The Impact of Writing and Answering Questions on Study Success

Natalie Enders, Universität Hildesheim, Germany; Sandra Rothenbusch, Institute of Psychology, Technische Universität Braunschweig, Germany

IDENTIFYING UNIVERSITY STUDENTS' STUDY PROFILES

Jukka Utriainen, University of Jyväskylä, Finland; Päivi Tynjälä, University of Jyväskylä, Finland; Eeva Kallio, University of Jyväskylä, Finland; Miika Marttunen, University of Jyväskylä, Finland; Asko Tolvanen, University of Jyväskylä, Finland

University students in the classroom: How faculty contexts interact with student expectations

Samantha Marangell, University of Melbourne, Australia

Targeting efficient studying in higher education – a student perspective

Maria Öhrstedt, Stockholm University, Sweden; Max Scheja, Stockholm University, Sweden

Session F: 11

Time: 12:00-13:30

Location: Lecture Hall - H05

SINGLE PAPER: TEACHING, INSTRUCTION AND ACHIEVEMENT**Chair**

Corinne Wyss, Zurich University of Teacher Education, Switzerland

School Engagement in High Ability Students: Developmental Trajectory and Educational Outcomes

Alicia Ramos, KU Leuven (BE), Belgium; Bieke De Fraine, KU LEUVEN, Belgium; Karine Verschueren, KU Leuven, Belgium

How do students with different learning characteristic profiles perceive teacher feedback?

Ariane S. Willems, University of Goettingen, Germany; Katharina Dreiling, University of Goettingen, Germany

Achievement Emotions and School Transition - Individual and Contextual Determinants

Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany; Simon Meyer, University of Erlangen-Nuremberg, Germany

Exploring connections of learning motives and learning strategies in self-regulated learning

Éva D. Molnár, University of Szeged, Hungary; Edit Tóth, MTA-SZTE Research Group on the Development of Competencies, Hungary

Session F: 12

Time: 12:00-13:30

Location: Lecture Hall - H10

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION AND COMPETENCIES**Chair**

Erica de Vries, Univ. Grenoble Alpes, France

Using case-based e-learning scenarios to enhance PSTs' diagnostic and planning abilities

Sarah Dannemann, Leibniz University Hannover, Institute for Science Education, Germany; Julian Heeg, Leibniz University of Hannover, Institute for Science Education, Germany

Improving student teachers' competence of lesson planning form a vocational education perspective

Matthias Söll, Institute of Vocational Education and Training, Germany

Educating for democracy through intercultural virtual problem-based learning in teacher education.

Christoph Dähling, University of Bonn, Germany; Jutta Standop, Friedrich-Wilhelms-Universität Bonn, Germany

How pre-service teachers define digital literacy – a cross-cultural study

Eva Brante, Malmö University, Sweden; Alexandra List, Penn State University, United States; Holly K. Lee, Georg Mason University, United States

Session F: 13

Time: 12:00-13:30

Location: Seminar Room - S09

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Susan Jones, University of Exeter, United Kingdom

Burnout Risk in Teaching: The Role of Experience, Gender, Self-Efficacy and Mindfulness

Silke Schworm, University of Regensburg, Germany; Helen Jossberger, University of Regensburg, Germany

Changes in educational science research competencies among teachers in further education

Wolfram Rollett, University of Education Freiburg, Germany; Daniel Kittel, University of Education Freiburg, Germany, Germany; Jana Groß Ophoff, Tübingen School of Education, Institut für Erziehungswissenschaft, Germany

Theoretical foundations and teaching quality at universities: What do we measure? What do we know?

Ulrike Schwabe, DZHW - German Centre for Research on Higher Education and Science Studies, Germany; Axel Oberschelp, DZHW Hannover, Germany; Edith Braun, Justus-Liebig-Universität Giessen, Germany

Do competent teachers choose PD activities more frequently? A large-scale study on teacher learning

Eric Richter, University of Potsdam, Germany; Alexandra Marx, Die Deutsche Schulakademie, Germany; Dirk Richter, University of Potsdam, Germany

Session F: 14

Time: 12:00-13:30

Location: Seminar Room - S06

SINGLE PAPER: ASSESSMENT AND EVALUATION**Chair**

Katja Lenz, University of Education Freiburg, Germany, Germany

Implementation of an educational philosophy: A multiple-case study of an evaluation model

Shirley Miedijensky, Oranim Academic College of Education, Shamir Research Institute - University of Haifa, Israel; Irit Sasson, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel

Confidence-based marking for SRL in Secondary Teacher Education: students'voice.

ANA REMESAL ORTIZ, Universitat de Barcelona, Spain; Fátima Vega, Universitat de Barcelona, Spain; Gemma Pérez-Clemente, Universitat de Barcelona, Spain; Mireia Álvarez-Brinquis, Universitat de Barcelona, Spain

Intercultural evidence of a Tablet based executive functions test for children between 7 to 10 years

Ricardo Rosas-Díaz, CEDEti-UC, Chile; Victoria Espinoza, Pontificia Universidad Católica de Chile, Chile; Marion Garolera, Pontificia Universidad Católica de Chile, Chile

Development and validation of the Playgroup Environment Rating Scale (PERS)

Vanessa Russo, University Institute of Lisbon (ISCTE - IUL), Portugal; Clara Barata, University of Coimbra, Portugal; Joana Alexandre, University Institute of Lisbon (ISCTE-IUL), Portugal; Catarina Leitão, University of Coimbra, Portugal; Bruno de Sousa, University of Coimbra, Portugal

Session F: 15

Time: 12:00-13:30

Location: Seminar Room - S14

SINGLE PAPER: EDUCATIONAL EFFECTIVENESS AND QUANTITATIVE METHODS**Chair**

Daniel Muijs, Ofsted, United Kingdom

Evidence for the Design of Cluster-Randomized Intervention Studies on Students' Competencies

Sophie Stallasch, University of Potsdam, Germany; Oliver Lüdtke, Leibniz Institute for Science and Mathematics Education (IPN), Kiel, Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories (LIfBi), Bamberg, Germany; Martin Brunner, University of Potsdam, Germany

The continuing effect of primary school on secondary school achievement.

Melvin Chan, National Institute of Education, Singapore

Comparing Teaching Practice Items across Countries: Using Network Analysis

Jessica Fischer, German Institute for International Educational Research (DIPF), Germany; Jia He, TilbuDIPF, China; Eckhard Klieme, German Institute for International Educational Research (DIPF), Germany

Comparing Teacher self-efficacy in Anglo-Saxon, Nordic and East- & South-East Asian countries

Sina Fackler, LIfBi, Germany

Session F: 16

Time: 12:00-13:30

Location: Seminar Room - S02

SINGLE PAPER: MOTIVATION AND EMOTION**Chair**

Ingeborg Kränge, Kristiania University College, Norway

I'd rather work alone. Insight into students' recovery from teamwork and independent work.

Sigrid Wimmer, University of Graz, Austria; Manuela Paechter, University of Graz, Austria; Ilona Papousek, University of Graz, Austria; Helmut Karl Lackner, Medical University of Graz, Austria

University Instructors' Achievement Goals and Subjective Well-being

Raven Rinas, Augsburg University, Germany; Markus Dresel, University of Augsburg, Germany; Martin Daumiller, University of Augsburg, Germany

Industry-school projects as an aim to foster secondary school students' interest in STEM careers

Robbert Smit, University of Teacher Education St.Gallen, Switzerland; Nicolas ROBIN, Fachdidaktik Naturwissenschaften, Switzerland; Christina De Toffol, University of Teacher Education St.Gallen, Switzerland

Collective efficacy, proxy efficacy, friendship-acquaintance groupings, and group performance

Jose Hanham, Western Sydney University, Australia; John McCormick, University of Wollongong, Australia

Session F: 17

Time: 12:00-13:30

Location: Seminar Room - S10

SINGLE PAPER: ONLINE MEASURES OF LEARNING PROCESSES**Chair**

Tobias Halbherr, Swiss Federal Institute of Technology Zurich / ETH Zurich, Switzerland

Measuring cognitive load during online complex learning

Charlotte Larmuseau, KU Leuven, Belgium; Pieter Vanneste, KU Leuven KULAK, Belgium; Piet Desmet, KU Leuven KULAK, Belgium; Fien Depaepe, KU Leuven, Belgium

How Experts Change Their (Viewing) Behavior When Modeling a Task to Novices

Selina Nadine Emhardt, Welten Institute - Open University of the Netherlands, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Ellen Kok, Utrecht University, Netherlands; Saskia Brand-Gruwel, Open University of the Netherlands, Netherlands; Christian Drumm, Department of Business Studies, Aachen University of Applied Sciences, Germany; Germany; Tamara Van Gog, Utrecht University, Netherlands

Self-report vs. actual strategy use

Daniel Schropp, Ulm University Institute of Psychology and Education, Germany; Silja-Susann Taxis, Ulm University, Germany; Tina Seufert, Ulm University, Germany

Using sequence analysis to gain insight into students' behavior while solving complex problems

Beate Eichmann, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Samuel Greiff, University of Luxembourg, Luxembourg; Liene Brandhuber, Goethe-Universität Frankfurt, Germany; Johannes Naumann, University of Wuppertal, Germany

Session F: 18

Time: 12:00-13:30

Location: Seminar Room - S12

SINGLE PAPER: EDUCATIONAL TECHNOLOGY IN PRIMARY EDUCATION**Chair**

Colin Jevons, Monash Business School, Australia

Learning via embodied learning: Investigating the impact of a digital Vs a non-digital intervention

Yiannis Georgiou, Cyprus University of Technology, Cyprus; Andri Ioannou, Cyprus University of Technology, Cyprus; Panayiotis Kosma, Cyprus University of Technology, Cyprus

Children's self-efficacy beliefs impact the efficiency of game-based learning

Miia Ronimus, Niilo Mäki Institute, Finland; Ritva Ketonen, University of Helsinki, Finland

Single vs. multi-touch interfaces for collaborative learning with tablets

Armin Weinberger, Saarland University, Germany; Lara Johanna Schmitt, Saarland University, Germany; Dimitra Tsovaltzi, Saarland University, Germany

App clusters: Patterns of combined app use and their relation to learning

Sarah Howard, University of Wollongong, Australia; Karl Maton, University of Sydney, Australia

Session F: 19

Time: 12:00-13:30

Location: Seminar Room - S04

SINGLE PAPER: WRITING AND LITERACY**Chair**

Stephanie MacMahon, The University of Queensland, Australia

Partnering with practitioners to raise achievement: Methodological challenges for robust research

Judy M. Parr, University of Auckland, New Zealand; Rebecca Jesson, University of Auckland, New Zealand

Mediating Effects of Writing Achievement Goals on Self-Efficacy and Affect in Secondary School

Buket Akkoyunlu, Çankaya University, Turkey; Meryem Yılmaz Soylu, Independent researcher, Turkey

Handwriting Development of Primary School Students and Teachers' influence on this Process

Peter Falmann, University of Koblenz and Landau, Germany

Understanding Writing-to-Learn – Approaches and Educational Implications

Markus Linnemann, University of Koblenz-Landau, Germany

Session F: 20

Time: 12:00-13:30

Location: Lecture Hall - H06 -
Amazon Hörsaal**SINGLE PAPER: MIXED-METHOD RESEARCH IN HIGHER EDUCATION****Chair**

Mei-Shiu Chiu, National Chengchi University, Taiwan

Just boring or even enjoyable? Students' achievement emotions in higher education courses

Barbara Jacob, Friedrich-Alexander University Nuremberg, Germany; Florian Hofmann, Institute for Educational Science, University of Erlangen-Nuremberg, Germany; Melanie Stephan, University of Erlangen-Nuremberg, Germany; Katharina Fuchs, Institute for Educational Science, University of Erlangen-Nuremberg, Germany; Stefan Markus, University of Wuppertal, Germany; Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany

Dental Medical Students' Competencies for Identifying Anomalies in X-rays: When Do They Develop?

Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany; Thérèse Eder, Leibniz-Institut für Wissensmedien (IWM), Germany; Juliane Richter, Leibniz-Institut für Wissensmedien, Germany; Fabian Hüttig, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery, Germany; Constanze Keutel, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery, Germany

International degree students' perceptions on how the university could enhance their study wellbeing

Viivi Virtanen, University of Helsinki, Finland; Sara Rönkkönen, Aalto-University, Finland; Mikko Inkinen, Aalto University, Finland; Minna Nevala, Aalto University, Finland; Merita Petäjä, Aalto University, Finland

Psychological flexibility and organised studying to lower stress and improve well-being of students

Saku Määttä, University of Turku / Faculty of Education, Finland; Henna Asikainen, University of Helsinki, Finland; Nina Katajavuori, University of Helsinki, Finland

Session G: 1

Time: 13:45-15:15

Location: Lecture Hall - H05

SIG INVITED SYMPOSIUM: INNOVATIVE RESEARCH ON DIGITAL TOOLS AND THEIR USE IN TEACHING AND TEACHER EDUCATION**Chairs**

Annelies Kreis, Zurich University of Teacher Education, Switzerland; Inger Marie Dalehefte, University of Agder, Norway

Discussant

Alicia Alonzo, Michigan State University, United States

POSSIBILITIES, CHALLENGES AND RESTRICTIONS OF AUGMENTED REALITY IN TEACHER EDUCATION

Corinne Wyss, Zurich University of Teacher Education, Switzerland; Wolfgang Bühner, Zurich University of Teacher Education, Switzerland

SUPPORTING FORMATIVE PEER-FEEDBACK ON LEARNING-STRATEGY USE BY A DIGITAL TOOL

Anika Bürgermeister, University of Leipzig, Germany; Inga Glogger-Frey, University of Freiburg, Germany; Henrik Saalbach, University of Leipzig, Germany

CONNECTING THEORY AND PRACTICE IN TEACHER EDUCATION BY MEANS OF OBSERVATION SOFTWARE

Aleksandra Lazareva, University of Agder, Norway; Peter Mathisen, University of Agder, Norway; Kari Midtsund Nordbø, University of Agder, Norway

RETHINKING THE ROLE OF BROKERS – DUTCH EDUCATIONAL POLICY IN THE TWITTERVERSE

Martin Rehm, Pädagogische Hochschule Weingarten, Germany; Frank Cornelissen, University of Amsterdam, Netherlands; Alan Daly, University of California, San Diego, United States; Jonathan Supovitz, University of Pennsylvania, United States

Session G: 2

Time: 13:45-15:15

Location: Lecture Hall - H07

SIG INVITED SYMPOSIUM: WRITING RESEARCH FROM DIFFERENT PERSPECTIVES**Chair**

Guido Nottbusch, University of Potsdam, Germany

Organiser

Guido Nottbusch, University of Potsdam, Germany

Discussant

Eva Lindgren, Umeå University, Sweden

The relationship between executive functions and writing in elementary-school children

Teresa Limpo, University of Porto, Portugal; Marisa Filipe, University of Porto, Portugal; Sofia Magalhães, University of Porto, Portugal; Carolina Cordeiro, University of Porto, Portugal; Andreia Veloso, University of Porto, Portugal; Andreia Nunes, University of Porto, Portugal; Thierry Olive, CNRS & Université de Poitiers, France; São Luís Castro, University of Porto, Portugal

Where do writers pause in orthographically awkward words?

Guido Nottbusch, University of Potsdam, Germany

Effectivity of Writing Interventions: for theory and practice

Gert Rijlaarsdam, University of Amsterdam, Netherlands; Liselore van Ockenburg, University of Amsterdam, Netherlands; Anouk ten Peze, University of Amsterdam / Kennemer Lyceum Overveen, Netherlands; Tanja Janssen, Universiteit van Amsterdam, Netherlands; Daphne van Weijen, University of Amsterdam, Netherlands

Writing with Writers

Debra Myhill, University of Exeter, United Kingdom

Session G: 3

Time: 13:45-15:15

Location: Lecture Hall - H09

SYMPOSIUM: CHARACTERISTICS AND COMORBIDITY OF MATHEMATICAL LEARNING DIFFICULTIES**Chair**

Airi Hakkarainen, University of Eastern Finland, Finland

Organiser

Airi Hakkarainen, University of Eastern Finland, Finland

Discussant

Annamie Desoete, Ghent University / Artevelde University College, Belgium

Individual Variation in Mathematics Performance: Behavioral and Cognitive Profiles

Marije Huijsmans, Radboud University, Behavioural Science Institute, Netherlands; Tijs Kleemans, Behavioural Science Institute (BSI), Radboud University, Netherlands; Evelyn Kroesbergen, Behavioural Science Institute (BSI), Radboud University, Netherlands

Subtypes of mathematical learning difficulties in adolescent students

Johan Korhonen, Åbo Akademi University, Finland; Pekka Räsänen, Niilo Mäki Institute, Finland

Comorbidity of reading and mathematics learning difficulties: The working memory deficit profiles

Sha Tao, Beijing Normal University, China

Cognitive characteristics of children with mathematical learning disabilities: A meta-analysis

Ilona Friso-van den Bos, University of Twente, Netherlands; Tijs Kleemans, Behavioural Science Institute (BSI), Radboud University, Netherlands; Evelyn Kroesbergen, Behavioural Science Institute (BSI), Radboud University, Netherlands

Session G: 4

Time: 13:45-15:15

Location: Lecture Hall - H08

SYMPOSIUM: PROMOTING REFLECTION AT THE WORKPLACE: HOW TO SUPPORT TOMORROW'S PROFESSIONALS**Chair**

Dominik Petko, University of Zurich, Institute of Education, Switzerland

Organiser

Karen Könings, Maastricht University, Netherlands

Discussant

Tina Seidel, Technische Universität München (TUM), Germany

How peers, supervisors and patients support reflection of medical residents, but also hinder it

Karen Könings, Maastricht University, Netherlands; Serge Mordang, Maastricht University, FHML, Dept. of Educational Research and Development, Netherlands; Eline Vanassche, University of East London, Cass School of Education and Communities, United Kingdom; Frank W. J. M. Smeenk, Maastricht University, Netherlands; Laurents P. S. Stassen, Maastricht University, Netherlands

In-Service Teacher Video Coaching: from Design to Impact – A Systematic Review

Sara van der Linden, University of Twente, Netherlands; Jan van der Meij, University of Twente, Netherlands; Susan McKenney, University of Twente, Netherlands

Reflection with Mobile Technologies: Case studies on using the Metapholio App in Teacher Education

Dominik Petko, University of Zurich, Institute of Education, Switzerland; Laura Müller, Schwyz University of Teacher Education, Switzerland; Regina Schmid, Schwyz University of Teacher Education, Switzerland; Michael Hielscher, Pädagogische Hochschule Schwyz, Switzerland

Modelling and Supporting Teachers' Technology-Integration with a Self-Monitoring Reflection Tool

Iris Backfisch, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany; Andreas Lachner, University of Tübingen, Germany; Kathleen Stürmer, University of Tübingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Session G: 5

Time: 13:45-15:15

Location: Lecture Hall - H11

SYMPOSIUM: TEACHERS' AND PARENTS' SOCIAL ROLE FOR STUDENTS' WELL-BEING AND EMOTIONS IN SCHOOL**Chairs**

Tina Hascher, University of Bern, Switzerland; Dave Putwain, Liverpool John Moores University, United Kingdom

Discussant

Simone Volet, Murdoch University, Australia

Teachers may be more important for student emotions in class than we thought

Tim Mainhard, Utrecht University, Netherlands; V. Sophie Oudman, Utrecht University, Department of Education, Netherlands; Lisette Hornstra, Utrecht University, Netherlands; Roel J. Bosker, University of Groningen, Netherlands; Thomas Goetz, University of Konstanz, Germany

Does warning less engaged students about likely failure make them any more engaged?

Dave Putwain, Liverpool John Moores University, United Kingdom

The role of teacher justice and error culture for alienation from teachers

Tina Hascher, University of Bern, Switzerland; Julia Morinaj, University of Bern, Switzerland

The Impact of the Home Learning Context on Students' Well-being, Motivation, and Emotion

Barbara Otto, Psychology, University of Landau, Germany; Stephanie Reuter, University of Koblenz-Landau, Department of Developmental and Educational Psychology, Germany

Session G: 6

Time: 13:45-15:15

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: UNDERSTANDING TEACHERS' CHANGE TRAJECTORIES AND PERSPECTIVES IN TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Ann-Kathrin Schindler, Technische Universität München (TUM), Germany

Discussant

Maaïke Endedijk, University of Twente, Netherlands

Multi-perspective case study on changing beliefs and teacher practice during a training programme

Matthias Zimmermann, University of Fribourg, Switzerland; Miriam Moser, University of Fribourg, Switzerland; Anke Wischgoll, University of Fribourg (CH), Switzerland; Kurt Reusser, University of Zurich, Switzerland; Christine Pauli, University of Fribourg, Switzerland

Understanding teachers' learning zones and change trajectories in teacher professional development

Ann-Kathrin Schindler, Technische Universität München (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany; Ricardo Böheim, Technical University of Munich, Germany; Maralena Pielmeier, Technical University of Munich (TUM), Germany; Maximilian Knogler, Technical University of Munich (TUM), Germany; Martina Alles, Technische Universität München (TUM), Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany

Teachers' learning trajectory in the Lesson Study context

Jan Vermunt, Eindhoven University of Technology, Netherlands; Maria Vrikkki, University of Cyprus, Cyprus; Paul Warwick, University of Cambridge, United Kingdom; Paul Dudley, University of Cambridge, United Kingdom

Examining teachers' perspectives on learning to facilitate argumentation

Alina Reznitskaya, Montclair State University, United States; Ian A.G. Wilkinson, University of Auckland, New Zealand

Session G: 7

Time: 13:45-15:15

Location: Lecture Hall - H10

SYMPOSIUM: PURSUING CAREERS BEYOND ACADEMIA: MOTIVATIONS, CHALLENGES, AND TRAJECTORIES**Chair**

Isabelle Skakni, Lancaster University and University of Applied Sciences and Arts Western Switzerland, United Kingdom

Discussant

Lynn McAlpine, University of Oxford, McGill University, Canada

Moving on: HASS PhD graduates negotiating motivations, aspirations and employment outcomes

Isabelle Skakni, Lancaster University and University of Applied Sciences and Arts Western Switzerland, United Kingdom; Cally Guerin, University of Adelaide, Australia

PhD holders' transitions towards unconventional professional contexts

Andrea Galimberti, University of Milano Bicocca Italy, Italy

Non-academic careers for PhDs in the Netherlands

Inge Van der weijden, Leiden University, Netherlands; Christine Teelken, VU University Amsterdam, Netherlands

PhD holders entering non-academic sectors: A culture shock

Isabelle Skakni, Lancaster University and University of Applied Sciences and Arts Western Switzerland, United Kingdom; Kelsey Inouye, University of Oxford, United Kingdom; Lynn McAlpine, University of Oxford, McGill University, Canada

Session G: 8

Time: 13:45-15:15

Location: Seminar Room - S02

POSTER PRESENTATION: INSTRUCTIONAL DESIGN

Chair

Sindu George, Monash University, Australia

How does the camera perspective in instructional videos affect learning?

Dennis Berse, Deutsches Institut für Erwachsenenbildung, Germany; Martin Merkt, Deutsches Institut für Erwachsenenbildung (DIE), Germany

Gaze display interpretation: Can a teacher read a learner's mind?

Ellen Kok, Utrecht University, Netherlands; Margot van Wermeskerken, Erasmus Medical Center, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Ignace Hooze, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Using EEG and eye-tracking as process measures to study the effects of pictorial seductive details

Christian Scharinger, Leibniz-Institut für Wissensmedien, Germany

Does perceived task appropriateness of the task for the model affect learning from video examples?

Tim van Marlen, Utrecht University, Netherlands; Vincent Hoogerheide, Utrecht University, Netherlands; Larissa den Boer, Utrecht University, Netherlands; Margot van Wermeskerken, Erasmus Medical Center, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Effects of an Instructional Approach on enhancing Pre-service Teachers' Diagnostic Competence

Venance Timothy, Ludwig-Maximilians-Universität (LMU), Tanzania, United Republic of; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany; Raimund Girwidz, Ludwig-Maximilians-Universität-München, Germany; Matthias Stadler, Ludwig-Maximilians-Universität-München, Germany; James Slotta, Boston College, United States

Uncovering experts' knowledge on improvisational expertise: The Radio Jazz Research Case.

Iwan Wopereis, Open University of the Netherlands, Netherlands

Session G: 9

Time: 13:45-15:15

Location: Seminar Room - S03

POSTER PRESENTATION: TECHNOLOGY-ENHANCED LEARNING

Chair

Candice Guy-Gaytán, University of Nevada, Reno, United States

Effects of guidance on learning and motivation in a remote laboratory

Anja Hawlitschek, Magdeburg-Stendal University of Applied Sciences, Germany; Sebastian Zug, Otto-von-Guericke-University Magdeburg, Germany

Convergence in co-design: Development and Effects of a Graphical Educational Modelling Language.

Armin Weinberger, Saarland University, Germany; Allison Kolling, Universität des Saarlandes, Germany

How do personalized visualizations influence students self-regulated learning?

Inge Molenaar, Radboud University Nijmegen, Netherlands; Anne Horvers, Behavioural Science Institute, Radboud University Nijmegen, Netherlands; Ryan Baker, University of Pennsylvania, United States

Exploring Classroom Dynamics in a University Setting: A Multilevel Modelling Approach

Fred H. F. Chan, The University of Hong Kong, Hong Kong; Allan H. K. Yuen, The University of Hong Kong, Hong Kong; Qiyue Li, The University of Hong Kong, Hong Kong; Edmund Y. Lam, The University of Hong Kong, Hong Kong; Vincent W. L. Tam, The University of Hong Kong, Hong Kong

Automatic generation of dynamic areas of interest in eye tracking: The case of software engineering

Rebecca Reuter, OTH Regensburg, Germany; Tobias Langer, FAU Erlangen-Nürnberg, Germany; Florian Hauser, Regensburg University of Applied Sciences, Germany; Daniel Muckelbauer, Regensburg University of Applied Sciences, Germany; Andreas Gegenfurtner, University of Passau, Germany; Jürgen Mottok, Regensburg University of Applied Sciences, Germany

Montessori and learning in the digital age – literature and innovative materials

Saskia Wedel, Alanus Hochschule, Germany

Session G: 10

Time: 13:45-15:15

Location: Seminar Room - S09

POSTER PRESENTATION: EXPERIMENTAL STUDIES

Chair

Laura Kerslake, University of Cambridge, UK, United Kingdom

The effect of font size on children's reading time, comprehension and meta-comprehension

Vered Halamish, Bar-Ilan University, Israel; Yomit Balaish, Bar-Ilan University, Israel

Take Lead of your Future: Female Pupils in Secondary Education and Impact of an Empowerment Program

Lonneke de Meijer, Erasmus University Rotterdam, Netherlands; Gabriela Koppenol-Gonzalez Marin, Erasmus University Rotterdam, Netherlands; Sabine Severiens, Erasmus University Rotterdam, Netherlands

Does Reading Medium Really Matter?

Shiyu Liu, Ocean University of China, China

Effect of Simultaneous/Sequential Documents Presentation on Interaction Strategies and Comprehension

Caroline Leroy, Leibniz Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany; Yvonne Kammerer, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany; Uwe Oestermeier, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany; Peter Gerjets, Leibniz-Institut für Wissensmedien (IWM) | Knowledge Media Research Center, Germany

Measuring metacognitive competences in text comprehension at secondary school

Catharina Tibken, University of Würzburg, Germany; Nicole von der Linden, University of Würzburg, Germany; Sandra Schmiedeler, University of Würzburg, Germany; Wolfgang Schneider, University of Würzburg, Germany; Tobias Richter, University of Würzburg, Germany

The role of strategy knowledge in Fifth graders' reading: Evidence from a guided interview protocol.

Julie Ayroles, University of Poitiers, France; Jean-François Rouet, University of Poitiers, France; Mônica Macedo-Rouet, University of Paris 8, France; Christine Ros, University of Poitiers, France; François Gouëlle, University of Poitiers, France; Anna Potocki, University of Poitiers, France

Session G: 11

Time: 13:45-15:15

Location: Seminar Room - S16

POSTER PRESENTATION: EDUCATIONAL TECHNOLOGY

Chair

Tove Gerholm, Stockholm University, Sweden

Tracking geometry learning in the AR environment

Fang-Ying Yang, National Taiwan Normal University, Taiwan; Chia-Hui Cheng, National Taiwan Normal University, Taiwan; Kausal Kumar Bhagat, Indian Institute of Technology, Kharagpur, India; Wei-Kai Liu, National Taiwan Normal University, Taiwan; Meng-Jung Tsai, National Taiwan Normal University, Taiwan

Teachers' Diagnostic Support System: Dealing with Individual Differences in Vocational Schools

Tobias Kaerner, University of Konstanz, Germany; Julia Isabella Warwas, University of Goettingen, Germany; Stephan Schumann, University of Constance, Germany

ACADEMIC EMOTIONS IN VIRTUAL REALITY LEARNING: DO PRESENCE AND PRIOR KNOWLEDGE REALLY WORK?

Diego Oswaldo Camacho Vega, UNIVERSIDAD AUTONOMA DE BAJA CALIFORNIA, Mexico; Bianca Fox, University of Wolverhampton, United Kingdom

The Effects of Virtual Reality Learning on Task Value and Learning Strategy

Juming Jiang, Doshisha University Graduate School of Psychology, Japan; Ryo Ishii, Doshisha University, Japan; Ayumi Tanaka, Doshisha University, Japan

Can we augment an expert? Enhancing professional training with sensors and augmented reality

bibeg limbu, Open University of the Netherlands, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Roland Klemke, Open University of the Netherlands, Netherlands; Marcus Specht, Open University of the Netherlands, Netherlands

EFFECT OF EXPERT ANNOTATIONS ON APPRENTICES GAZE PATTERNS AND VERBALIZATIONS

Alessia Eletta Coppi, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Alberto Cattaneo, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Catharine Oertel, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Pierre Dillenbourg, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Session G: 12

Time: 13:45-15:15

Location: Seminar Room - S10

POSTER PRESENTATION: SCIENCE EDUCATION

Chair

Hedwig Gasteiger, Osnabrück University, Germany

Reflecting about science and one's own knowledge limits through explaining scientific issues

Nina Vaupotič, University of Münster, Germany; Dorothe Kienhues, University of Münster, Germany; Regina Jucks, WWU Münster, Germany

Meta-analysis of Learning from Hypermedia: Surprising Effects on Knowledge, Inferences, and Transfer

Jennifer Cromley, University of Illinois at Urbana-Champaign, United States; LuEttMae Lawrence, University of Illinois at Urbana-Champaign, United States

Development of students' epistemic beliefs profiles across secondary school

Andrea Bernholt, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Nele Kampa, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Maria Lindfors, Umeå University, Sweden; Peter Edelsbrunner, ETH Zurich, Switzerland

Fixed and faded reflection with feedback model: Which is the most effective for improving HOTS?

Metri Dian Insani, KU LEUVEN Belgium, Universitas Negeri Malang Indonesia, Indonesia; Marion Crauwels, KU LEUVEN, Belgium; Nathalie Charlier, KU LEUVEN, Belgium; Patrick Vandijck, KU LEUVEN, Belgium

Interplay of individual confrontation and collaborative success on learning science conceptions

Sarah Hundertmark, Leibniz University of Hannover, Institute for Science Education, Germany; Julian Heeg, Leibniz University of Hannover, Institute for Science Education, Germany; Sascha Schanze, Leibniz Universität Hannover, Germany

Promoting Scientific Creative Thinking Using Two Models of Self-Regulated Learning

Avigail Cohen, Bar Ilan University, Israel; Tova Michalsky, Bar-Ilan University, Israel

Session G: 13

Time: 13:45-15:15

Location: Seminar Room - S14

POSTER PRESENTATION: STUDENT LEARNING

Chair

Paul Ginns, The University of Sydney, Australia

Does ICT Matter for Student Learning Activities in Mathematics Instruction?

Xian Cheng, University of Tübingen, Germany; Tim Fütterer, University of Tübingen, Germany; Kathleen Stürmer, University of Tübingen, Germany; Benjamin Caspar Fauth, University of Tübingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

How eye read and learn: A social network approach

Leen Catrysse, University of Antwerp, Belgium; Roos Van Gasse, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium

Student perception of learning through a pedagogical scenario in a university class in education

Celine Girardet, University of Geneva, Switzerland; Lucie Mottier Lopez, University of Geneva, Switzerland; Andrés Gomez, University of Geneva, Switzerland

The relationship between students' approaches to learning, self-efficacy and study-related burnout

Telle Hailikari, University of Helsinki, Finland; Nina Katajavuori, University of Helsinki, Finland; Henna Asikainen, University of Helsinki, Finland; Ilona Södervik, University of Helsinki, Finland

Effects of a stress-management intervention on students in higher education

Natalie Peters, Faculty of Business and Economics (TU Dresden), Germany; Baerbel Fuerstenau, TU Dresden, Germany

Studying personal learning environments: an instrumentation and its potential for learner autonomy

Joris Felder, University of Fribourg, Switzerland

Session G: 14

Time: 13:45-15:15

Location: Seminar Room - S07

POSTER PRESENTATION: COGNITIVE DEVELOPMENT

Chair

Julia Eberle, Ruhr-Universität Bochum, Germany

The Effect of Response Styles – A Binational Study

Nele Kampa, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Gavin Fulmer, College of Education, University of Iowa, United States; Carl Abel-Herrmann, American Association for the Advancement of Science (AAAS), Washington DC, United States; Cory Forbes, College of Arts and Science, University of Nebraska-Lincoln, United States

The Cognitive Diagnosis Analysis of Performance in Mathematical Literacy Assessment

Su-Wei Lin, National University of Tainan, Taiwan; Chia-Huang Chen, National Taichung University of Education, Taiwan; Ching-Shu Chen, Tainan University of Technology, Taiwan; Yun Hsia Pai, National Tsing Hua University, Taiwan

Children's Executive Function Development in a Classroom Context: Does Children's Agency Matter?

Janina Eberhart, University of Cambridge, UK, United Kingdom; Hayley Gains, University of Cambridge, UK, United Kingdom; Sara Baker, Faculty of Education, United Kingdom

Does poverty harm? Effects of parental income on early vocabulary development

Claudia Karwath, Otto-Friedrich-University of Bamberg, Germany; Manja Attig, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Jutta von Maurice, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Sabine Weinert, University of Bamberg, Germany

Technology based assessment of phonological awareness for kindergarteners

Renáta Kiss, MTA-SZTE Research Group on the Development of Competencies, Hungary; Dóra Mokri, University of Szeged Faculty of Science and Informatics, Hungary

A Framework for the Statistical Modeling of Conceptual Change in Science

Peter Edelsbrunner, ETH Zurich, Switzerland

Session G: 15

Time: 13:45-15:15

Location: Seminar Room - S01

POSTER PRESENTATION: TEACHING AND INSTRUCTION

Chair

Ann Dowker, University of Oxford, United Kingdom

Student heterogeneity in vocational schools from the perspective of teachers

Julian Klaus, Otto-Friedrich-University of Bamberg, Germany

The challenge of valuing diversity: individual feedback situations in inclusive settings

Amelie Hirsch, University of Education Freiburg, Germany; Saskia Opalinski, University of Potsdam, Germany

Are teachers ready for effective cooperation at university museum: projects at Lomonosov MSU

Marina Pikulenko, Lomonosov Moscow State University, Russian Federation; Lyudmila Popova, Lomonosov Moscow State University, Russian Federation

Using Technology to Teach Writing: Planning of a Systematic Review and Meta-analysis

Andreia Nunes, University of Porto, Portugal; Teresa Limpo, University of Porto, Portugal; São Luís Castro, University of Porto, Portugal

Pre-service Primary School Teachers' Preparation for Team-Teaching in Inclusive Schools

Fabian Hoya, Paderborn University, Germany; Marwin Felix Löper, Paderborn University, Germany; Jan R. Schulze, Paderborn University, Germany; Theresa Mester, Paderborn University, Germany; Alexander Kirsch, Paderborn University, Germany; Eva Blumberg, University of Paderborn, Germany; Susanne Schwab, University of Vienna & North-West University, Vanderbijlpark, South Africa, Austria; Frank Hellmich, Paderborn University, Germany

Vocational education teachers' perceptions of pedagogical practices applying collaborative learning

Anni Silvola, University of Oulu, Finland, Finland; Piia Naykki, University of Oulu, Finland; Hanni Muukkonen, University of Oulu, Finland

Session G: 16

Time: 13:45-15:15

Location: Seminar Room - S04

POSTER PRESENTATION: TEACHING AND INSTRUCTION

Chair

Dagmar Festner, University of Paderborn, Germany

Pupils' fixed mindsets: Influences of teachers' fixed-ability practices and beliefs

Pia Kreijkes, University of Cambridge, United Kingdom; Ros McLellan, Cambridge University, United Kingdom

Coherence in teacher education – A conceptual analysis and clarification of a comprehensive term

Uta Wagener-Praed, University of Oldenburg, Germany; Juliane Schlesier, University of Oldenburg, Germany; Barbara Moschner, Carl von Ossietzky Universität Oldenburg, Germany

Teaching and Learning in Freedom-Based Learning Environments: A Systematic Review

Dennis Hauk, Friedrich-Schiller-University of Jena, Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany

Design a professional program for preservice kindergarten teachers learning how to teach mathematics

Ching-Shu Chen, Tainan University of Technology, Taiwan; Su-Wei Lin, National University of Tainan, Taiwan; Chia-Huang Chen, National Taichung University of Education, Taiwan; Yun Hsia Pai, National Tsing Hua University, Taiwan

Teacher educators' conceptions of modeling: a phenomenographic study.

Helena Montenegro, Pontificia Universidad Católica de Chile, Chile

How students make sense about what they read: An analysis of Portuguese textbooks

Carolina Cordeiro, Faculty of Psychology and Educational Sciences, University of Porto, Porto, Portugal, Portugal

Session G: 17

Time: 13:45-15:15

Location: Seminar Room - S13

POSTER PRESENTATION: STUDENT LEARNING AND RESEARCHER EDUCATION

Chair

Lidewij van Katwijk, NHL-Stenden / University of Groningen, Netherlands

What should we learn at school? An analysis of student learning interests in disadvantaged contexts

Daniel Araneda, Pontificia Universidad Católica de Chile, Chile

When microgenetics meets enactivism: knowledge transformation among apprentice psychotherapists

Gilles Dieumegard, Université de Montpellier, France

The effectiveness of grade retention: A systematic review

Joana Pipa, ISPA - Instituto Universitário / CIE-ISPA (Research Center in Education), Portugal; Mieke Goos, UCLL, Belgium; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal

Researching with enthusiasm? A study on achievement emotions, predictors and effects on achievement

Julia S. Meuleners, LMU Munich, Germany; Julia Eberle, Ruhr-Universität Bochum, Germany; Birgit J. Neuhaus, LMU Munich, Germany

The Effect of Low Academic Performance on Students' Well-Being

Linda Salihu, University of Prishtina, Kosovo

Students' questions about science texts: the influence of the title

Piedade Vaz-Rebello, Faculty of Psychology and Educational Sciences - University of Coimbra, Portugal; Maria Morgado, High School of Tomar, Portugal; Catarina Costa, University of Coimbra, Portugal; Carlos Rebelo, University of Coimbra, Portugal; Graça Bidarra, University of Coimbra, Portugal; Carlos Barreira, University of Coimbra, Portugal

Session G: 18

Time: 13:45-15:15

Location: Seminar Room - S11

POSTER PRESENTATION: QUALITATIVE METHODS

Chair

Sarah-Larissa Hecker, Universität Bielefeld, Germany

Conceptualizing teaching expertise in higher education: A systematic review of frameworks

Esther van Dijk, Universiteit Utrecht / Hogeschool Utrecht, Netherlands

Implementation of dialogic teaching with comparison of the primary and secondary schools

Jitka Plischke, Institute of Education and Social Studies, Faculty of Education, Palacky University in Olomouc, Czech Republic; Jitka NÁBĚLKOVÁ, Palacky University, Czech Republic; Danping Peng, Faculty of Education, Palacky University, Czech Republic

Teachers' educational goals in everyday teaching practices

Kevin Zweeris, Leiden University, Netherlands

Current developments towards inclusive secondary schools – are teachers at risk?

Eva-Maria Bennemann, Technical University of Munich, Germany

School counselors' perspective on and professional approach towards cultural diversity in Germany

Josef Strasser, University of Koblenz-Landau, Institute for Educational Science, Germany

Teachers' professional conversations about how to approach the programming content of the curriculum

Peter Vinnervik, Umea University, Sweden

Session G: 19

Time: 13:45-15:15

Location: Seminar Room - S12

POSTER PRESENTATION: TEACHING AND PROFESSIONAL DEVELOPMENT

Chair

Jaap Schuitema, University of Amsterdam, Netherlands

Vocational exploration and working conditions in internships from the perspective of young migrants

Hannes Reinke, Otto-Friedrich-Universität Bamberg, Germany

Challenging young adults' intention-behavior-gap on sustainable consumption

Mona Off, Ludwig-Maximilians-Universität (LMU), Germany; Susanne Ritter von Marx, Ludwig-Maximilians-Universität (LMU), Germany; Christine Kreuzer, Ludwig-Maximilians-Universität (LMU), Germany; Susanne Weber, Ludwig-Maximilians-Universität (LMU), Germany

21st century skills, multiple literacies and development of RE teacher education

Martin Ubani, University of Eastern Finland, Finland; Kaisa Viinikka, University of Eastern Finland, Finland

Effects of Tonal Competencies on the Development of Subskills of Musical Performance

Zyxcban Wolfs, Open University of the Netherlands, Netherlands

Role of technology in fostering SRL strategies of finance professionals during uncertainty

Vasudha Chaudhari, Open University, United Kingdom; Leonie Jacob, University of Regensburg, Germany; Allison Littlejohn, Open University, United Kingdom; Regina Mulder, University of Regensburg, Germany

Relationship between surface structures and error occurrence in the classroom

Patricia Köpfer, Goethe-Universität Frankfurt, Germany

Session G: 20

Time: 13:45-15:15

Location: Seminar Room - S15

POSTER PRESENTATION: PRE-SERVICE TEACHER EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT

Chair

Oddny Judith Solheim, The Norwegian Reading Centre, Norway

Teachers' integrative pedagogical knowledge: Theoretical formulations and empirical findings

Mikko Niemelä, University of Helsinki, Finland

Europeanisation in teacher education: Case studies of Austria, Greece and Hungary

Vasileios Symeonidis, University of Innsbruck, Austria

Comprehensive analyses for single-case phase designs

René Tanious, KU LEUVEN, Belgium; Tamal Kumar De, KU LEUVEN, Belgium; Patrick Onghena, KU LEUVEN, Belgium

School Inclusion and Teacher Health

Milena Peperkorn, Institut für Erziehungswissenschaft, Germany; Katharina Müller, Institut für Erziehungswissenschaft, Germany

Beliefs about a teacher's professional role: Changes during University Teacher Training

Daniel Mann, Otto-Friedrich-Universität Bamberg, Germany; Donata Mehler, Otto-Friedrich-University of Bamberg, Germany; Jennifer Paetsch, University of Bamberg, Germany; Barbara Drechsel, University of Bamberg, Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany

A Review of Educational Psychology Misconceptions

Bobby Hoffman, University of Central Florida, United States; Morgan McAfee, Self-employed Educational Consultant, United States

Session G: 21

Time: 13:45-15:15

Location: Seminar Room - S05

POSTER PRESENTATION: PRIMARY EDUCATION

Chair

Guy Durden, University College London, United Kingdom

How carry condition and problem size affect the solving of word problems

Verena Dresen, Institute of Psychology, UMIT, Health & Life Sciences University, Austria; Silvia Pixner, Institute of Psychology, UMIT, Health & Life Sciences University, Austria; Korbinian Moeller, Leibniz-Institut für Wissensmedien, Germany

Rational number tasks in elementary school mathematics textbooks: A danger of misconceptions

Parvaneh Babari, Pädagogische Hochschule Schwyz, Switzerland; Lennart Schalk, PH Schwyz, Switzerland

The nature of knowing and students in need of special education

Maria Lindfors, Umeå University, Sweden; Helena Roos, Linneus university, Sweden; Anette Bagger, Umeå University, Sweden

What kind of self-regulated learning supports exist for primary and secondary school levels

Marika Koivuniemi, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland

Exploring Epistemic Climates of Elementary School Students on Six Continents

Florian Feucht, www.ThinkingHabitats.com, United States; Regina Rotshtein, University of Toledo, United States; Kristen Porter, Mercy College, United States; Andres Acher, Martin Luther University Halle-Wittenberg, Germany; Valerie Frède, Université Toulouse - Jean Jaurès, France; Yue Gu, University of Toledo, United States; Andrea Mohme, School system Luebeck, Germany; Elizabeth Curtis, Queensland University of Technology, Australia; Jo Lunn Brownlee, Queensland University of Technology, Australia

Concreteness fading with Montessori materials to teach mathematical equivalence

Rosanna Cofone, University of Roma Tre, Italy; Giuseppe Bove, Roma Tre University, Italy; Paola Perucchini, Univeristy Roma Tre, Italy

Session H: 1

Time: 15:30-17:00

Location: Lecture Hall - H07

INVITED SESSION: RETHINKING TOMORROW'S EDUCATION IN SOUTH AFRICA

Chair

Gert van der Westhuizen, University of Johannesburg, South Africa

Discussant

MICHAEL SAMUEL, UNIVERSITY OF KWAZULU-NATAL, DURBAN, SOUTH AFRICA, South Africa

The African university in the neoliberal era

Amasa Ndofirepi, University of Johannesburg, South Africa

Moving beyond the rhetoric of decolonisation: From education for all to education for relevance

Labby Ramrathan, University of KwaZulu-Natal, South Africa

Decolonisation, cognitive justice and teacher education

Gert van der Westhuizen, University of Johannesburg, South Africa

Change and continuity in doctoral supervision: A case study of a South African University

MICHAEL SAMUEL, UNIVERSITY OF KWAZULU-NATAL, DURBAN, SOUTH AFRICA, South Africa

Session H: 2

Time: 15:30-17:00

Location: Lecture Hall - H05

INVITED SESSION: BRIDGING COGNITIVE LOAD AND SELF-REGULATED LEARNING: FROM METACOGNITION TO MENTAL EFFORT AND BACK**Chair**

Anique de Bruin, Maastricht University, Netherlands

Organisers

Alexander Renkl, University of Freiburg, Germany; Anique de Bruin, Maastricht University, Netherlands

Discussant

Rakefet Ackerman, Technion--Israel Institute of Technology, Israel

The relation between subjective mental effort measures and judgments of learning: a meta-analysis

Martine Baars, Erasmus University Rotterdam, Netherlands; Anique de Bruin, Maastricht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands; Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Effects of promoting self-regulated learning on mental effort and mental efficiency

Ferdinand Stebner, Ruhr University Bochum, Germany; Corinna Schuster, Ruhr University Bochum, Germany; Melanie Trypke, Ruhr-University Bochum, Germany; Detlev Leutner, University of Duisburg-Essen, Germany; Joachim Wirth, Ruhr-University Bochum, Germany

Using Gaze Displays to Foster Self-Monitoring

Tamara Van Gog, Utrecht University, Netherlands; Christine Postema, University of Tübingen, Netherlands; Julius Meier, Utrecht University, Netherlands; Anne Schueler, Leibniz-Institut für Wissensmedien, Germany; Diederick Niehorster, Lund University, Sweden; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Self-Regulated Learning by Writing Learning Protocols: Do Learners' Goal Orientations Matter?

Jasmin Moning, Ruhr University Bochum, Germany; Julian Roelle, Ruhr-University Bochum, Germany

Session H: 3

Time: 15:30-17:00

Location: Lecture Hall - H10

SYMPOSIUM: ALTERNATIVES TO SELF-REPORT MEASURES IN RESEARCH ON LEARNING AND TEACHING IN HIGHER EDUCATION**Chairs**

Anna Parpala, University of Helsinki, Finland; Telle Hailikari, University of Helsinki, Finland

Organiser

Liisa Postareff, University of Turku, Finland

Discussant

Daniel Dinsmore, University of North Florida, United States

Can eye movements inform us on the role of task interest and prior knowledge in learning from texts?

Margot Chauliac, University of Antwerp, Belgium; Leen Catrysse, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium

Integrating an open-access test in student learning survey: conceptual and methodological challenges

Sonia Ilie, University of Cambridge, United Kingdom; Jan Vermunt, Eindhoven University of Technology, Netherlands; Anna Vignoles, University of Cambridge, UK, United Kingdom

New formats of assessing of communication skills in higher education

Edith Braun, Justus-Liebig-Universität Giessen, Germany; Isabel Hofmeister, University of Kassel, Germany; Ulrike Schwabe, DZHW - German Centre for Research on Higher Education and Science Studies, Germany

Combining self-report data and physiological data in examining academic emotions

Liisa Postareff, University of Turku, Finland; Petri Nokelainen, Tampere University, Finland; Laura Pylväs, University of Tampere, Finland; Julius Yläne, University of Turku, Finland; Anna Parpala, University of Helsinki, Finland

Session H: 4

Time: 15:30-17:00

Location: Lecture Hall - H08

SYMPOSIUM: CONCEPTUAL AND METHODOLOGICAL CHALLENGES FOR VALID INFERENCES ON EDUCATIONAL EFFECTIVENESS**Chair**

Alexander Naumann, DIPF | Leibniz-Institute for Research and Information in Education, Germany

Organisers

Stephanie Musow, University of Teacher Education St.Gallen, Switzerland; Alexander Naumann, DIPF | Leibniz-Institute for Research and Information in Education, Germany

Discussant

Charalambos Charalambous, University of Cyprus, Cyprus

Instructional Sensitivity of Test Items: The Challenge of Incorporating Instructional Measures

Stephanie Musow, University of Teacher Education St.Gallen, Switzerland; Alexander Naumann, DIPF | Leibniz-Institute for Research and Information in Education, Germany; Jan Hochweber, University of Teacher Education St. Gallen, Switzerland; Johannes Hartig, German Institute for International Educational Research (DIPF), Germany

Subject-specificity of Students' Teaching Quality Perceptions

Ann-Kathrin Jaekel, University of Tuebingen, Germany; Richard Goellner, University of Tuebingen, Germany; Wolfgang Wagner, University of Tübingen, Germany; Ulrich Trautwein, University of Tübingen, Germany

Testing the Generalization to the Domain Inference

Maria Araceli Ruiz-Primo, Stanford University, United States; Min Li, University of Washington, United States; Jim Minstrell, Facet Innovations, United States

Dimensionality of Achievement Measures: The Role of Group-Level Item Covariance Structures

Alexander Naumann, DIPF | Leibniz-Institute for Research and Information in Education, Germany; Johannes Hartig, German Institute for International Educational Research (DIPF), Germany

Session H: 5

Time: 15:30-17:00

Location: Seminar Room - S01

SYMPOSIUM: STUDENT INVOLVEMENT IN THE CO-CREATION OF EDUCATION: BENEFITS, CHALLENGES AND EXAMPLES FROM PRACTICE**Chair**

Karen Könings, Maastricht University, Netherlands

Organiser

Karen Könings, Maastricht University, Netherlands

Discussant

Jeroen Bron, National institute for curriculum development, SLO, Netherlands

Conceptualisations and Benefits of Co-Creation of the Curriculum in Higher Education

Tanya Lubicz-Nawrocka, University of Edinburgh, United Kingdom

Students' perceptions regarding student-staff partnerships for improving education

Samantha Martens, Maastricht University, Netherlands; Annemarie Spruijt, Utrecht University, Netherlands; Ineke Wolffhagen, Maastricht University, Netherlands; Jill Whittingham, Maastricht University, Netherlands; Diana Dolmans, Maastricht University, Netherlands

Student Voice – the Bridge to Learning: Hungarian experiences

Anna Imre, Eszterházy Károly University - Institute for Education Research and Development, Hungary

Co-creation in education: challenges and approaches

Karen Könings, Maastricht University, Netherlands; Serge Mordang, Maastricht University, FHML, Dept. of Educational Research and Development, Netherlands; Frank Smeenk, Maastricht University, Netherlands; Laurents Stassen, Maastricht University, Netherlands

Session H: 6

Time: 15:30-17:00

Location: Lecture Hall - H11

SYMPOSIUM: THE DEVELOPMENT OF MULTIPLICATIVE REASONING: EARLY FOUNDATIONS AND THE ROLE OF INSTRUCTION**Chair**

Xenia Vamvakoussi, University of Ioannina, Greece

Organisers

Xenia Vamvakoussi, University of Ioannina, Greece; Wim Van Dooren, KU Leuven, Belgium

Discussant

Konstantinos Christou, University of Western Macedonia, Greece

Quantification in the Greek kindergarten curriculum: Additive Field vs. Multiplicative Field

Xenia Vamvakoussi, University of Ioannina, Greece; Lina Vrakas, University of Ioannina, Greece; Maria Kaldrimidou, x, Greece

Early development of proportional reasoning: a crosssectional study in ages 5 to 9

Wim Van Dooren, KU Leuven, Belgium; Elien Vanluydt, KU LEUVEN, Belgium; Lieven Verschaffel, KU LEUVEN, Belgium

Unraveling children's preference for additive or multiplicative relations: a reaction times study

Tine Degrande, KU Leuven, Belgium; Lieven Verschaffel, KU LEUVEN, Belgium; Wim Van Dooren, KU Leuven, Belgium

Intensive quantities and rational numbers

Terezinha Nunes, University of Oxford, United Kingdom; Peter Bryant, Oxford University, United Kingdom; Deborah Evans, Oxford University, United Kingdom; Despina Desli, Oxford University, United Kingdom; Daniel Bell, Oxford University, United Kingdom

Session H: 7

Time: 15:30-17:00

Location: Lecture Hall - H09

SYMPOSIUM: DISENTANGLING CHILDREN'S SCIENTIFIC REASONING SKILLS: WHAT DO THEY KNOW AND HOW DO THEY LEARN?**Chair**

Erika Schlatter, Radboud University, Netherlands

Discussant

Eleni Kyza, Cyprus University of Technology, Cyprus

Scientific reasoning in primary classrooms: In search of children's need for support.

Erika Schlatter, Radboud University, Netherlands; Ard Lazonder, Radboud University, Netherlands; Inge Molenaar, Radboud University Nijmegen, Netherlands

Preschoolers recognize and justify controlled experiments

April Moeller, Ludwig-Maximilians-Universität München, Germany; Beate Sodian, Ludwig-Maximilians-Universität (LMU), Germany

Effects of explicit instruction on the acquisition of students' science skills in primary education

Patricia Kruit, Amsterdam University of Applied Sciences, Netherlands; Ron Oostdam, University of Amsterdam, Netherlands; Ed van den Berg, Vrije Universiteit Amsterdam, Netherlands; Jaap Schuitema, University of Amsterdam, Netherlands

Assessment and training of experimentation skills in primary school children

Sonja Peteranderl, ETH Zurich, Switzerland; Anne Deiglmayr, University of Leipzig, Germany; Elsbeth Stern, ETH Zurich, Switzerland; Ralph Schumacher, ETH Zurich, Switzerland

Session H: 8

Time: 15:30-17:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: EMOTIONAL REGULATION IN COLLABORATIVE LEARNING ENVIRONMENTS**Chair**

Nikki Lobczowski, University of North Carolina at Chapel Hill, United States

Organiser

Nikki Lobczowski, University of North Carolina at Chapel Hill, United States

Discussant

Susanne Lajoie, McGill University, Canada

Socioemotional Regulation Strategies used in a Project-Based Learning Environment

Nikki Lobczowski, University of North Carolina at Chapel Hill, United States; Kayley Lyons, Monash University, Australia; Jeff Greene, University of North Carolina, United States; Jacqueline E. McLaughlin, University of North Carolina at Chapel Hill, United States

Solo and Group Strategies for Regulating Positive and Negative Emotions During Online Collaboration

Sarah Greco, University of Victoria, Canada; Allyson Hadwin, University of Victoria, Canada; Elizabeth Webster, University of Victoria, Canada

How does group level emotion regulation in collaborative learning change the way group members feel?

Kristina Kurki, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland; Tiina Törmänen, University of Oulu, Finland, Finland

The Interrelation between Shared Emotion and Regulation for Group Intellectual Progress

Toni Rogat, Purdue University, United States; Britte Cheng, Menlo Educational Research, United States; Temitope Adeoye, Purdue University, United States; Andrea Gomoll, Indiana University, United States; Anne Traynor, Purdue University, United States; Patrik Lundh, SRI International, United States; Cindy Hmelo-Silver, Indiana University, United States

Session H: 9

Time: 15:30-17:00

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: BEYOND JUDGMENT ACCURACY: UNDERSTANDING TEACHERS' COGNITIVE PROCESSES IN DIAGNOSTIC JUDGMENTS**Chair**

Katharina Loibl, University of Education Freiburg, Germany

Discussant

Lieven Verschaffel, KU Leuven, Belgium

Teachers' use of specific and unspecific knowledge in judging task difficulties

Timo Leuders, University of Education Freiburg, Germany; Andreas Ostermann, University of Education Freiburg, Germany; Katharina Loibl, University of Education Freiburg, Germany

Processing surface and deep features when judging task difficulty: Effects of PCK and time pressure

Andreas Rieu, PH Freiburg, Germany; Katharina Loibl, University of Education Freiburg, Germany; Timo Leuders, University of Education Freiburg, Germany; Stephanie Herppich, DLR Project Management Agency, Germany

Using Social Network Analysis to analyse Judgement Process Data from a Simulated Classroom

Matthias Mückshoff, Otto-Friedrich-Universität Bamberg, Germany; Tobias Rausch, University of Bamberg, Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany

Teachers' cue-utilization affects their monitoring accuracy of students' reading comprehension

Janneke van de Pol, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands; Keith Thiede, Boise State University, United States

Session H: 10

Time: 15:30-17:00

Location: Seminar Room - S06

ROUNDTABLE: HIGHER EDUCATION**Chair**

Josephine Moate, University of Jyväskylä, Finland

Classroom observation of teacher-focused teaching: The student perspective

Christine Johannes, University of Erfurt, Germany

Lecturers' achievement goals as predictors for the processing and use of student feedback

Julia Hein, University of Mannheim, Germany; Martin Daumiller, University of Augsburg, Germany; Raven Rinas, University of Augsburg, Germany; Stefan Janke, University of Mannheim, Germany; Markus Dresel, University of Augsburg, Germany; Oliver Dickhaeuser, University of Mannheim, Germany

Psychological flexibility and its relation to learning processes

Henna Asikainen, University of Helsinki, Finland; Nina Katajavuori, University of Helsinki, Finland

Session H: 11

Time: 15:30-17:00

Location: Seminar Room - S12

ROUNDTABLE: MOTIVATION AND EMOTION IN STUDENT LEARNING**Chair**

Bobby Hoffman, University of Central Florida, United States

Exploring inhibiting and facilitating factors for academic achievement of gifted students

Katelijne Barbier, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium; Karine Verschueren, KU Leuven, Belgium

Stressed from the beginning – How to handle the impact of written exams on primary school students

Olga Rapoport, Universität Koblenz-Landau, Campus Koblenz, Germany; Sarah Kahl, Universität Koblenz-Landau, Campus Koblenz, Germany; Eva Neidhardt, Universität Koblenz-Landau, Campus Koblenz, Germany

Students brooding over exams. Measuring post-event processing in test anxiety with new methods.

Sarah Kahl, Universität Koblenz-Landau, Campus Koblenz, Germany; Olga Rapoport, Universität Koblenz-Landau, Campus Koblenz, Germany; Eva Neidhardt, Universität Koblenz-Landau, Campus Koblenz, Germany

Session H: 12

Time: 15:30-17:00

Location: Seminar Room - S03

ROUNDTABLE: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Iwan Wopereis, Open University of the Netherlands, Netherlands

Proximity and Learning in Inter-organizational Collaboration for Inclusive Educational Settings

Jantien Gerdes, Vrije Universiteit Amsterdam, Netherlands

Design principles for a professional development program on promoting students' reading motivation

Iris Vansteelandt, AP University College/Ghent University, Belgium; Suzanne Mol, Leiden University, Netherlands; Hilde Van Keer, Ghent University, Belgium

Themes for Advancing Research and Practice on Teacher Education for Using Games for Learning

Mamta Shah, Drexel University, United States; Aroutis Foster, Drexel University, United States

Session H: 13

Time: 15:30-17:00

Location: Seminar Room - S16

ROUNDTABLE: TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION**Chair**

Mandy Hommel, TU Dresden, Germany

Much.Matter.in.Motion: Learning Science through Constructing Computational Models of Complex Systems

Janan Saba, University of Haifa, Faculty of Education, Israel

The effect of speech technology on literacy development

Marianne Engen Matre, University of Agder, Norway

Digital games in the context of financial literacy education: An instructional content analysis

Julia Schultheis, University of Mannheim, Germany; Carmela Aprea, University of Mannheim, Chair of Business and Economic Education - Instructional Design and Evaluation, Germany

Session H: 14

Time: 15:30-17:00

Location: Seminar Room - S14

ROUNDTABLE: LEARNING ANALYTICS AND METACOGNITION**Chair**

Inken Gast, Maastricht University, Netherlands

Mining Instructors' Self-Regulated Learning in the Context of Using a Learning Analytics Dashboard

Lingyun Huang, McGill University, Canada; Juan Zheng, McGill University, Canada; Yuxin Chen, Indiana University, United States; Cindy Hmelo-Silver, Indiana University, United States; Susanne Lajoie, McGill University, Canada

Metacognitive development and associations to executive function and motivation in problem-solving

Loren Marulis, Connecticut College, United States; Lindsey Nelson, Indiana University, United States

Investigating and improving students' feedback literacy using trace data for writing assignments

Clara Schumacher, University of Mannheim, Germany; Joanna Tai, Deakin University, Australia; David Boud, Deakin University, Australia; Dirk Ifenthaler, University of Mannheim, Germany

Session H: 15

Time: 15:30-17:00

Location: Seminar Room - S05

ROUNDTABLE: HIGHER EDUCATION**Chair**

Felix Walker, Technical University of Kaiserslautern, Germany

Expectations and Assessment Standards of Community Partners in Service-Learning Projects

Maren Schlegler, Frankfurt University of Applied Sciences, Germany; Kemal Tursun, Frankfurt University of Applied Sciences, Germany; Susanne Koch, Frankfurt University of Applied Sciences, Germany; Sebastian Reis, Frankfurt University of Applied Sciences, Germany; Lukas Platt, Frankfurt University of Applied Sciences, Germany

Challenges involved in a latent variable analysis within a study of LGBTQ+ students' resilience

Charlotte Allen, University of Cambridge, United Kingdom

Pharmacy students' prior knowledge and epistemic cognition at the beginning of university studies

Ilona Södervik, University of Helsinki, Finland; Nina Katajavuori, University of Helsinki, Finland; Leena Hanski, University of Helsinki, Finland

Session H: 16

Time: 15:30-17:00

Location: Seminar Room - S02

ROUNDTABLE: TEACHING AND TEACHER EDUCATION**Chair**

Ayelet Becher, Ben-Gurion University of the Negev, Israel

Rethinking the Continuum of Teacher Concerns

Jori Beck, Old Dominion University, United States; William Muth, Virginia Commonwealth University, United States; Kurt Sternhagen, Virginia Commonwealth University, United States; Christina Santoyo, Young Harris College, United States

Professional development in language promotion for primary school teachers: challenges and chances

Rosa Hettmannsperger, Goethe-University Frankfurt, Germany; Christine Sontag, Humboldt-Universität zu Berlin, Germany; Susanne Mannel, Goethe University Frankfurt am Main, Germany; Ilonca Hardy, Goethe-Universität Frankfurt, Germany

Pre-service teachers' perception of classroom technology integration: a longitudinal study

Haoyue Zhang, University of Houston, United States; Sara McNeil, University of Houston, United States; Susie Gronseth, University of Houston, United States; Bulent Dogan, University of Houston, United States; Erwin Handoko, University of Houston, United States; George Zhao, University of Houston, United States; Lydia Ugwu, University of Houston, United States

Session H: 17

Time: 15:30-17:00

Location: Seminar Room - S13

ROUNDTABLE: LEARNING AND SOCIAL INTERACTION**Chair**

Tanya Paes, University of Cambridge, UK, United Kingdom

Collective learning through Theater of the Oppressed in a Brazilian prison

Laure Kloetzer, Institute of Psychology & Education, Switzerland; Cristiane Leao de Castro, Institute of psychology and education, University of Neuchâtel, Switzerland

What did they say to you, and how?

Migchiël van Diggelen, Open University of the Netherlands, department of Educational Sciences., Netherlands; Maarten Versteeg, Eindhoven University of Technology, Netherlands; Johanna Kint, Eindhoven University of Technology, Netherlands; Sonia M. Gomez Puente, Eindhoven University of Technology, Netherlands; Daisy O'Neill, Eindhoven University of Technology, Netherlands; Bernice d'Anjou, Eindhoven University of Technology, Netherlands

High-school students and consistency: an argumentative approach.

Elisabetta Montanari, Ca' Foscari University of Venice, Italy

Session H: 18

Time: 15:30-17:00

Location: Seminar Room - S04

ROUNDTABLE: LEARNING AND PROFESSIONAL DEVELOPMENT**Chair**

Taiga Brahm, University of Tübingen, Germany

Effects of internships on self-perceived competencies and didactic skills of prospective RE teachers

Carina Caruso, University of Paderborn, Germany; Christian Harteis, University of Paderborn, Germany; Jan Woppowa, University of Paderborn, Germany

Learning Patterns and Social-Emotional Learning of Balkan Students in Secondary Education

Shqiponjë Ahmedi, Autonomous University of Barcelona, Spain; Jose Reinaldo Martínez-Fernández, Universitat Autònoma de Barcelona, Spain

Session H: 19

Time: 15:30-17:00

Location: Seminar Room - S10

ROUNDTABLE: MIXED-METHOD RESEARCH**Chair**

Margje W.J. van de Wiel, Maastricht University, Netherlands

Global education in teacher training - preservice teachers' knowledge and beliefs

Sarah Jane Brunkhorst, University of Oldenburg, Germany; Annetregret Jansen, University of Oldenburg, Germany; Ulrike-Marie Krause, University of Oldenburg, Germany

„GeLernt“: Modelling, measuring and fostering of professional competencies of pre-service teachers

Xiaokang Sun, Leibniz University Hannover, Germany; Sarah Hundertmark, Leibniz University of Hannover, Institute for Science Education, Germany; Alexander Kauertz, University Koblenz-Landau, Germany; Bettina Lindmeier, Leibniz Universität Hannover, Germany; Christian Lindmeier, University Koblenz-Landau, Germany; Andreas Nehring, Leibniz Universität Hannover, Germany; Sandra Nitz, Universität Koblenz-Landau, Campus Landau, Germany; Vanessa Schad, University of Koblenz-Landau, Germany; Robin Schildknecht, University of Koblenz-Landau, Germany

What Little Red Riding can teach us about reading science

Monica Gonzalez-Marquez, RWTH Aachen University, Germany; Andrea Philipp, RWTH Aachen University, Germany

Session H: 20

Time: 15:30-17:00

Location: Seminar Room - S09

ROUNDTABLE: EXPERIMENTAL STUDIES AND COMPREHENSION OF TEXT AND GRAPHICS**Chair**

Michael Goller, University of Bamberg, Germany

Oral Language Intervention in Schools Serving Language-Minority Learners: A Randomized Trial

Mia Cecilie Heller, Department of Education, Norway; Arne Lervåg, Department of Education, Norway; Vibeke Grøver, University of Oslo, Norway

How do seductive details affect mathematical modelling performance ?

Claudia Leopold, Centre for Teacher Education, Switzerland; Anja Hugo, Center for Teacher Education, Switzerland; Stanislaw Schukajlow, University of Münster, Germany

Is Video the new Text when Searching the Web for Learning Purposes?

Georg Pardi, Leibniz-Institut für Wissensmedien (IWM), Germany; Yvonne Kammerer, Leibniz-Institut für Wissensmedien (IWM), Germany; Peter Gerjets, Leibniz-Institut für Wissensmedien (IWM), Germany

Session H: 21

Time: 15:30-17:00

Location: Seminar Room - S07

ROUNDTABLE: HIGHER AND DOCTORAL EDUCATION**Chair**

Vanessa Russo, University Institute of Lisbon (ISCTE - IUL), Portugal

Interventions to increase completion rates in higher (online) education

Laurie Delnoij, Open University, Netherlands; Kim Dirx, Open University, Netherlands; Jose Janssen, Open University of the Netherlands, Netherlands; Rob Martens, Open University of the Netherlands, Netherlands

Teaching and Learning Interventions in Higher Education: A Comprehensive Review with Novel Data

Cameron Williams, University of New South Wales, Australia; Sara de Freitas, University of Cumbria, United Kingdom; Guy Curtis, Murdoch University, Australia; Christopher Cunningham, Murdoch University, Australia; Frances Asha, Deakin University, Australia; Stephen Ritchie, Murdoch University, Australia

Exploring the end stage in doctoral examination: Process, response and outcome

Allyson Holbrook, SORTI, The University of Newcastle, Australia; Kerry Dally, SORTI, The University of Newcastle, Australia; Terence Lovat, The University of Newcastle, Australia; Janene Budd, University of Newcastle, Australia

Session H: 22

Time: 15:30-17:00

Location: Seminar Room - S11

ROUNDTABLE: QUALITATIVE METHODS, ASSESSMENT AND TOOLS**Chair**

Daniela Raccanello, University of Verona, Italy

Assessing cognitively activating interaction strategies in preschool

Michael Lichtblau, Leibniz Universität Hannover, Germany; Cathleen Bethke, Leibniz University Hannover, Germany; Stefani Linck, Leibniz Universität Hannover Institut für Sonderpädagogik, Germany; Antje Rothe, Institute for Special Needs, Germany; Heike Wadepohl, Leibniz University Hanover, Germany

Leadership as facilitator to implement inclusive education: Qualitative Comparative Analysis

Aster Van Mieghem, University of Antwerp, Belgium; Karine Verschueren, KU Leuven, Belgium; Elke Struyf, University of Antwerp, Belgium

What is this thing called philosophy of educational science? A qualitative content analysis.

Leif Christian Lahn, University of Oslo, Norway

Session H: 23

Time: 15:30-17:00

Location: Seminar Room - S15

ROUNDTABLE: PRE-SERVICE TEACHER EDUCATION**Chair**

Detlef Urhahne, University of Passau, Germany

The ability for transfer of knowledge of content and students

Miriam Hahn, PH Freiburg, Germany; Katrin Lohrmann, PH Freiburg, Germany; Franziska Birke, Institute for vocational training and economic education, Germany

What is (needed to achieve) 'evidence-based teaching'?

Friederike Hendriks, University of Münster, Germany; Jana Groß Ophoff, Tübingen School of Education, Institut für Erziehungswissenschaft, Germany; Eva Seifried, Heidelberg University, Germany; Katharina Kiemer, Universität Augsburg, Germany; Cordelia Menz, Heidelberg University, Germany

Fostering pre-service economics teachers' reflection on their attitudes towards the discipline

Tobias Jenert, Paderborn University, Germany; Taiga Brahm, University of Tübingen, Germany

Session I: 1

Time: 08:30-10:00

Location: Lecture Hall - H06 -
Amazon Hörsaal

SIG INVITED SYMPOSIUM: NEGOTIATING TOWARDS SUCCESS: A DEVELOPMENTAL PERSPECTIVE ON RESEARCH WRITING 'KNOW-HOW'

Chair

Lynn McAlpine, University of Oxford, McGill University, Canada

Discussant

Montserrat Castelló, Ramon Llull University, Spain

Managing criticism: Making the most of critical feedback

Kelsey Inouye, University of Oxford, United Kingdom

Success? Getting a grant but also a tenure-track job

Lynn McAlpine, University of Oxford, McGill University, Canada

Failure as feedback: building towards grant funding success

Larissa Yousoubova, McGill University, Canada

The development of the adaptive STEM writer

Lynn McAlpine, University of Oxford, McGill University, Canada

Session I: 2

Time: 08:30-10:00

Location: Lecture Hall - H11

INVITED SESSION: PORTABLE BRAIN TECHNOLOGIES IN RESEARCH ON LEARNING AND INSTRUCTION (EFG SYMPOSIUM)

Chair

Nienke van Atteveldt, Vrije Universiteit Amsterdam, Netherlands

Organisers

Ido Davidesco, New York University, United States; Nienke van Atteveldt, Vrije Universiteit Amsterdam, Netherlands

Discussant

Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands

Brain-to-Brain Synchrony in the Classroom

Ido Davidesco, New York University, United States

Measuring Attentional Brain Processes in the Classroom

Jennie Grammer, UCLA, United States

Can an experience of brain control with EEG neurofeedback help to develop growth mindsets?

Tieme Janssen, VU University Amsterdam, Netherlands; Nienke van Atteveldt, Vrije Universiteit Amsterdam, Netherlands

Studying cognitive processes beyond the lab using wireless electroencephalography

Martin Bleichner, University of Oldenburg, Germany

Session I: 3

Time: 08:30-10:00

Location: Lecture Hall - H07

SYMPOSIUM: CONCEPTUALIZING AND RESEARCHING TIME IN LEARNING AND EDUCATION

Chair

Giuseppe Ritella, University of Helsinki, Finland

Organisers

Giuseppe Ritella, University of Helsinki, Finland; Antti Rajala, University of Helsinki, Finland; Rupert Wegerif, University of Cambridge, England, United Kingdom

Discussant

Peter David Renshaw, The University of Queensland, Australia

The role of technology in education understood as a journey into time

Rupert Wegerif, University of Cambridge, England, United Kingdom

Creating learning opportunities and identities through multiple time-spaces in class conversations

Kenneth Silseth, University of Oslo, Faculty of Education, Norway; Hans Christian Arnseth, University of Oslo, Norway

Teachers' agentic orientations to educational continuity and change: A temporal framework

Antti Rajala, University of Helsinki, Finland; Kristiina Kumpulainen, University of Helsinki, Finland; Anu Kajamaa, University of Helsinki, Finland

Examining the sequential organization of knowledge creation: a diachronic analysis

Giuseppe Ritella, University of Helsinki, Finland

Session I: 4

Time: 08:30-10:00

Location: Lecture Hall - H05

SYMPOSIUM: UNDERSTANDING THE COMPLEXITIES OF SELF-REGULATED LEARNING USING MULTIMODAL DATA STREAMS**Chairs**

Roger Azevedo, University of Central Florida, United States;
Maria Bannert, Technical University of Munich (TUM), Germany

Discussant

Dragan Gasevic, Monash University, Australia

Studying Self-Regulatory Processes using Multimodal Trace Data during Human-Machine Interactions

Roger Azevedo, University of Central Florida, United States; Michelle Taub, University of Central Florida, United States; Elizabeth Cloude, University of Central Florida, United States; Megan Price, University of Central Florida, United States

Temporal process analysis to better understand different prompt utilization

Katharina Engelmann, Technical University of Munich (TUM), Germany; Maria Bannert, Technical University of Munich, Germany

What can Multimodal Data tell about Monitoring and Task Difficulty during a Collaborative Exam?

Jonna Malmberg, University of Oulu, Finland; Eetu Haataja, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland; Tapio Seppänen, University of Oulu, Finland

How social challenges influence dyads' socially-shared regulation of learning in hypermedia

Erdem Onan, University of Oulu, Finland; Cindy Paans, Radboud University Nijmegen, Netherlands; Inge Molenaar, Radboud University Nijmegen, Netherlands; Eliane Segers, Radboud University, Netherlands; Ludo Verhoeven, Radboud University Nijmegen, Netherlands

Session I: 5

Time: 08:30-10:00

Location: Lecture Hall - H09

SYMPOSIUM: THE IMPORTANCE OF LINGUISTIC AND COGNITIVE INFORMATION-PROCESSING SKILLS FOR MATHEMATICAL LEARNING**Chair**

Nurit Viesel-Nordmeyer, Technische Universität Dortmund (TU), Germany

Organiser

Nurit Viesel-Nordmeyer, Technische Universität Dortmund (TU), Germany

Discussant

Evelyn Kroesbergen, Radboud University, Netherlands

The role of language and working memory in children's mathematics skills

Andrea Diaz Barriga Yanez, The University of Sheffield, Mexico; Daniel J Carroll, University of Sheffield, United Kingdom; Danielle Matthews, University of Sheffield, United Kingdom

The role of language and working memory for mathematical development in children between age 4 to 10

Nurit Viesel-Nordmeyer, Technische Universität Dortmund (TU), Germany; Ute Ritterfeld, Technische Universität Dortmund (TU), Germany; Carina Lüke, Pädagogische Hochschule Heidelberg, Germany; Wilfried Bos, Technische Universität Dortmund, Germany

The effect of language on rational number comparison

Iro Xenidou-Dervou, Loughborough University, United Kingdom; Camilla Gilmore, Loughborough University, United Kingdom; Elizabeth May Jones, Loughborough University, United Kingdom

Academic and Brain Functional Connectivity Effects After Training Schoolchildren in Working Memory

Noelia Sánchez-Pérez, University of Zaragoza, Spain; Alberto Inuggi, Istituto Italiano di Tecnologia, Robotics Brain and Cognitive Sciences Unit, Center for Human Technologies, Italy; Alejandro Castillo, Department of Basic Psychology and Methodology, Faculty of Psychology, University of Murcia, Spain; Guillermo Campoy, Department of Basic Psychology and Methodology, Faculty of Psychology, University of Murcia, Spain; Carmen González-Salinas, Department of Developmental Psychology and Education, Faculty of Psychology, University of Murcia, Spain; Luis J. Fuentes, Department of Basic Psychology and Methodology, Faculty of Psychology, University of Murcia, Spain

Session I: 6

Time: 08:30-10:00

Location: Lecture Hall - H08

SYMPOSIUM: TEACHERS' ATTEMPTS TO INSTRUCT METACOGNITION AND SELF-REGULATED LEARNING**Chair**

Mariette van Loon, University of Bern, Switzerland

Discussant

Nancy Perry, University of British Columbia, Canada

Teacher-student metacognitive discourse and outcomes: Evidence from a video-based training study

Bracha Kramarski, Bar-Ilan University, Israel; Anat Shilo, Bar-Ilan University, Israel

Fostering transfer of metacognitive learning strategies by direct and indirect training

Corinna Schuster, Ruhr University Bochum, Germany; Ferdinand Stebner, Ruhr-University Bochum, Germany; Malte Jansen, Humboldt University Berlin, Germany; Joachim Wirth, Ruhr-University Bochum, Germany; Detlev Leutner, University of Duisburg-Essen, Germany

Relations between teachers' instructions and children's monitoring and regulation of learning

Mariette van Loon, University of Bern, Switzerland; Natalie Bayard-Guggisberg, University of Bern, Switzerland; Martina Steiner, University of Bern, Switzerland; Claudia Roebbers, University of Bern, Switzerland

Do teachers adapt their promotion of SRL to their class? Development of a vignette test

Charlotte Dignath, Goethe-University Frankfurt, Germany

Session I: 7

Time: 08:30-10:00

Location: Lecture Hall - H10

SYMPOSIUM: STRATEGY FLEXIBILITY AND ADAPTIVITY IN PRIMARY SCHOOL ARITHMETIC: STUDENT AND INSTRUCTIONAL FACTORS**Chair**

Joke Torbeyns, KU Leuven, Belgium

Discussant

Marian Hickendorff, Leiden University, Netherlands

10-12-year-olds' flexible use of subtraction by addition in the number domain up to 1000

Joke Torbeyns, KU Leuven, Belgium; Gwen Verguts, KU Leuven, Belgium; Lieven Verschaffel, KU Leuven, Belgium

Effects of Textbooks on Primary School Children's Adaptive Use of Strategies in Arithmetic

Aiso Heinze, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Henning Sievert, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Ann-Katrin van den Ham, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Inga Niedermeyer, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Distinguishing adaptivity in rational number knowledge

Jake McMullen, University of Turku, Finland; Erno Lehtinen, University of Turku, Finland; Minna M Hannula-Sormunen, University of Turku, Finland; Robert Siegler, Carnegie Mellon University, United States

Profiles of fourth and fifth graders' understanding and making use of multiplicative relations

Andreas Schulz, Zurich University of Teacher Education, Switzerland

Session I: 8

Time: 08:30-10:00

Location: Seminar Room - S11

ICT DEMONSTRATION: TOOLBOXTEACHEREDUCATION - TEACHING AND LEARNING IN THE DIGITAL AGE**Chair**

Jaakko Hilppö, University of Helsinki, Finland

ToolboxTeacherEducation - Teaching and Learning in the Digital Age

Dagmar Frick, Technical University of Munich, Germany; Jana-Kristin von Wachter, Technische Universität München (TUM), Germany; Doris Lewalter, Technical University of Munich (TUM), Germany; Julia Bernhard, Technische Universität München (TUM), Germany; Bernhard Werner, Technische Universität München (TUM), Germany; Kerstin Huber, Technical University of Munich, Germany; Maria Bannert, Technical University of Munich (TUM), Germany; Jürgen Richter-Gebert, Technische Universität München (TUM), Germany; Silke Schiffhauer, Technische Universität München (TUM), Germany

Session I: 9

Time: 08:30-10:00

Location: Seminar Room - S04

ICT DEMONSTRATION: METAPHOLIO: A MOBILE APP FOR COLLABORATIVE NOTE TAKING AND REFLECTION IN TEACHER EDUCATION**Chair**

Jeannine Turner, Florida State University, United States

Metapholio: A Mobile App for Collaborative Note Taking and Reflection in Teacher Education

Dominik Petko, University of Zurich, Institute of Education, Switzerland; Regina Schmid, Schwyz University of Teacher Education, Switzerland; Laura Müller, Schwyz University of Teacher Education, Switzerland; Michael Hielscher, Pädagogische Hochschule Schwyz, Switzerland

Session I: 10

Time: 08:30-10:00

Location: Seminar Room - S01

ICT DEMONSTRATION: DEVELOPMENT AND EVALUATION OF A HISTOLOGICAL E-LEARNING SOFTWARE FOR MEDICAL STUDENTS**Chair**

Sabrina Bonanati, Paderborn University, Germany

Development and evaluation of a histological e-learning software for medical students

Christina Drees, Goethe-University Frankfurt, Institute of Anatomy 1, Germany; Estifanos Ghebremedhin, Goethe-University Frankfurt, Institute of Anatomy 1, Germany; Farid Ayoub, independent, Germany; Miriam Hansen, Goethe-Universität Frankfurt, Germany

Session I: 11

Time: 08:30-10:00

Location: Seminar Room - S16

ICT DEMONSTRATION: THE PLAK-IN: A FLEXIBLE TOOL FOR DIGITAL TEACHER EDUCATION AND QUANTITATIVE RESEARCH**Chair**

Cameron Williams, University of New South Wales, Australia

The PLAK-in: A flexible tool for digital teacher education and quantitative research

Sandra Dietrich, University of Leipzig, Germany; Andreas Janecek, University of Vienna, Austria; Christopher Helf, University of Vienna, Austria; Patrick Pazour, University of Vienna, Austria; Anna Förster, University of Leipzig, Germany; Kristin Stein, Technical University of Dresden, Germany; Dorothe Salomo, University of Leipzig, Germany

Session I: 12

Time: 08:30-10:00

Location: Seminar Room - S07

ICT DEMONSTRATION: THE POTENTIAL OF INTEGRATED READING AND WRITING LESSONS: FINDINGS FROM RESTLESS**Chair**

Laura Kerslake, University of Cambridge, UK, United Kingdom

The potential of integrated reading and writing lessons: findings from RESTLESS

Johannes Wild, Universität Regensburg, Germany; Anita Schilcher, University of Regensburg, Germany; Christina Knott, University of Regensburg, Germany

Session I: 13

Time: 08:30-10:00

Location: Seminar Room - S02

ICT DEMONSTRATION: TEACHING AND TESTING WITH DATA GRAPHS USING R-SHINY**Chair**

Peter Edelsbrunner, ETH Zurich, Switzerland

Teaching and testing with data graphs using R-Shiny

Fang Zhao, University of Hagen, Unknown; Robert Gaschler, FernUniversität in Hagen, Germany; Veit Kubik, Martin-Luther-Universität Halle-Wittenberg, Germany

Session I: 14

Time: 08:30-10:00

Location: Seminar Room - S15

ICT DEMONSTRATION: ONE BY ONE: TWO SHINY WEB APPLICATIONS FOR THE DESIGN AND ANALYSIS OF SINGLE-CASE EXPERIMENTS**Chair**

Stefan Markus, University of Wuppertal, Germany

One by One: Two Shiny Web Applications for the Design and Analysis of Single-Case Experiments

Lies Declercq, KU LEUVEN, Belgium; Tamal Kumar De, KU LEUVEN, Belgium; Wim Van den Noortgate, KU LEUVEN, Belgium; Patrick Onghena, KU LEUVEN, Belgium

ANNOTATIONS:

PARTICIPANTS ARE REQUESTED TO BRING THEIR OWN LAPTOP WHEN ATTENDING THIS SESSION.

Session I: 15

Time: 08:30-10:00

Location: Seminar Room - S14

ICT DEMONSTRATION: MINDSTEPS: AN ADAPTIVE COMPUTER-BASED TOOL FOR FORMATIVE STUDENT ASSESSMENT**Chair**

Marwin Felix Löper, Paderborn University, Germany

MINDSTEPS: An Adaptive Computer-Based Tool for Formative Student Assessment

Nina König, Institut für Bildungsevaluation, Switzerland; Martin J. Tomasik, University of Zurich, Switzerland; Stéphanie Berger, University of Zurich, Switzerland; Lukas Giesinger, University of Zurich, Switzerland; Laura A. Helbling, University of Zurich, Switzerland; Urs Moser, University of Zurich, Switzerland

Session I: 16

Time: 08:30-10:00

Location: Seminar Room - S13

ICT DEMONSTRATION: COHVIZ-E: A TOOL TO PROVIDE NOVICE WRITERS WITH INSTRUCTIONAL FEEDBACK ON THE COHESION OF THEIR TEXT**Chair**

Cyril Brom, Charles University, Czech Republic

CohViz-E: A tool to provide novice writers with instructional feedback on the cohesion of their text

Christian Burkhart, University of Freiburg, Germany; Andreas Lachner, University of Tübingen, Germany; Matthias Nückles, University of Freiburg, Germany

ANNOTATIONS:

PARTICIPANTS ARE REQUESTED TO BRING THEIR OWN LAPTOP WHEN ATTENDING THIS SESSION WITH THE LATEST VERSION OF GOOGLE CHROME INSTALLED.

Session I: 17

Time: 08:30-10:00

Location: Seminar Room - S06

ICT DEMONSTRATION: ENRICHMENT OF EXECUTIVE FUNCTIONS FOR SMALL CHILDREN WITH SIETTE IN TECHCAT PROJECT**Chair**

Andrea Ximena Castano, National University of Education, Ecuador

Enrichment of executive functions for small children with SIETTE in TECHCAT project

MILAGROS FERNANDEZ-MOLINA, FACULTY OF EDUCATION. UNIVERSITY OF MALAGA, Spain; Monica Trella, ETSInformatica, Spain; Ricardo Conejo, ETSInformatica, Spain; Beatriz Barros, ETSInformatica, Spain

Session I: 18

Time: 08:30-10:00

Location: Seminar Room - S09

ICT DEMONSTRATION: AUGMENTATION OF PRACTICE WITH EXPERT PERFORMANCE DATA: PRESENTING A CALLIGRAPHY USE CASE**Chair**

Liv Ingrid Aske Håberg, Volda University College, Norway

Augmentation of practice with expert performance data: Presenting a calligraphy use case

bibeg Jimbu, Open University of the Netherlands, Netherlands; Roland Klemke, Open University of the Netherlands, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Marcus Specht, Open University of the Netherlands, Netherlands

Session I: 19

Time: 08:30-10:00

Location: Seminar Room - S10

ICT DEMONSTRATION: COMPUTER-BASED SCIENCE ASSESSMENTS FOR CROSSCUTTING CONCEPTS**Chair**

Tine Nielsen, University of Copenhagen, Denmark

Computer-Based Science Assessments for Crosscutting Concepts

Abeera Rehmat, Indiana University-Bloomington, United States; Asmalina Saleh, Indiana University-Bloomington, United States; Lei Liu, Educational Testing Service, United States; Cindy Hmelo-Silver, Indiana University-Bloomington, United States; Gary Weiser, Columbia University: Teachers College, United States; Karyn Housh, Indiana University-Bloomington, United States; Dante Cisterna-Albuquerque, Educational Testing Service, United States

Session I: 20

Time: 08:30-10:00

Location: Seminar Room - S03

ICT DEMONSTRATION: LEARNING ABOUT AND WITH A SOCIAL ROBOT: INMOOV OPEN-ACCESS ROBOT AS A LEARNING PLATFORM**Chair**

Eva Lindgren, Umeå University, Sweden

Learning about and with a social robot: InMoov open-access robot as a learning platform

Caj Niclas Sandström, University of Helsinki, Finland; Olli Ohls, Futurice, Finland; Anne Nevgi, University of Helsinki, Finland; Kaisu Mälkki, University of Tampere, Finland

Session I: 21

Time: 08:30-10:00

Location: Seminar Room - S05

ICT DEMONSTRATION: FACILITATING STUDENT PEER REVIEW USING SCREENCAST TECHNOLOGY**Chair**

Courtney Pollack, Massachusetts Institute of Technology, United States

Facilitating Student Peer Review Using Screencast Technology

Christopher Anson, North Carolina State University, United States

ANNOTATIONS:

PARTICIPANTS ARE REQUESTED TO BRING THEIR OWN LAPTOP WHEN ATTENDING THIS SESSION AND FOLLOW THE 2 STEPS BELOW:

1. BEFORE THE SESSION, PLEASE REGISTER FOR VOICETHREAD, AT VOICETHREAD.COM THIS ONLY REQUIRES A USERNAME AND PASSWORD—NO DOWNLOAD. PLEASE BRING THE USERNAME AND PASSWORD (OR COMMIT THEM TO MEMORY).

2. PLEASE HAVE ACCESS ON YOUR COMPUTER TO A DOCUMENT WRITTEN BY A STUDENT

Session J: 1

Time: 10:15-11:45

Location: Seminar Room - S06

SIG INVITED SYMPOSIUM: INTERVENTION STUDIES IN CIVIC EDUCATION BASED ON THE VAKE-APPROACH**Chair**

Eveline Gutzwiller-Helfenfinger, University of Fribourg, Switzerland

Promoting Integration of Female Muslim Refugees through VaKE in Civic Education

Jean-Luc Patry, University of Salzburg, Austria; Natascha Diekmann, University of Salzburg, Austria; Sieglinde Weyringer, University of Salzburg, Austria; Alfred Weinberger, Pädagogische Hochschule der Diözese Linz, Austria

Organiser

Alfred Weinberger, Pädagogische Hochschule der Diözese Linz, Austria

Exploring civic educational practices through the VaKE-method at the CASNAV center in France

Frederique Brossard Børhaug, NLA University College, Norway; Marco Brighenti, CASNAV Essonne, France; Ingvil Brügger Budal, NLA University College, Norway

Discussant

Hermann J. Abs, University of Duisburg-Essen, Germany

Critical Thinking in Civic Education: An intervention with VaKE in Higher Education

Dimitris Pnevmatikos, University of Western Macedonia, Greece; Panagiota Chrsitodoulou, University of Western Macedonia, Greece; Triantafyllia Georgiadou, University of Western Macedonia, Greece

The use of moral dilemmas in order to promoting civic responsibility in teacher education

Roxana Reichman, Gordon Academic College, Israel

Session J: 2

Time: 10:15-11:45

Location: Seminar Room - S04

SYMPOSIUM: BELIEFS ABOUT EDUCATIONAL PSYCHOLOGY: STATUS QUO AND PREVENTING MISCONCEPTIONS AND SCIENCE DENIAL**Chair**

Eva Seifried, Heidelberg University, Germany

Discussant

Tobias Richter, University of Würzburg, Germany

Change of knowledge and epistemological beliefs about educational psychology in preservice teachers

Joerg Zumbach, University of Salzburg, Austria; Ines Deibl, University of Salzburg, Austria; Viola Maria Geiger, Universität Salzburg, Austria; Daniela Martinek, University of Salzburg, Austria

Measuring misconceptions in (teacher) education: The Questionable Beliefs in Education Scale

Jana Asberger, University of Erfurt, Germany; Eva Thomm, University of Erfurt, Germany; Johannes Bauer, University of Erfurt, Germany

Prevalence and reduction of educational psychological misconceptions among preservice teachers

Cordelia Menz, Heidelberg University, Germany; Birgit Spinath, Heidelberg University, Germany; Eva Seifried, Heidelberg University, Germany

Fostering resilience against science denial: Inoculation against incoherence

Eva Seifried, Heidelberg University, Germany; Stephan Lewandowsky, University of Bristol, United Kingdom

Session J: 3

Time: 10:15-11:45

Location: Lecture Hall - H06 -
Amazon Hörsaal**SYMPOSIUM: SUPPORTING SPONTANEOUS MATHEMATICAL ACTIVITIES: CONTEXT AND INTERVENTIONS****Chair**

Minna M Hannula-Sormunen, University of Turku, Finland

Organisers

Jake McMullen, University of Turku, Finland; Minna M Hannula-Sormunen, University of Turku, Finland

Discussant

Markku Hannula, University of Helsinki, Finland

Increasing Math Talk During Play in a Children's Museum: The Role of Parent and Child Factors

Melissa Libertus, University of Pittsburgh, United States; Emily Braham, University of Pittsburgh, United States; Koleen McCrink, Columbia University, United States

Understanding mathematical reasoning at preschool level through epistemological moves

Tomi Kärki, University of Turku, Finland; Lovisa Sumpter, Stockholm University, Sweden; Maria Hedefalk, Uppsala University, Sweden

Enhancing students' spontaneous focusing on multiplicative relations

Saku Määttä, University of Turku / Faculty of Education, Finland; Minna M Hannula-Sormunen, University of Turku, Finland; Erno Lehtinen, University of Turku, Finland; Jake McMullen, University of Turku, Finland

Stimulation of SFON and cardinality and counting skills at day care

Minna M Hannula-Sormunen, University of Turku, Finland; Cristina Nanu, University of Turku, Finland; Milja Heinonen, University of Turku, Finland; Anne Sorariutta, University of Turku, Finland; Ilona Södervik, University of Turku, Finland; Aino Mattinen, University of Turku, Finland

Session J: 4

Time: 10:15-11:45

Location: Lecture Hall - H08

SYMPOSIUM: HOMEWORK: THE ROLES OF STUDENTS, PARENTS, AND TEACHERS ON ITS EFFECTIVENESS**Chair**

Eriko Ota, University of Tokyo, Japan

Discussant

Hanna Dumont, DIPF | Leibniz Institute for Research and Information in Education, Germany

Homework Time and Homework Time Management Relationship: A Person-Centered Approach

Trinidad Garcia, University of Oviedo, Spain; José Carlos Núñez, University of Oviedo, Spain; Pedro Rosário, University of Minho, Portugal; Natalia Suárez Fernández, University of Oviedo, Spain; Carmen Díez, University of Oviedo, Spain

Homework: Variables Predicting Academic Achievement in Secondary Students

Bibiana Regueiro, Universidad de La Coruña, Spain; Antonio Valle, Universidad de La Coruña, Spain; Susana Rodríguez, Universidad de La Coruña, Spain; Isabel Piñeiro, Universidad de La Coruña, Spain; Iris Estévez, Universidad de La Coruña, Spain

Math Homework in Middle School: Parental Help and Children's Academic Outcomes

Eve Kikas, Tallinn University, Estonia; Gintautas Silinskas, University of Jyväskylä, Finland

Promoting Elementary School Students' Self-Regulated Learning through Homework

Eriko Ota, University of Tokyo, Japan; Tetsumi Hamamoto, Public Elementary School, Japan

Session J: 5

Time: 10:15-11:45

Location: Lecture Hall - H07

SYMPOSIUM: FAMILY-SCHOOL PARTNERSHIPS: THE CONDITIONS AND BENEFITS FOR THE TEACHERS, STUDENTS AND PARENTS**Chair**

Sittipan Yotyodying, FernUniversität in Hagen, Germany

OrganisersSittipan Yotyodying, FernUniversität in Hagen, Germany;
Charlott Rubach, University of Potsdam, Germany**Discussant**Markus P. Neuenschwander, University of Applied Sciences
and Arts Northwestern Switzerland, Switzerland**Teachers' prosocialness and well-being: Mediated by teacher engagement in family-school partnerships**

Sittipan Yotyodying, FernUniversität in Hagen, Germany; Swantje Dettmers, FernUniversität in Hagen, Germany; Kathrin Jonkmann, FernUniversität in Hagen, Germany

Interplay among family-school partnerships, support from parents and teachers and student motivation

Denise Kücholl, Schulpädagogik Universität Potsdam, Germany; Charlott Rubach, University of Potsdam, Germany; Rebecca Lazarides, University of Potsdam, Germany

Real and ideal teacher-family partnership practices in childcare

Vera Coelho, Porto University, FPCE, Portugal; Sílvia de Barros, Politécnico do Porto, Portugal; Joana Cadima, University of Porto, Portugal; Manuela Pessanha, Polytechnic Institute of Porto, Portugal; Carla Peixoto, Polytechnic Institute of Porto, Portugal; Ana Isabel Mota e Costa Pinto, University of Porto - Portugal, Portugal

Do family-school partnerships contribute to student outcomes? Mediated by homework involvement

Swantje Dettmers, FernUniversität in Hagen, Germany; Sittipan Yotyodying, FernUniversität in Hagen, Germany; Kathrin Jonkmann, FernUniversität in Hagen, Germany

Session J: 6

Time: 10:15-11:45

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: THE ROLE OF HAPTIC INFORMATION IN MULTIMODAL LEARNING ENVIRONMENTS**Chairs**

Jennifer Mueller, Leibniz-Institut für Wissensmedien, Germany; Magdalena Novak, Leibniz-Institut für Wissensmedien (IWM), Germany

Organisers

Jennifer Mueller, Leibniz-Institut für Wissensmedien, Germany; Magdalena Novak, Leibniz-Institut für Wissensmedien (IWM), Germany

Discussant

Paul Ginns, The University of Sydney, Australia

Teaching Musical Concepts With Tangibles Can Improve Fraction Understanding in Fourth Graders

Jennifer Mueller, Leibniz-Institut für Wissensmedien, Germany; Uwe Oestermeier, Leibniz-Institut für Wissensmedien (IWM), Germany; Jessika Golle, Hector Research Institute of Education Sciences and Psychology, Germany; Ulrich Trautwein, University of Tübingen, Germany; Peter Gerjets, Leibniz-Institut für Wissensmedien (IWM), Germany

The Impact of the Presence/Absence of Haptic Feedback on Kindergarten Students' Science Learning

Tasos Hovardas, University of Cyprus, Cyprus; Marios Papaevripidou, University of Cyprus, Cyprus; Zacharias Zacharia, University of Cyprus, Cyprus; Eleftheria Panteli, University of Cyprus, Cyprus; Yvoni Pavlou, University of Cyprus, Cyprus

Multisensory Technologies for Embodied and Enactive Learning

Gualtiero Volpe, University of Genova (Italy), Italy; Erica Volta, University of Genova (Italy), Italy; Monica Gori, Italian Institute of Technology, Italy

The Influence of Haptic Exploration of Objects on Knowledge Acquisition, Emotion, and Motivation

Magdalena Novak, Leibniz-Institut für Wissensmedien (IWM), Germany; Stephan Schwan, Leibniz-Institut für Wissensmedien, Germany

Session J: 7

Time: 10:15-11:45

Location: Lecture Hall - H09

SYMPOSIUM: A SITUATED PERSPECTIVE ON TEACHERS' MATH PROFESSIONAL KNOWLEDGE: ASSESSMENT, DEVELOPMENT, AND IMPACT**Chair**

Fien Depaepe, KU Leuven, Belgium

Discussant

Marjolein Dobber, Vrije Universiteit Amsterdam, Netherlands

Mathematical pedagogical content knowledge of kindergarten teachers – How to measure it?

Julia Bruns, University of Paderborn, Germany; Hedwig Gasteiger, Osnabrück University, Germany; Christiane Benz, Pädagogische Hochschule Karlsruhe, Germany; Esther Brunner, Pädagogische Hochschule Thurgau, Switzerland; Priska Sprenger, Pädagogische Hochschule Karlsruhe, Germany

Characterizing preservice kindergarten teachers' math PCK using a scenario-based questionnaire

Joke Torbeyns, KU Leuven, Belgium; Sandy Verbruggen, KU Leuven, Centre for Instructional Psychology and -Technology (Vesaliusstraat 2, 3000 Leuven), Belgium; Fien Depaepe, KU Leuven, Belgium

Fostering teachers' competencies for math reasoning in early mathematics education

Esther Brunner, Pädagogische Hochschule Thurgau, Switzerland; Jonas Lampart, Pädagogische Hochschule Thurgau, Switzerland

Classification of mathematical tasks to study subject-specific aspects of instructional quality

Natalie Ross, University of Hamburg, Germany; Gabriele Kaiser, University of Hamburg, Germany; Johannes König, University of Cologne, Germany; Sigrid Blömeke, University of Oslo, Norway

Session J: 8

Time: 10:15-11:45

Location: Lecture Hall - H05

SYMPOSIUM: ERROR FRIENDLY LEARNING CONTEXTS: MAKING IT SAFER TO MAKE MISTAKES**Chairs**

Elizabeth R Peterson, University of Auckland, New Zealand;
Maria Tulis, University of Salzburg, Austria

Organisers

Elizabeth R Peterson, University of Auckland, New Zealand;
Maria Tulis, University of Salzburg, Austria; Gabriele Steuer,
University of Bielefeld, Germany

Discussant

Dragan Trninic, ETH Zurich, Switzerland

How to increase the “failure friendliness” of maker activities

Adam Maltese, Indiana University, United States; Amber Simpson, SUNY Binghamton, United States; Alice Anderson,
Minneapolis Institute of Art, United States; Euisuk Sung, Indiana University, United States

Preparing students for high consequence failures, safely: A case study with zombies

Jill MacKay, University of Edinburgh, United Kingdom; Alex Corbishley, The Roslin Institute, United Kingdom; Hamish
Macleod, University of Edinburgh, United Kingdom; Katie Stein, The University of Edinburgh, United Kingdom; Jessie
Paterson, University of Edinburgh, United Kingdom; Susan Rhind, University of Edinburgh, United Kingdom

Assessing the error climate in three different school subjects

Gabriele Steuer, University of Bielefeld, Germany; Maria Tulis, University of Salzburg, Austria; Markus Dresel, University of
Augsburg, Germany

Translation, adaptation and validation of the perceived error climate questionnaire into Italian.

Maria Cristina Matteucci, University of Bologna, Italy; Annalisa Soncini, University of Bologna, Italy

Session J: 9

Time: 10:15-11:45

Location: Lecture Hall - H10

SYMPOSIUM: PHYSICAL ACTIVITY AND LEARNING EXPERIENCES**Chair**

Lars-Erik Malmberg, University of Oxford, United Kingdom

Discussant

Claudia Roebers, University of Bern, Switzerland

A cluster RCT examining effects of aerobic and cognitive physical activity on academic performance

Anne de Bruijn, University of Groningen, Netherlands; Danny Kostons, University of Groningen, Netherlands; Irene van der
Fels, University Medical Centre Groningen, University of Groningen, Netherlands; Jaap Oosterlaan, Vrije Universiteit
Amsterdam, Netherlands; Chris Visscher, University Medical Centre Groningen, University of Groningen, Netherlands; Esther
Hartman, University Medical Center Groningen / University of Groningen, Netherlands; Roel J. Bosker, Rijksuniversiteit
Groningen, Dept of Education and GION, Netherlands

The mediating role of self-concept between physical activity and mathematical achievement

Laura Claude Dapp, University of Bern, Switzerland; Claudia Roebers, University of Bern, Switzerland

The Impact of Physical Education Lesson Intensity and Complexity on Subsequent Learning Behaviour

Christina Heemskerk, University of Oxford, United Kingdom; Lars-Erik Malmberg, University of Oxford, United Kingdom; Steve
Strand, University of Oxford, United Kingdom

Physical activity of Young People with Cerebral Palsy

Shelly Coe, Oxford Brookes University, United Kingdom; J Collett, Oxford Brookes University, United Kingdom; Y Ng, Oxford
Brookes University, United Kingdom; Foeini Mavrommati, Oxford Brookes University, United Kingdom; Patrick Esser, Oxford
Brookes University, United Kingdom; Tim Theologis, Nuffield Orthopaedic Centre, United Kingdom; Julia Hyde, Oxford Health
NHS Trust, United Kingdom; S Radley, Oxford Brookes University, United Kingdom; R Habterafii, Oxford Brookes University,
United Kingdom; W Wade, Ace Centre, Manchester, United Kingdom; D Pindus, Northeastern University, United Kingdom;
helen dawes, Oxford Brookes University, United Kingdom

Session J: 10

Time: 10:15-11:45

Location: Lecture Hall - H11

SYMPOSIUM: EMOTIONAL-MOTIVATIONAL FACTORS OF STEM LEARNING GAMES**Chair**

Steve Nebel, Chemnitz University of Technology, Germany

Organisers

Cyril Brom, Charles University, Czech Republic; Michael
Kickmeier-Rust, University of Teacher Education, Switzerland

Discussant

Alexander Renkl, University of Freiburg, Germany

Emotional arousal in game-based learning

Manuel Ninaus, Leibniz-Institut für Wissensmedien, Germany; Simon Greipl, Leibniz-Institut für Wissensmedien, Germany;
Kristian Kiili, Tampere University of Technology, Finland; Antero Lindstedt, Tampere University of Technology, Finland; Elise
Klein, Leibniz-Institut für Wissensmedien, Germany; Hans-Otto Karnath, University of Tübingen, Germany; Korbinian Moeller,
Leibniz-Institut für Wissensmedien, Germany

Decorative animations in a learning game for grade 3-4 children: An eye-tracker study

Ondřej Javora, Charles University, Czech Republic; Tereza Hannemann, Charles University, Faculty of Mathematic and
Physics, Czech Republic; Tereza Starkova, Charles University, Czech Republic; Filip Děchtěrenko, Czech Academy of
Sciences, Czech Republic; Cyril Brom, Charles University, Czech Republic

Play to grow: About feedback and persistence in game-based learning for mathematics

Judith ter Vrugte, University of Twente, Netherlands; Anita Luttikhoud, University of Twente, Netherlands

Game-based and playful learning pedagogy in basic education

Marjaana Kangas, University of Lapland, Finland; Heli Ruokamo, University of Lapland, Finland

Session J: 11

Time: 10:15-11:45

Location: Seminar Room - S03

POSTER PRESENTATION: HIGHER EDUCATION

Chair

Tarja-Riitta Hurme, University of Turku, Finland

University lecturers' emotions: experience and display of enjoyment, anxiety and anger in class.

Katharina Thies, Ostwestfalen-Lippe University of Applied Sciences, Germany; Robert Kordts-Freudinger, University of St. Gallen, Switzerland

Professional Fragmentation of Novice Academic Identity in the Current HE Conditions

Jiří Kropáč, Palacký University - Faculty of Education, Czech Republic; Stefan Chudy, Faculty of Education - Palacký University, Czech Republic; Iva Koribská, Palacký University, Faculty of Education, Czech Republic

Teaching Analysis Poll in higher education: From course feedback to multi-level quality development.

Luci Gommers, University of St.Gallen, Switzerland; Bernadette Dilger, University of St.Gallen, Institute of Business Education and Educational Management, Switzerland; Robert Kordts-Freudinger, University of St. Gallen, Switzerland; Christian Schneider, University of St. Gallen, Switzerland

Preparing Chilean teachers' educators for an inclusive pedagogy through a training program

Constanza Herrera-Seda, Universidad de Santiago de Chile, Chile; Carolina García, Universidad de Santiago de Chile, Chile

Implementing summative self-assessment to higher education

Henna Asikainen, University of Helsinki, Finland; Sara Lindholm, University of Helsinki, Finland

My pathway was bumpy: Senses of self and collective efficacy about higher education

Reed Curtis, Stockholm University, Sweden

Session J: 12

Time: 10:15-11:45

Location: Seminar Room - S13

ROUNDTABLE: HIGHER EDUCATION

Chair

Jaakko Hilppö, University of Helsinki, Finland

Integrating process data in the derivation of student test scores in evaluating online information

Carolin Hahnel, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Beate Eichmann, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany

Fostering Industrial Design students' professional identity

Migchiël van Diggelen, Open University of the Netherlands, department of Educational Sciences., Netherlands; Sonia Gomez Puente, Eindhoven University of Technology, Netherlands; Izabela Boloz, Eindhoven University of Technology, Netherlands

Performing Arts as Pedagogical Mediation in Higher Education

Laure Kloetzer, Institute of Psychology & Education, Switzerland; Simon Henein, EPFL-Microcity, Switzerland; Ramiro Tau, Institute of psychology and education, University of Neuchâtel, Switzerland

Session J: 13

Time: 10:15-11:45

Location: Seminar Room - S09

ROUNDTABLE: QUALITATIVE METHODS

Chair

Kim Dirx, Open University, Netherlands

"Understanding About the Kid is Very Important": Equity in Data Literacy for Teaching

Jori Beck, Old Dominion University, United States; Christina Santoyo, Young Harris College, United States

Book sharing with young dual language learners in preschool

Svitlana Kucherenko, University of Oslo, Norway; Veslemøy Rydland, University of Oslo, Norway; Vibeke Grøver, University of Oslo, Norway

First Job and the Unequal Distribution of Early-Childhood Educators: Evidence for the case of Chile

Veronica Cabezas, Pontificia Universidad Católica de Chile, Chile; Constanza Gomez, Pontificia Universidad Católica de Chile, Chile; María Jesus Sanchez, Pontificia Universidad Católica de Chile, Chile

Session J: 14

Time: 10:15-11:45

Location: Seminar Room - S05

POSTER PRESENTATION: HIGHER EDUCATION

Chair

Ida Kukliansky, Ruppiner Academic Center, Israel

Graduates' generic competences and approaches to learning in relation to thesis grade and study pace

Tarja Tuononen, University of Helsinki, Finland; Anna Parpala, University of Helsinki, Finland

Less Dropout in Teacher Education Programs Using Aptitude Tests for Student Selection?

Sebastian Franz, Leibniz Institute for Educational Trajectories (LIfBi), Germany; Jennifer Paetsch, University of Bamberg, Germany

An intervention on critical thinking through argumentation: findings and implications

Jarmila Bubikova-Moan, Nordic Institute for Studies in Innovation, Research and Education, Norway; Leila Ferguson, Kristiania University College, Norway

The Relevance of Digital Media Self-Efficacy and Media Usage for Achievement in Higher Education

Marina Pumpow, University of Tübingen, Germany; Taiga Brahm, University of Tübingen, Germany

Academic staffs experiences of inclusive teaching in online education

Ida Naimi-Akbar, KTH ROYAL INSTITUTE OF TECHNOLOGY, Sweden; Linda Barman, The Royal Institute of Technology (KTH), Sweden; Maria Weurlander, The Royal Institute of Technology (KTH), Sweden; Cormac Mc Grath, Stockholm University, Sweden

Outcomes of Higher Education. A Literature Review

Kristina Walz, Justus-Liebig-Universität Giessen, Germany; Julia Carolin Brachem, Universität Vechta, Germany; Edith Braun, Justus-Liebig-Universität Giessen, Germany

Session J: 15

Time: 10:15-11:45

Location: Seminar Room - S01

POSTER PRESENTATION: EARLY CHILDHOOD EDUCATION

Chair

Felix Walker, Technical University of Kaiserslautern, Germany

Young children's strategy generalization of geometry reasoning: a microgenetic analysis

Mei-i Chien, National Chia-yi University, Taiwan

The processing of symbolic and non-symbolic magnitudes at the end of childhood education.

Carlos Mera, University of Cadiz, Spain; Manuel Aguilar-Villagran, University of Cadiz, Spain; Estíbaliz Aragón, University of Cadiz, Spain; Belén Román, University of Cadiz, Spain; Jose I. Navarro-Guzman, University of Cadiz, Spain

Professionalization of dialogue in play guidance within preschool

Eline van Rossum, Vrije Universiteit Amsterdam, Netherlands; Chiel vander Veen, VU University Amsterdam, Netherlands; Marjolein Dobber, Vrije Universiteit Amsterdam, Netherlands; Clazien de Schipper, Vrije Universiteit Amsterdam, Netherlands; Maartje Raijmakers, Vrije Universiteit Amsterdam, Netherlands

The first two years in school: the impact of inattentive, hyperactive and impulsive children

TIAGO BARTHOLO, Federal University of Rio de Janeiro, Brazil; Mariane Campelo Koslinski, Federal University of Rio de Janeiro, Brazil; Karina Santos, Federal University of Rio de Janeiro, Brazil

Motivation, academic achievement and family practices: A cross-sectional investigation in 1st grade

Raquel De Sixte, Faculty of Education, University of Salamanca, Spain, Spain; Marta Ramos, Salamanca University, Spain; Álvaro Jáñez, University of Salamanca, Spain; Javier Rosales, University of Salamanca, Spain

Can online tests adequately replace paper-and-pencil versions?

Markus Szczesny, Humboldt Universität zu Berlin, Germany

Session J: 16

Time: 10:15-11:45

Location: Seminar Room - S02

ROUNDTABLE: LIFELONG LEARNING**Chair**

Camilla Østerberg Rump, University of Copenhagen, Denmark

The Contribution of Mental Simulation to the Development of Intuition

Bianca Steffen, University of Paderborn, Germany; Michael Goller, University of Bamberg, Germany; Christian Harteis, University of Paderborn, Germany

The role of goal-setting in formal learning scenarios - lessons learned from an experiment

Gábor Kismihók, Leibniz Information Centre for Science and Technology, Germany; Stefan Mol, University of Amsterdam, Netherlands; Vladimer Kobayashi, University of Amsterdam, Netherlands; Catherine Zhao, The University of Sydney, Australia

Effects of internships on self-perceived competencies and didactic skills of prospective RE teachers

Carina Caruso, University of Paderborn, Germany, Germany; Christian Harteis, University of Paderborn, Germany; Jan Woppowa, University of Paderborn, Germany

Session J: 17

Time: 10:15-11:45

Location: Seminar Room - S16

ICT DEMONSTRATION: LEARNING GROWTH ESTIMATOR**Chair**

Venance Timothy, Ludwig-Maximilians-Universität (LMU), Tanzania, United Republic of

Learning Growth Estimator

Jesus Camacho-Morles, The University of Melbourne, Australia

Session J: 18

Time: 10:15-11:45

Location: Seminar Room - S07

WORKSHOP: SOLVING THE EMPLOYABILITY DILEMMA IN HIGHER EDUCATION**Chair**

Åsa Wengelin, University of Gothenburg, Sweden

Solving the employability dilemma in higher education

Dawn Bennett, Curtin University, Australia; Colin Jevons, Monash Business School, Australia

Session J: 19

Time: 10:15-11:45

Location: Seminar Room - S12

ICT DEMONSTRATION: MAKING THE INTANGIBLE TANGIBLE: A TOOL FOR ENGINEERING CONNECTED CLASSROOM ENVIRONMENTS.**Chair**

Kathryn Bartimote-Aufflick, The University of Sydney, Australia

Making the intangible tangible: a tool for engineering connected classroom environments.

Stephanie MacMahon, The University of Queensland, Australia

Session J: 20

Time: 10:15-11:45

Location: Seminar Room - S15

POSTER PRESENTATION: SECONDARY EDUCATION

Chair

Jose Felipe Martinez, University of California, Los Angeles, United States

Rhetorical competence and rhetorical devices in text comprehension in Secondary Education

María García Serrano, University of Salamanca, Spain; J. Ricardo García Pérez, University of Salamanca, Spain; Javier Rosales, University of Salamanca, Spain

When Instructional Software is Integrated: A Study of GeoGebra in High School Mathematics Teaching

Shiyu Liu, Ocean University of China, China; Jingyu Qiu, Ocean University of China, China

Which factors influence students' learning activities in religious education?

Alexander Unser, TU Dortmund University, Germany

How do classroom goal structures shape secondary school students' achievement goals?

Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Esther Canrinus, University of Agder, Norway; Els van Rooij, University of Groningen, Netherlands

The impact of negative knowledge to develop rescue from entrepreneurial failure competencies

Fritz Oser, University of Fribourg, Switzerland; Susan Mueller, Swiss Research Institute of Small Business and Entrepreneurship, Switzerland; Lara Forsblom, University of Fribourg, Switzerland; Thierry Volery, University of Western Australia, Australia

Relations between contribution to school and community, self-regulation, achievement and depression

Marina Hirnstein, University of Bergen, Norway, Norway; Ana Kurtovic, University of J. J. Strossmayer Osijek, Faculty of Humanities and Social Sciences, Croatia; Gabrijela Vrdoljak, Faculty of Humanities and Social Sciences Osijek, Croatia

Session J: 21

Time: 10:15-11:45

Location: Seminar Room - S14

POSTER PRESENTATION: HIGHER EDUCATION

Chair

Loren Marulis, Connecticut College, United States

When prompts do not support learning outcome & learning analytics fail to provide useful information

Clara Schumacher, University of Mannheim, Germany; Dirk Ifenthaler, University of Mannheim, Germany

Can strategy instructions support the self-regulated use of retrieval practice in higher education?

Marloes Broeren, Avans Hogeschool / Avans University of Applied Sciences, Netherlands; Peter Verkoeijen, Erasmus University Rotterdam, Netherlands; Anita Heijltjes, Avans University of Applied Sciences, Netherlands; Guus Smeets, Erasmus University Rotterdam, Netherlands; Lidia Arends, Erasmus University Rotterdam, Netherlands

Learning patterns, academic stress and performance in undergraduates

ANTONIO VEGA MARTÍNEZ, Universidad Autonoma de Barcelona, Spain; Jose Reinaldo Martinez-Fernandez, Universitat Autònoma de Barcelona, Spain; Jordi Coiduras, Universitat de Lleida, Spain; Jordi García-Oriols, Autonomous University of Barcelona, Spain

Experiences on self-regulation among students in a flipped classroom learning environment

Sanna Väisänen, University of Eastern Finland, Finland; Anni Arffman, University of Eastern Finland, Finland; Laura Hirsto, University of Helsinki/ University of Eastern Finland, Finland

Ace Your Self-study: Using A Mobile Device App to Support Self-regulated Learning

Martine Baars, Erasmus University Rotterdam, Netherlands; Kevin Kamermans, Erasmus University Rotterdam, Netherlands; Fred Paas, Erasmus University Rotterdam, Netherlands

Oral Fluency Improvement through Discourse Marker Practice in a Japanese University EFL Class

Brian Wojtowicz, Kwansei Gakuin University, Japan

Session K: 1

Time: 12:00-13:30

Location: Lecture Hall - H05

SYMPOSIUM: “SHOULD I STAY OR SHOULD I GO?” – ADAPTATION AND DROP-OUT IN HIGHER EDUCATION**Chair**

Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal

Organisers

Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Eleftheria Gonida, Aristotle University of Thessaloniki, Greece

Discussant

Stuart Karabenick, University of Michigan, United States

University students at risk for dropping out: Their motivational and emotional profile

Eleftheria Gonida, Aristotle University of Thessaloniki, Greece; Dimitrios Stamovlasis, Aristotle University of Thessaloniki, Greece; Constantine Aivazidis, Aristotle University of Thessaloniki, Greece; Konstantina Falanga, Aristotle University of Thessaloniki, Greece

“Am I Happy at the University?” – Factors contributing to adaptation to Higher Education

Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Leandro Almeida, University of Minho, Institute of Education, Braga, Portugal; Maria do Céu Taveira, University of Minho, Portugal; José Castro Silva, ISPA-Instituto Universitário, Portugal; Maria João Gouveia, ISPA – Instituto Universitário, APPSyCI, Lisboa, Portugal

Predicting study satisfaction and drop out intentions in higher education: the case of Serbia

Ksenija Krstic, University of Belgrade, Serbia; Ivana Stepanović Ilić, University of Belgrade, Serbia; Marina Videnović, University of Belgrade, Serbia; Oliver Tošković Tošković, University of Belgrade, Serbia

“May I Help you?” – The project SUNStAR: Supporting University Students at Risk of Dropping-Out

Philipp Nolden, RWTH Aachen University, Germany; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Marold Wosnitzka, RWTH Aachen University, Germany; Eleftheria Gonida, Aristotle University of Thessaloniki, Greece

Session K: 2

Time: 12:00-13:30

Location: Lecture Hall - H10

SYMPOSIUM: MATHEMATICAL GIFTEDNESS AND EXPERTISE**Chairs**

Roland H. Grabner, University of Graz, Austria; Bert De Smedt, KU Leuven - University of Leuven, Belgium

Organisers

Roland H. Grabner, University of Graz, Austria; Bert De Smedt, KU Leuven - University of Leuven, Belgium

Discussant

Jake McMullen, University of Turku, Finland

The domain-specific and domain-general cognitive correlates of high achievement in mathematics

Marel Bakker, KU Leuven - University of Leuven, Belgium; Joke Torbeyns, KU Leuven, Belgium; Lieven Verschaffel, KU Leuven, Belgium; Bert De Smedt, KU Leuven - University of Leuven, Belgium

Top 5% math students worldwide: A meta-analysis of gender differences in achievement and motivation

Franzis Preckel, University of Trier, Germany; Lena Keller, University of Potsdam, Germany; Jacquelynne Eccles, University of California, Irvine, United States; Martin Brunner, University of Potsdam, Germany

Predicting academic achievements of high ability STEM students

Michal Berkowitz, ETH Zurich - Research on Learning and Instruction, Switzerland; Elsbeth Stern, ETH Zurich - Research on Learning and Instruction, Switzerland

Creativity and expertise in mathematics - an egg or a chicken?

Roza Leikin, University of Haifa, Israel

Session K: 3

Time: 12:00-13:30

Location: Lecture Hall - H07

SYMPOSIUM: CODING AND ANALYSING TEACHER FEEDBACK QUALITY IN CLASSROOM SITUATIONS**Chair**

Robbert Smit, University of Teacher Education St.Gallen, Switzerland

Discussant

Maria Araceli Ruiz-Primo, Stanford University, United States

Using video technology to examine teacher-student perceptions of oral feedback interactions

Lenore Adie, Australian Catholic University, Australia; Fabienne van der Kleij, Australian Catholic University, Australia; Joy Cumming, Australian Catholic University, Australia

Classroom interaction in elementary school: The role of feedback

Vera Monteiro, Instituto Superior Psicologia Aplicada, Portugal; Lourdes Mata, ISPA - Instituto Superior de Psicologia Aplicada, Portugal; Natalie Nobrega Santos, ISPA - Instituto Superior de Psicologia Aplicada, Portugal; Christina Sanches, ISPA - Instituto Superior de Psicologia Aplicada, Portugal; Marta Gomes, ISPA - Instituto Superior de Psicologia Aplicada, Portugal

Formative feedback on primary students' mathematical reasoning

Andraia Balan, SFF Helsingborg, Sweden; Anders Jonsson, Kristianstad University, Sweden

Video analysis of formative feedback for mathematical reasoning

Patricia Bachmann, University of Teacher Education St.Gallen, Switzerland; Robbert Smit, University of Teacher Education St.Gallen, Switzerland

Session K: 4

Time: 12:00-13:30

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: INTERACTION IN ECEC: FINDINGS FROM GROUP-ORIENTED V INDIVIDUALIZED PERSPECTIVES WITH (IN)CLASS**Chair**

Cathleen Bethke, Leibniz University Hannover, Germany

Organiser

Heike Wadepohl, Leibniz University Hanover, Germany

Discussant

Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates

The association between teacher stress and quality of teacher-child interactions: Moderating factors

Viola Penttinen, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

The impact of play settings/ areas on the quality of teacher-child-interactions

Cathleen Bethke, Leibniz University Hannover, Germany; Heike Wadepohl, Leibniz University Hanover, Germany

Examining the factor structure of the Individualized Classroom Assessment Scoring System (inCLASS)

Eva-Maria Embacher, Institut für Psychosoziale Intervention und Kommunikationsforschung, Leopold-Franzens-Universität Innsbruck, Austria; Wilfried Smidt, University of Innsbruck, Austria

Individual children's interactions and their relation to home learning environment...

Magdalena Riedmeier, University Koblenz-Landau, Campus Landau, Germany; Katharina Kluczniok, Otto-Friedrich-University of Bamberg, Germany; Thilo Schmidt, Universität Koblenz-Landau, Germany

Session K: 5

Time: 12:00-13:30

Location: Lecture Hall - H09

SYMPOSIUM: HISTORY TEXTBOOKS: CONSTRAINTS AND AFFORDANCES FOR HISTORICAL THINKING AND MULTIPERSPECTIVITY**Chair**

Carla Van Boxtel, University of Amsterdam, Netherlands

Organiser

Carla Van Boxtel, University of Amsterdam, Netherlands

Discussant

Tsafrir Goldberg, University of Haifa, Israel

Narrative, metaphor and multiperspectivity in the history classroom. A case study

Marc Kropman, University of Amsterdam, Netherlands; Jannet van Drie, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands

Students' critical analysis of history textbook narratives about universal suffrage

Annetiek Houwen, UvA, Netherlands; Paul Holthuis, Rijksuniversiteit Groningen, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands

History textbooks and the construction of national identity in Syria

Shaima Muhammad, University of Innsbruck, Austria

Implementing the paradigm shift to historical thinking in Austria. The crucial role of textbooks

Roland Bernhard, University of Salzburg, Austria

Session K: 6

Time: 12:00-13:30

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: THEY BELIEVE HAPPILY EVER AFTER: PRE-SERVICE TEACHERS' BELIEFS AND RECEPTION OF EDUCATIONAL RESEARCH**Chair**

Johannes Bauer, University of Erfurt, Germany

Organisers

Eva Thomm, University of Erfurt, Germany; Johannes Bauer, University of Erfurt, Germany

Discussant

Gavin Brown, University of Auckland, New Zealand

Are pre-service teachers aware of their educational psychology misconceptions?

Stephanie Pieschl, Technical University of Darmstadt, Germany; Janene Budd, University of Newcastle, Australia; Jennifer Archer, The University of Newcastle, Australia

Questioning educational research: When evidence challenges pre-service teachers' prior beliefs

Eva Thomm, University of Erfurt, Germany; Johannes Bauer, University of Erfurt, Germany; Bernadette Gold, University of Erfurt, Germany; Tilman Betsch, University of Erfurt, Germany

Pre-service teachers' epistemic trust in educational scientists: A 'smart but evil' stereotype?

Tom Rosman, Leibniz Institute for Psychology Information, Germany; Samuel Merk, University of Tübingen, Germany

The instrumental quality of information sources for teaching: Pre-service teachers' beliefs

Katharina Kiemer, Universität Augsburg, Germany; Ana Gatserella, University of Augsburg, Germany; Ingo Kollar, University of Augsburg, Germany

Session K: 7

Time: 12:00-13:30

Location: Lecture Hall - H11

SYMPOSIUM: LEARNING BY MAKING COMPARATIVE JUDGEMENTS? IT'S ALL ABOUT THE MENTAL EFFORT!**Chair**

Liesje Coertjens, Université catholique de Louvain (UCL), Belgium

Organiser

Tine van Daal, University of Antwerp, Belgium

Discussant

Anders Jonsson, Kristianstad University, Sweden

Learning by making multiple comparative judgements: a longitudinal analysis of mental effort

Tine van Daal, University of Antwerp, Belgium; Vincent Donche, University of Antwerp, Belgium; Sven De Maeyer, University of Antwerp, Belgium

Unpacking teachers' assessment practices in STEM education across countries

Eva Hartell, KTH Royal Institute of Technology, Sweden; Greg Strimel, Purdue University, United States; Scott Bartholomew, Purdue University, United States; Emily Yoshikawa-Ruesch, Purdue University, United States

Learning by comparison: Effects of comparative judgment on feedback and performance in writing

Renske Bouwer, Vrije Universiteit Amsterdam, Netherlands; Marije Lesterhuis, University of Antwerp, Belgium; Pieterjan Bonne, Artevelde University College Ghent, Belgium; Sven De Maeyer, University of Antwerp, Belgium

The feasibility of CJ for assessing medical students' self-reflections

Marije Lesterhuis, University of Antwerp, Belgium; Liesje Coertjens, Université catholique de Louvain (UCL), Belgium; Benedicte De Winter, University of Antwerp, Belgium; Maarten Goossens, University of Antwerp, Belgium; Sven De Maeyer, University of Antwerp, Belgium; Nele Michels, University of Antwerp, Belgium

Session K: 8

Time: 12:00-13:30

Location: Lecture Hall - H08

SYMPOSIUM: CRITICAL THINKING IN HIGHER EDUCATION: EDUCATIONAL GUIDELINES AND INSTRUCTIONAL INTERVENTIONS**Chair**

Anita Heijltjes, Avans University of Applied Sciences, Netherlands

Organisers

Lara van Peppen, Erasmus University Rotterdam, Netherlands; Eva Janssen, Utrecht University, Netherlands

Discussant

Patricia A. Alexander, University of Maryland, United States

Critical Thinking in Higher Education

Aoife Ahern, University College Dublin, Ireland; Ciaran McNally, University College Dublin, Ireland; John O'Sullivan, University College Dublin, Ireland

Towards an 'Educational Protocol' for Stimulating Critical Thinking in Higher Education

Jan Elen, KU Leuven, Belgium; Steven Huyghe, KU Leuven (BE), Belgium; Marleen Evers, KU Leuven (BE), Belgium; Lai Jiang, KU Leuven (BE), Belgium; An Verburg, University College Leuven Limburg, Belgium

Training Higher Education Teachers to Identify Biases in Students' Critical Thinking

Eva Janssen, Utrecht University, Netherlands; Tim Mainhard, Utrecht University, Netherlands; Anita Heijltjes, Avans University of Applied Sciences, Netherlands; Peter Verkoeijen, Erasmus University Rotterdam, Netherlands; Lara van Peppen, Erasmus University Rotterdam, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Can Contrasting Correct and Erroneous Examples Enhance Students' Critical Thinking Skills?

Lara van Peppen, Erasmus University Rotterdam, Netherlands; Peter Verkoeijen, Erasmus University Rotterdam, Netherlands; Anita Heijltjes, Avans University of Applied Sciences, Netherlands; Eva Janssen, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Session K: 9

Time: 12:00-13:30

Location: Seminar Room - S03

SYMPOSIUM: NEW PERSPECTIVES ON PLAYFUL LEARNING IN EARLY STEM EDUCATION**Chair**

Timo Reuter, University of Koblenz-Landau, Germany

Organiser

Timo Reuter, University of Koblenz-Landau, Germany

Discussant

Tessa van Schijndel, University of Amsterdam, Netherlands

Preschooler's Concepts and Problem Solving in the Domain of Gears in the Context of Guided Play

Timo Reuter, University of Koblenz-Landau, Germany; Miriam Leuchter, University of Koblenz - Landau, Germany

Preschoolers' Early Engineering Thinking and Metacognitive Capabilities during Constructional Task

Taly Shechter, Da-Gan Center The National Teacher Center for the Advancement of Scientific, Technological and Mathematical Education in Preschool, Israel; Ornit Spektor-Levy, Bar-Ilan University, Israel

Scaffolding to support autonomy promotes children's self-regulated learning

Audrey Kittredge, Consultant, United States; Krishna Kulkarni, Faculty of Education, University of Cambridge, United Kingdom; Natalie Day, Faculty of Education, University of Cambridge, United Kingdom; Sara Baker, Faculty of Education, United Kingdom

The effect of a guided play session on preschoolers' knowledge about balance

Anke Maria Weber, University of Koblenz-Landau, Germany; Miriam Leuchter, University of Koblenz - Landau, Germany

Session K: 10

Time: 12:00-13:30

Location: Seminar Room - S05

SINGLE PAPER: MOTIVATION AND READING COMPREHENSION**Chair**

Ilse Hakvoort, Göteborg University, Sweden

The role of gender stereotypes in reading motivation: A study in high-school Chilean Students

Ana María Espinoza Catalán, Pontificia Universidad Católica de Chile, Chile; Katherine Strasser Salinas, Pontificia Universidad Católica de Chile, Chile

The relation between 9th grade students' reading motivation, reading behavior, and comprehension.

Kim Van Ammel, Ghent University, Belgium; Hilde Van Keer, Ghent University, Belgium; Koen Aesaert, Ghent University, Belgium

Reading gains and social validity of personalized book reading intervention in secondary school.

Suzanne Mol, Leiden University, Netherlands; Christine Espin, Leiden University, United States

Does comprehensibility influence the readers' intrinsic motivation during reading?

Marcus Friedrich, Institut für Pädagogische Psychologie, TU Braunschweig, Germany; Elke Heise, Institut für Pädagogische Psychologie, TU Braunschweig, Germany

Session K: 11

Time: 12:00-13:30

Location: Seminar Room - S13

SINGLE PAPER: REFLECTION**Chair**

Katja Scharenberg, University of Education Freiburg, Germany

Cultivation of science process skills by promoting effective collaboration and reflection

Etsuko Tanaka, Nagoya University, Japan; Yuri Uesaka, The University of Tokyo, Japan; Satomi Shiba, The University of Tokyo, Japan

Professional identities of English literature teachers in South Africa

Salome Romylos, North-West University, South Africa

Dialogic tensions in pre-service subject teachers' identity negotiations

Maarit Arvaja, University of Jyväskylä, Finland; Anneli Sarja, University of Jyväskylä, Finland

Teachers' occupational attributes and their psychological wellbeing and job satisfaction

Hanke Korpershoek, University of Groningen, Netherlands; Dennis McInerney, The Australian Catholic University, Australia; Hui Wang, McGill University, Montreal, Canada; Alexandre Morin, Concordia University, Montreal, Canada

Session K: 12

Time: 12:00-13:30

Location: Seminar Room - S12

SINGLE PAPER: INQUIRY LEARNING IN PRIMARY EDUCATION**Chair**

Denis Francesconi, Danish School of Education, Denmark

New approaches to Philosophy with Children: two methods for developing Community of Inquiry practice

Laura Kerslake, University of Cambridge, UK, United Kingdom; Enrico Postiglione, University of Modena & Reggio Emilia, Italy

Understanding Causal Relationships at Primary School

Calliste Scheibling, Paris 8 University, France; Elena Pasquinelli, Foundation La main à la pâte, France; Emmanuel Sander, University of Geneva, Switzerland

What happens during Scaling up? Promoting Primary School Children's Inquiry Learning

Julia Schiefer, University of Tuebingen, Germany; Jessika Golle, University of Tuebingen, Germany; Ulrich Trautwein, University of Tübingen, Germany

Intervention on Sixth Graders Online Inquiry Skills in Science

Norbert Erdmann, University of Turku, Finland; Mirjamaija Mikkilä-Erdmann, University of Turku, Finland; Eero Sormunen, University of Tampere, Finland; Marja Vauras, University of Turku / Faculty of Education, Finland

Session K: 13

Time: 12:00-13:30

Location: Seminar Room - S07

SINGLE PAPER: MIXED-METHOD RESEARCH IN LEARNING TECHNOLOGIES**Chair**

Esther Kaufmann, University of Education Zurich / University of Zurich, Switzerland

The use of the « Lantern » tool to promote self-regulation learning and classroom management

Sheila Padiglia, HEP-BEJUNE, University of teacher education, Switzerland; Stéphanie Boéchat-Heer, HEP-BEJUNE, Switzerland; Céline Miserez-Caperos, HEP-BEJUNE, University of teacher education, Switzerland

Self-regulated learning skills matter in dashboard sense-making

Ioana Jivet, Open University of the Netherlands, Netherlands; Maren Scheffel, Open University of the Netherlands, Netherlands; Marcel Schmitz, Zuyd University of Applied Sciences, Netherlands; Marcus Specht, Open University of the Netherlands, Netherlands; Hendrik Drachler, Goethe University Frankfurt, Germany

Dialect and Standard Language in Kindergarten

Johanna Quiring, University of Education St.Gallen, Switzerland; Franziska Vogt, University of Teacher Education St.Gallen, Switzerland; Martina Zumtobel, Pädagogische Hochschule Vorarlberg, Austria; Cordula Löffler, University of Education Weingarten, Germany

Using Eye-tracking and EEG to investigate the Redundancy Principle in Virtual Reality

Sarune Baceviciute, University of Copenhagen, Denmark; Thomas Terkildsen, University of Copenhagen, Denmark; Guido Makransky, University of Copenhagen, Denmark

Session K: 14

Time: 12:00-13:30

Location: Seminar Room - S09

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS IN HIGHER EDUCATION**Chair**

Esther Adi-Japha, Bar-Ilan University, Israel

An investigation of students' actions in response to written feedback in a science course

Costas Constantinou, University of Cyprus, Cyprus; Elena Siakidou, University of Cyprus, Cyprus; Evangelia Irakleous, University of Cyprus, Cyprus; Olia Tsivitanidou, University of Cyprus, Cyprus

Validity and Resource Affordances in Examinations: A Theoretical and Methodological Framework

Tobias Halbherr, Swiss Federal Institute of Technology Zurich / ETH Zurich, Switzerland

Undergraduates' and graduates' critical thinking skills in a performance assessment

Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Susanne Schmidt2, Johannes Gutenberg-Universität Mainz, Germany; Richard Shavelson, Stanford University, United States; Klaus Beck, Johannes Gutenberg-Universität Mainz, Germany; Dimitri Molerov, Humboldt-University Berlin, Germany; Jana Jurisch, Johannes Gutenberg-Universität Mainz, Germany

What's the point: Do annotations on students' work promote self-regulation?

Cathrine Derham, University of Surrey, United Kingdom; Kieran Balloo, University of Surrey, United Kingdom; Naomi Winstone, University of Surrey, United Kingdom; Maria Norman, University of Surrey, United Kingdom

Session K: 15

Time: 12:00-13:30

Location: Seminar Room - S14

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS**Chair**

Julia Hein, University of Mannheim, Germany

Alternative assessment: Toward Advancing Future Skills [ASSET: Erasmus+ co-funded project]

Dorit Alt, Kinneret College on the Sea of Galilee, Israel; Nirit Raichel, Kinneret College on the Sea of Galilee, Israel

Feedback metaphors in online learning environments

Lasse Jensen, University of Copenhagen, Denmark; Margaret Bearman, Deakin University, Australia; David Boud, University of Technology Sydney/ Deakin University, Australia

A systematic review of methods for the assessment of collaborative learning in higher education

Hajo Meijer, University of Groningen, Netherlands; Jasperina Brouwer, University of Groningen, Netherlands; Rink Hoekstra, University of Groningen, Netherlands; Jan-Willem Strijbos, University of Groningen, Netherlands

The state of the art of interprofessional assessment in undergraduate health and social education.

Hester Smeets, Zuyd University of Applied Sciences & Maastricht University, Netherlands; Dominique Sluijsmans, Zuyd University of Applied Sciences, Netherlands; Jeroen Van Merriënboer, Maastricht University, Netherlands; Albine Moser, Zuyd University of Applied Sciences, Netherlands

Session K: 16

Time: 12:00-13:30

Location: Seminar Room - S11

SINGLE PAPER: TEACHER EFFECTIVENESS AND TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Alexander Eitel, University of Freiburg, Germany

A preliminary typology of teachers with multiple jobs based on professional life stories

Lianne Teder, Tallinn University, Estonia; Rain Mikser, Tallinn University, Institute of Educational Sciences, Estonia

Investigating the Effectiveness of an Individualized Coaching Approach for Mathematics Teachers

Dionne Cross Francis, Indiana University, United States; Ji Hong, University of Oklahoma, United States

Fostering teachers' competences in the context of digital transformation – evidence from Switzerland

Josef Guggemos, University St.Gallen, Switzerland; Sabine Seufert, University of St.Gallen, Switzerland

Measuring science instruction with a tablet e-portfolio: Reliability with units of different length

Jose Felipe Martinez, University of California, Los Angeles, United States; Matthew Kloser, University of Notre Dame, France; Jayashri Srinivasan, University of California, Los Angeles, United States; Brian Stecher, The RAND Corporation, United States; Amanda Edelman, The RAND Corporation, United States

Session K: 17

Time: 12:00-13:30

Location: Seminar Room - S02

SINGLE PAPER: EVOLUTIONARY EDUCATIONAL PSYCHOLOGY: CONSIDERING PRIMARY KNOWLEDGE TO FACILITATE LEARNING**Chair**

Antonio Iannaccone, Institut de Psychologie et Education, Switzerland

Motivate Learners and Promote Formal Logic Learning through Primary Knowledge

Florence Lespiau, University of Toulouse, France; André Tricot, University of Toulouse, France

Gesturing and Manipulations: Primary Skills that Aid Attaining Secondary STEM Skills

Juan Cristobal Castro-Alonso, Universidad de Chile, Chile; Paul Ayres, University of New South Wales, Australia; Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Does Foreign Language Learning Concern Primary or Secondary Knowledge?

André Tricot, University of Toulouse, France; Stéphanie Roussel, LACES - University of Bordeaux, France; John Sweller, University of New South Wales, Australia

Finger Pointing to Self-manage Cognitive Load in Learning from Split-attention Examples

Shirong Zhang, Erasmus University Rotterdam, Netherlands; Bjorn B. de Koning, Erasmus University Rotterdam, Netherlands; Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Session K: 18

Time: 12:00-13:30

Location: Seminar Room - S01

SINGLE PAPER: COMPUTER-ASSISTED LEARNING**Chair**

Thorsten Scheiner, Institute for Learning Sciences & Teacher Education, ACU, Australia

Siri and 'friends' challenging the research on speaking and writing, conceptual issues and outlooks

Béatrice Arend, University of Luxembourg, Luxembourg; Pierre FIXMER, Institut of Education and Society (InEs), Luxembourg

Comparative feedback and reflection as a factor in student-centered learning in vocational education

Elise Eshuis, University of Twente, Netherlands; Judith ter Vrugte, University of Twente, Netherlands; Anjo Anjewierden, University of Twente, Netherlands; Ton de Jong, University of Twente, Netherlands

Trade-offs between time-on-task and retrospective action in computer supported inquiry learning

Nikoletta Xenofontos, University of Cyprus, Cyprus; Tasos Hovardas, University of Cyprus, Cyprus; Zacharias Zacharia, University of Cyprus, Cyprus; Ton de Jong, University of Twente, Netherlands

Students' perceptions & need for relatedness in blended learning: A learning analytics intervention

Elise Ameloot, Ghent University, Belgium; Tijs Rotsaert, Ghent University, Belgium; Tammy Schellens, Ghent University, Belgium

Session K: 19

Time: 12:00-13:30

Location: Seminar Room - S10

SINGLE PAPER: MORAL AND DEMOCRATIC EDUCATION**Chair**

Katharina Neuber, University of Duisburg-Essen, Germany

Not Able to Resist the Temptation: The Moral Landscape of Bystanders of Bullying

Eveline Gutzwiller-Helfenfinger, University of Fribourg, Switzerland

Smart morality: Happy victimizing, moral hypocrisy, and moral resilience in a game-theoretic context

Gerhard Minnameier, Goethe-Universität Frankfurt, Germany; Tim Bonowski, University of Frankfurt, Germany

Educational democratic values in Vietnamese secondary education

T.T.Tinh Le, ICLON-Leiden University Graduate School of Teaching, Netherlands; Dineke Tigelaar, Leiden University, Netherlands; Wilfried Admiraal, Leiden University, Netherlands

Learning and development of historical thinking from a historical-cultural perspective

Natalia Albornoz, Pontificia Universidad Católica de Chile, Chile; Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile

Session K: 20

Time: 12:00-13:30

Location: Seminar Room - S15

SINGLE PAPER: ONLINE AND COMPUTER-SUPPORTED COLLABORATIVE LEARNING**Chair**

Ellen Kok, Utrecht University, Netherlands

Process-oriented and collaborative learning of new software for the workplace

Mandy Hommel, TU Dresden, Germany

Investigating the (im)permeable membrane of virtual sites for learning: critical explorations

Giulia Messina Dahlberg, University of Gothenburg, Sweden

Combining data mining and traditional statistics: An example from educational technology research

Elisabeth Duursma, University of Wollongong/Early Start Research Institute, Australia; Carlos González-Ugalde, Pontificia Universidad Católica de Chile, Chile; Sarah Howard, University of Wollongong, Australia; Jie Yang, University of Wollongong, Australia; Jun Ma, University of Wollongong, Australia

Digitalization in upper secondary schools in Switzerland: Principals' leadership, beliefs and goals

Michael Ruloff, ISEK, School of Education, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Dominik Petko, Schwyz University of Teacher Education, Switzerland

Session K: 21

Time: 12:00-13:30

Location: Seminar Room - S06

SINGLE PAPER: MODEL-BASED REASONING AND ARGUMENTATION IN SCIENCE EDUCATION**Chair**

Jule Krüger, Universität Duisburg-Essen, Germany

Teaching science through curriculum-supported argumentation: Learning through arguing and thinking

Antonia Larrain, Universidad Alberto Hurtado, Chile; Patricia López, Universidad Alberto Hurtado, Chile; Jorge Pinochet, Universidad Alberto Hurtado, Chile; Katherine Strasser, Pontificia Universidad Católica de Chile, Chile; Christine Howe, University of Cambridge, United Kingdom; Selma Leitao, Universidad Federal de Pernambuco, Brazil; Camila Moran, Universidad Alberto Hurtado, Chile; Alvaro Sanchez, Universidad Alberto Hurtado, Chile; Maximiliano Silva, Universidad Alberto Hurtado, Chile; Constanza Villavicencio, Universidad Alberto Hurtado, Chile; Carla Varela, Universidad Diego Portales, Chile

Towards a definition and measurement of socio-scientific argumentation: A literature review

Olga Ioannidou, Ludwig-Maximilians-Universität (LMU), Germany; Andreas Hetmanek, Technical University of Munich (TUM), Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Examining argumentative essays across a curriculum and identifying ruling-out arguments

Hebbah El-Moslimany, Rutgers University, United States; Clark Chinn, Rutgers University, United States; Ravit Duncan, Rutgers University, United States; Elizabeth O'Brien, Rutgers University, United States

Students' Use of Epistemic Criteria Across Model Evaluation Tasks

Na'ama Av-Shalom, Rutgers University Graduate School of Education, United States; Brandon Maclair-Augustin, Rutgers University, United States; Hebbah El-Moslimany, Rutgers University, Graduate School of Education, United States; Veronica Cavera, Rutgers University Graduate School of Education, United States; Ravit Duncan, Rutgers University, United States; Clark Chinn, Rutgers University, United States

Session K: 22

Time: 12:00-13:30

Location: Seminar Room - S04

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS**Chair**

Cyril Brom, Charles University, Czech Republic

Choosing a study for higher education: The identification of decision-making profiles

Lien Demulder, KU LEUVEN, Belgium; Vincent Donche, University of Antwerp, Belgium; Marlies Lacante, Faculty Psychology and Educational Sciences, Belgium

Development of an adaptive Flemish reading comprehension test for secondary school students

Blijde Van Driessche, University of Ghent, Belgium; Emmelien Merchie, Ghent University, Belgium; Hilde Hacqueboard, University of Groningen, Netherlands; Hilde Van Keer, Ghent University, Belgium

A psychometric validation of the three dimensions of the short-form CART (Stanovich et al., 2017).

Marion Tillema, Avans Hogeschool / Avans University of Applied Sciences, Netherlands

Increasing the Flexibility of Large-Scale Assessments with Fixed Item Parameter Calibration

Christoph Koenig, Goethe University Frankfurt am Main, Germany; Lale Khorramdel, Educational Testing Service, United States; Kentaro Yamamoto, Educational Testing Service, United States; Andreas Frey, Goethe University Frankfurt am Main, Germany

Keynotes - PART 1:1

Time: 13:45-15:15

Location: Lecture Hall - H02 - Trivago Hörsaal

EARLI KEYNOTE SESSION: AT THE BOUNDARY OF SCHOOL: DIS/CONTINUITIES IN STUDENTS' IN AND OUT-OF-SCHOOL PARTICIPATIONS**Chair**

Äli Leijen, University of Tartu, Estonia

At the boundary of school: Dis/continuities in students' in and out-of-school participations

Larika Bronkhorst, Utrecht University, Netherlands

Keynotes - PART 1:2

Time: 13:45-15:15

Location: Lecture Hall - H01

EARLI KEYNOTE SESSION: RESEARCH ON TEACHING: CONTENT MATTER, PRACTICES, QUALITY AND EFFECTIVENESS**Chair**

Daniel Muijs, Ofsted, United Kingdom

Research on Teaching: Content Matter, Practices, Quality and Effectiveness

Eckhard Klieme, German Institute for International Educational Research (DIPF), Germany

Keynotes - PART 1:3

Time: 13:45-15:15

Location: Lecture Hall - H03 - Otto Fuchs Hörsaal

EARLI KEYNOTE SESSION: WHEN PRODUCTIVE FAILURE FAILS**Chair**

Eleni Kyza, Cyprus University of Technology, Cyprus

When Productive Failure Fails

Manu Kapur, ETH Zurich, Switzerland

Session L: 1

Time: 15:30-17:00

Location: Seminar Room - S05

SIG INVITED SYMPOSIUM: ANTECEDENTS AND OUTCOMES OF TEACHING QUALITY IN INCLUSIVE CLASSROOMS**Chair**

Elisabeth Moser Opitz, University of Zurich, Switzerland

Discussant

Hannu Savolainen, University of Jyväskylä, Finland

Differentiation in Secondary School – Do teachers' attitudes and self-efficacy beliefs matter?

Susanne Schwab, University of Vienna & North-West University, Vanderbijlpark, South Africa, Austria; Lisa Hoffmann, University of Wuppertal, Germany; Umesh Sharma, Monash University, Australia

Differentiation in Inclusive Classrooms - Results of a Video Study

Elisabeth Moser Opitz, University of Zurich, Switzerland; Helena Krähenmann, University of Zurich, Switzerland; Sarah Jandl, University of Teacher Education Zurich, Switzerland; Franziska Felder, University of Zurich, Switzerland; Rachel Sermier Dessemontet, University of Teacher Education Vaud, Switzerland

What matters for the Learning Gains of Students in Inclusive Classrooms?

Elisabeth Moser Opitz, University of Zurich, Switzerland; Helena Krähenmann, University of Zurich, Switzerland; Sarah Jandl, University of Teacher Education Zurich, Switzerland; Franziska Felder, University of Zurich, Switzerland; Susanne Schnepel, Institute of Education, Switzerland; Rachel Sermier Dessemontet, University of Teacher Education Vaud, Switzerland

Is there a dark side of co-teaching? Relations of co-teaching and students' academic achievement

Thorsten Henke, Faculty of Humanities, Germany; Nadine Spörer, University of Potsdam, Germany; Stefanie Bosse, University of Potsdam, Germany

Session L: 2

Time: 15:30-17:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: ANALYZING TRACE DATA AS AN APPROACH FOR THE INVESTIGATION OF CENTRAL PROCESSES OF READING**Chair**

Carolin Hahnel, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany

Organiser

Cornelia Schoor, University of Bamberg, Germany

Discussant

Philip Winne, Simon Fraser University, Canada

Strategic processing of a reading comprehension test: trace data on the allocation of study time

Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany; Ilka Wolter, Leibniz Institute for Educational Trajectories (LifBi), Germany

Processes of multiple document comprehension and their relationship to test performance

Cornelia Schoor, University of Bamberg, Germany; Carolin Hahnel, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Nina Mahlow, Leibniz Institute for Educational Trajectories (LifBi), Germany; Ulf Kroehne, DIPF, Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Cordula Artelt, Leibniz Institute for Educational Trajectories, Germany

Impact of selective and general task instructions in multiple documents reading

Raquel Cerdan, Faculty of Psychology, University of Valencia, Spain; Carmen Marín, University of Valencia, Spain

Investigating sixth graders' selection and use of main ideas from multiple online texts

Carita Kiili, University of Oslo, Norway; Nina Kullberg, University of Jyväskylä, Finland; Ivar Bråten, University of Oslo, Norway; Roberto Gonzáles-Ibáñez, University of Santiago, Chile; Paavo H. T. Leppänen, University of Jyväskylä, Finland

Session L: 3

Time: 15:30-17:00

Location: Lecture Hall - H11

SYMPOSIUM: RECONSIDERING THE CONCEPT OF SOCIAL INTEGRATION IN THE FIRST YEAR OF HIGHER EDUCATION**Chair**

Vincent Donche, University of Antwerp, Belgium

Organisers

Vincent Donche, University of Antwerp, Belgium; Jonas Willems, University of Antwerp, Belgium

Discussant

Mariane Frenay, Université catholique de Louvain (UCL), Belgium

Examining social integration in the first year of higher education: a mixed-method approach

Elke Bosse, University of Hamburg, Germany; Carla Bohndick, University of Hamburg, Germany; Vanessa Jaensch, University of Hamburg, Germany

A network perspective on social integration and achievement in learning communities

Jasperina Brouwer, University of Groningen, Netherlands; Andreas Flache, University of Groningen, Netherlands; Ellen Jansen, University of Groningen, Netherlands; Adriaan Hofman, University of Groningen, Netherlands; Christian Steglich, University of Groningen, Netherlands

A longitudinal investigation of students' social requirements in the first year at the university

Mikaël De Clercq, Université catholique de Louvain (UCL), Belgium

Important factors of the social integration process of first-year university college students

Jonas Willems, University of Antwerp, Belgium; Liesje Coertjens, Université catholique de Louvain (UCL), Belgium; Vincent Donche, University of Antwerp, Belgium

Session L: 4

Time: 15:30-17:00

Location: Lecture Hall - H07

SYMPOSIUM: TEACHING TO/ABOUT DIVERSITY: TEACHING AND TEACHER EDUCATION**Chair**

Jo Lunn Brownlee, Queensland University of Technology, Australia

Discussant

Florian Feucht, www.ThinkingHabitats.com, United States

3R-EC Framework for teacher educator reflexivity about teaching to/about diversity

Jo Lunn Brownlee, Queensland University of Technology, Australia; Susan Walker, Queensland University of Technology, Australia; Leonie Rowan, Griffith University, Australia

Enablers and constraints experienced by teacher educators when teaching to/about diversity

Mary Ryan, Macquarie University, Australia; Terri Bourke, Queensland University of Technology (QUT), Australia

Belonging in the classroom: Partnering for Change (P4C)

Sarah Meuser, Zuyd University of Applied Sciences, Netherlands; Barbara Piskur, Zuyd University of Applied Sciences, Netherlands

Politics of belonging: processes of inclusion and exclusion in educational settings

Anita Berge, University of Stavanger, Norway; Eva Marianne Johansson, University of Stavanger, Faculty of Arts and Education, Norway

Session L: 5

Time: 15:30-17:00

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: DEFINING AND MEASURING CURIOSITY IN THE CONTEXT OF LEARNING AND SCIENTIFIC PRACTICES**Chair**

Tessa van Schijndel, University of Amsterdam, Netherlands

Organiser

Tessa van Schijndel, University of Amsterdam, Netherlands

Discussant

Susanne Koerber, University of Education Freiburg, Germany

A novel approach to the assessment of curiosity

Brenda Jansen, University of Amsterdam, Netherlands; Tycho Dekkers, University of Amsterdam, Netherlands; Tessa van Schijndel, University of Amsterdam, Netherlands

Measuring Preschooler's Curiosity by a Set of Integrated Scientific Educational Experiences

Ornit Spektor-Levy, Bar-Ilan University, Israel; Yael Kesner Baruch, Levinsky College of Education, Tel Aviv, Israel; Zemira Mevarach, Bar Ilan University, Israel

Curiosity and Inquiry-Based Learning

Tessa van Schijndel, University of Amsterdam, Netherlands; Brenda Jansen, University of Amsterdam, Netherlands; Maartje Raijmakers, University of Amsterdam, Netherlands

The importance of curiosity in the classroom: Methods of studying curiosity across contexts

Sharon Zumbunn, Virginia Commonwealth University, United States; Jamie Jirout, University of Virginia, United States; Virginia Vitiello, University of Virginia, United States

Session L: 6

Time: 15:30-17:00

Location: Lecture Hall - H08

SYMPOSIUM: EPISTEMIC CHANGE FROM MULTIPLE PERSPECTIVES**Chairs**

Tom Rosman, Leibniz Institute for Psychology Information, Germany; Eric Klopp, Saarland University, Germany

Discussant

Ivar Bråten, University of Oslo, Norway

Epistemic Change in the First Year of Studying Psychology in Six European Countries

Peter Edelsbrunner, ETH Zurich, Switzerland; Nina Vaupotič, University of Münster, Germany

Case studies of (pre-service) teachers' changing epistemic cognition

Leila Ferguson, Kristiania University College, Norway

Does resolving conflicting scientific claims lead to more nuanced views on science?

Tom Rosman, Leibniz Institute for Psychology Information, Germany; Martin Kerwer, Leibniz-Institute for Psychology Information (ZPID), Germany

Indirect and direct interventions to foster epistemic change and argumentation

Eric Klopp, Saarland University, Germany; Robin Stark, Saarland University, Germany

Session L: 7

Time: 15:30-17:00

Location: Lecture Hall - H09

SYMPOSIUM: CLASSROOM BEHAVIOR AND ITS RELATION TO STUDENT MOTIVATION AND ENGAGEMENT**Chair**

Jennifer Symonds, University College Dublin, Ireland

Organisers

Maximilian Knogler, Technical University of Munich (TUM), Germany; Ricardo Böheim, Technical University of Munich, Germany

Discussant

K. Ann Renninger, Swarthmore College, United States

What Motivates Students' Hand-Raising? On the relation between motivation and student behavior

Ricardo Böheim, Technical University of Munich, Germany; Maximilian Knogler, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Collaborative group behavior as indices of students' group and individual motivation and engagement

Toni Rogat, Purdue University, United States; Britte Cheng, SRI International, United States; Anne Traynor, Purdue University, United States; Temitope Adeoye, Purdue University, United States; Andrea Gomoll, Indiana University, United States; Patrik Lundh, SRI International, United States; Cindy Hmelo-Silver, Indiana University, United States

Silver linings: Can students be disengaged on the outside but engaged on the inside?

Jennifer Symonds, University College Dublin, Ireland; James Schreiber, Duquesne University, United States; Benjamin Torsney, University College Dublin, Ireland

The relation between self-regulation and self-reported versus observed participation during class

V. Charlotte Corrodi, Pädagogische Hochschule St. Gallen, Switzerland; Franziska Vogt, University of Teacher Education St. Gallen, Switzerland; Doris Kunz Heim, PH FHNW, Switzerland

Session L: 8

Time: 15:30-17:00

Location: Lecture Hall - H10

SYMPOSIUM: THE TESTING EFFECT: COGNITIVE MECHANISMS AND PRACTICAL APPLICATION**Chair**

Tim Surma, Open University of the Netherlands, Netherlands

Organiser

Gesa van den Broek, Utrecht University, Netherlands

Discussant

Peter Verkoeijen, Erasmus University Rotterdam, Netherlands

The testing effect and individual differences in cognitive proficiency

Bert Jonsson, Umeå University, Sweden; Carola Wiklund-Hörnqvist, Umeå University, Sweden, Sweden; Tova Stenlund, Umeå University, Sweden, Sweden

The effect of test format on perceived mental effort

Leonora Coppens, Utrecht University, Netherlands; Mario de Jonge, University Utrecht, Netherlands; Tamara Van Gog, Utrecht University, Netherlands; Liesbeth Kester, Utrecht University, Netherlands

Moderators of the Testing Effect: Type of Retrieval Practices Interacts with Interrelated Texts

Tino Endres, University of Freiburg, Germany; Alexander Renkl, University of Freiburg, Germany

Testing the Testing Effect in Contextualized Learning: Effects of Retrieval during Story Reading

Gesa van den Broek, Utrecht University, Netherlands; Eva Wesseling, Utrecht University, Netherlands; Linske Huijssen, Utrecht University, Netherlands; Liesbeth Kester, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Session L: 9

Time: 15:30-17:00

Location: Lecture Hall - H05

SYMPOSIUM: MEASURING AND SUPPORTING SELF-REGULATED LEARNING IN DIFFERENT CONTEXTS IN HIGHER EDUCATION**Chairs**

Jacqueline Wong, Erasmus University Rotterdam, Netherlands; Felicitas Biwer, Maastricht University, FHML, Dept. of Educational Research and Development, Netherlands

Organisers

Hans Smolderen, Antwerp University, Belgium; Michelle Taub, University of Central Florida, United States

Discussant

Inge Molenaar, Radboud University Nijmegen, Netherlands

Investigating the Role of Students' Preparation on the In-Class Learning Behavior: A SRL Perspective

Hans Smolderen, Antwerp University, Belgium; David Gijbels, University of Antwerp, Belgium; Sven De Maeyer, University of Antwerp, Belgium

Fostering Students' Learning Strategies in Higher education – An Explanatory Mixed-Method Study

Felicitas Biwer, Maastricht University, FHML, Dept. of Educational Research and Development, Netherlands; Anique de Bruin, Maastricht University, Netherlands; Pauline Aalten, Maastricht University, Netherlands; Mirjam oude Egbrink, Maastricht University, Netherlands

Supporting Self-Regulated Learning in a Massive Open Online Course: Do Learners Benefit?

Jacqueline Wong, Erasmus University Rotterdam, Netherlands; Martine Baars, Erasmus University Rotterdam, Netherlands; Björn de Koning, Erasmus University Rotterdam, Netherlands; Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Using Multimodal Data to Detect Self-Regulatory Processes During Learning with a Multimedia-System

Michelle Taub, University of Central Florida, United States; Robert Sawyer, North Carolina State University, United States; Megan J. Price, University of Central Florida, United States; James Lester, North Carolina State University, United States; Roger Azevedo, University of Central Florida, United States

Session L: 10

Time: 15:30-17:00

Location: Seminar Room - S09

SINGLE PAPER: EDUCATIONAL EFFECTIVENESS**Chair**

Jan VAN DAMME, KU Leuven, Belgium

Student, teacher and classroom level correlates of sixth' grade students' listening skills

Heleen Bourdeaud'hui, Ghent University, Belgium; Koen Aesaert, Ghent University, Belgium; Johan van Braak, Ghent University, Belgium

The effect of Success for All on pro- and antisocial behavior of young students in elementary school

Marij Veldman, University of Groningen, Netherlands; Simone Doolaard, University of Groningen, Netherlands; Mariëtte Hingstman, Rijksuniversiteit Groningen, Dept of Education and GION, Netherlands; Tom Snijders, University of Groningen, Netherlands; Roel J. Bosker, Rijksuniversiteit Groningen, Dept of Education and GION, Netherlands

Primary students' participation in extracurricular activities in German all-day schools

Wolfram Rollett, University of Education Freiburg, Germany; Karin Lossen, IFS, Technical University of Dortmund, Germany; Katja Tillmann, TU Dortmund University, Germany; Heinz Günter Holtappels, TU Dortmund University, Germany

Identification of an Evidence Base – Effective Teaching in secondary STEM Education

Maximilian Knogler, Technical University of Munich (TUM), Germany; Andreas Hetmanek, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Session L: 11

Time: 15:30-17:00

Location: Seminar Room - S13

SINGLE PAPER: CONCEPTUAL CHANGE**Chair**

Denisse Gelber, Centro de Justicia Educacional, Pontificia Universidad Católica de Chile, Chile

How to promote epistemic change? Effects of reading and reflecting on resolvable controversies.

Martin Kerwer, Leibniz-Institute for Psychology Information (ZPID), Germany; Tom Rosman, Leibniz-Institute for Psychology Information (ZPID), Germany

Is natural number bias the unique reason of misunderstanding rational number size?

Juan Manuel González-Forte, Universidad de Alicante, Spain; Ceneida Fernández, Universidad de Alicante, Spain; Jo Van Hoof, KU Leuven, Belgium; Wim Van Dooren, KU Leuven, Centre for Instructional Psychology and -Technology (Vesaliusstraat 2, 3000 Leuven), Belgium

Conceptual change challenges in medicine - from biomedical knowledge to clinical reasoning

Ilona Södervik, University of Helsinki, Finland; Mirjamaija Mikkilä-Erdmann, University of Turku, Finland; Michelene Chi, Arizona State University, United States

Looking at Conceptual Development and Conceptual Change from a Complex Systems Framework

Stella Vosniadou, Flinders University, Australia

Session L: 12

Time: 15:30-17:00

Location: Seminar Room - S11

SINGLE PAPER: EDUCATIONAL THEORY AND STUDENT LEARNING**Chair**

Astrid Camilla Wiig, University of South-Eastern Norway, Norway

Implications of Competence-Based Education Approaches to Curriculum Policy-making

Armend Tahirsylaj, Norwegian University of Science and Technology (NTNU), Norway; Daniel Sundberg, Linnaeus University, Sweden

Blossoming in schools. On the flourishing of pupils and teachers

Doret de Ruyter, University of Humanistic Studies, Netherlands

Linking Low-Stakes and High-Stakes Assessments over Person Ability Scores

Martin J. Tomasik, University of Zurich, Switzerland; Laura A. Helbling, University of Zurich, Switzerland; Stéphanie Berger, University of Zurich, Switzerland; Urs Moser, University of Zurich, Switzerland

Building students' collaborative knowledge work competence in upper secondary classrooms

Minna Lakkala, University of Helsinki, Finland; Liisa Ilomäki, University of Helsinki, Finland; Hanni Muukkonen, University of Helsinki, Finland; Auli Toom, University of Helsinki, Finland

Session L: 13

Time: 15:30-17:00

Location: Seminar Room - S03

SINGLE PAPER: EDUCATIONAL POLICY**Chair**

Sanaz Farhangi, Florida International University, United States

Cheating Among International Students: A New Challenge to Universities in the Era of Globalization

Perry Gao, Harvard University, United States; Arvid Nagel, University of Teacher Education St.Gallen, Switzerland

Scaling up instructional innovations by collaboration between researchers and instructional leaders

Anat Zohar, Hebrew University, Israel; Tova Michalsky, Bar Ilan University, Israel; Yehudith Weinberger, Kibbutzim College of Education, Israel

A Critical View on Quality of Life Policies in Education Systems.

Denis Francesconi, Danish School of Education, Denmark; Venka Simovska, Danish School of Education, Denmark

Research on curriculum informing inspection

Daniel Muijs, Ofsted, United Kingdom

Session L: 14

Time: 15:30-17:00

Location: Seminar Room - S12

SINGLE PAPER: LEARNING ANALYTICS**Chair**

Therese Grohnert, Maastricht University, Netherlands

Predictive Analytics for Serious Games

Michael Kickmeier-Rust, University of Teacher Education, Switzerland

A learner dashboard and digital formative assessment approach for teamwork in Secondary schools

Elizabeth Koh, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Jennifer Tan, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Yi-Huan Tee, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Dhivya Suresh, National Institute of Education/Nanyang Technological University, Singapore, Singapore

Hypervideo annotations: Learning analytics, content analysis, and lecturers and students' interviews

Ina Blau, Open University of Israel, Israel; Tamar Shamir-Inbal, Open University of Israel, Israel

Efficiency Matters: Revealing Clinical Reasoning Patterns Using Sequential Mining Techniques

Shan Li, McGill University, Canada; Juan Zheng, McGill University, Canada; Amanda Jarrell, McGill University, Canada; Susanne Lajoie, McGill University, Canada

Session L: 15

Time: 15:30-17:00

Location: Seminar Room - S01

SINGLE PAPER: TEACHING AND INSTRUCTIONAL DESIGN**Chair**

Julian Decius, University of Paderborn, Germany

Teaching historical agency. Examining changes in students' perception of agency in past and present

Marjolein Wilke, KU Leuven, Belgium; Fien Depaepe, KU Leuven, Belgium; Karel Van Nieuwenhuyse, KU Leuven, Belgium

Latent class analysis in preschool teachers that received and implemented new vocabulary instruction

Paulina Pizarro, Pontificia Universidad Católica, Chile

PROMOTING SELF-REGULATED LEARNING IN PRIMARY SCHOOL: IMPACT OF AN EDUCATIONAL PROGRAM

Estrella Fernandez Alba, University of Oviedo, Spain; Elián Tuero Herrero, University of Oviedo, Spain; Rebeca Cerezo, University of Oviedo, Spain; Cristina Gómez Santos, University of Oviedo, Spain

Generative Learning vs. Retrieval Practice: The Cohesion and Elaboration of the Material Matters

Julian Roelle, Ruhr-University Bochum, Germany; Matthias Nückles, University of Freiburg, Germany

Session L: 16

Time: 15:30-17:00

Location: Seminar Room - S10

SINGLE PAPER: COMPREHENSION OF TEXT AND GRAPHICS**Chair**

Esther Canrinus, University of Agder, Norway

Boundary Conditions of the Seductive Details Effect: When the Perceived Relevance is Crucial

Lisa Bender, Institute of Psychology, University of Freiburg, Germany; Alexander Eitel, University of Freiburg, Germany; Alexander Renkl, University of Freiburg, Germany

Connecting text to pictures on a tablet device – can it support learning?

Anne Schueler, Leibniz-Institut für Wissensmedien, Germany; Ann-Katrin Wesslein, University of Tübingen, Germany

Cross-representational signaling fosters text-picture integration: Evidence from eye movements

Erica de Vries, Univ. Grenoble Alpes, France; Mireille Betrancourt, University of Geneva, Switzerland; Juliette Désiron, University of Geneva, Switzerland

Adjunct questions with hints to pictures: Improving learning from text and pictures

Julia Kollmer, University of Freiburg, Germany; Inga Frey, University of Freiburg, Germany; Alexander Eitel, University of Freiburg, Germany; Alexander Renkl, University of Freiburg, Germany

Session L: 17

Time: 15:30-17:00

Location: Seminar Room - S04

SINGLE PAPER: COLLABORATIVE LEARNING**Chair**

Molly Hammer, University of Tuebingen, Institute of Education, Germany

Group work as an arena for learning in STEM education: Negotiations of epistemic relationships

Fredrik Rusk, Nord University, Norway; Wenche Rønning, Nord University, Norway

University students' perceptions of scripted collaborative writing

Kirsi Heinonen, University of Jyväskylä, Finland; Raija Hämäläinen, University of Jyväskylä, Finland

Physiological synchrony and group performance in collaborative problem solving

Muhterem Dindar, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland

Where's the spark for group-level regulation in musical tasks?

Tarja-Riitta Hurme, University of Turku, Finland; Marjaana Puurtinen, University of Turku, Department of Teacher Education, Finland; Hans Gruber, University of Regensburg, Germany

Session L: 18

Time: 15:30-17:00

Location: Seminar Room - S06

SINGLE PAPER: SECONDARY EDUCATION**Chair**

Anett Wolgast, Martin-Luther-Universität Halle-Wittenberg, Germany

Feeling the strain: Investigating changes in science attitudes and career aspirations from age 10-19

Julie Moote, University College London, United Kingdom; Louise Archer, Institute of Education, University College London, United Kingdom

An overview of meta-analyses in STEM education: Analysis of scientific quality and moderating effects

Andreas Hetmanek, Technical University of Munich (TUM), Germany; Maximilian Knogler, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Predicting Students' Drop out Behavior in Economics: When Economic Competencies matter

Michael Jüttler, University of Konstanz, Germany

Adaptive literacy instruction to enhance literacy skills and reading motivation in 7th graders.

Mienke Droop, Radboud University, Nijmegen, Netherlands; Femke Scheltinga, ITTA, University of Amsterdam, Netherlands; Liza van den Bosch, Radboud University, Netherlands; Christel Dood, National Center for Language Education, Netherlands; Nicole Heister-Swart, National Center for Language Education, Netherlands; Eliane Segers, Radboud University Nijmegen / University of Twente, Netherlands

Session L: 19

Time: 15:30-17:00

Location: Seminar Room - S07

SINGLE PAPER: DEVELOPING TEACHER EDUCATION FOR THE FUTURE**Chair**

Shiyu Liu, Ocean University of China, China

Voices from the Frontline: What Teacher Educators Know and Believe about Evidence-Based Teaching

Despoina Georgiou, Ludwig-Maximilian University of Munich (LMU), Germany; Anne Wiesbeck, TUM School of Education, Germany; Tina Seidel, Technische Universität München (TUM), Germany

Pre-Service Teachers' Use of Learning Progressions: Contribution to Research-Based Teacher Education

Alicia Alonzo, Michigan State University, United States; Michelle Wooten, Michigan State University, United States

Looking for potential: How student selection predicts student teachers' achievement?

Marko Lähteenmäki, University of Turku / Faculty of Education, Finland; Mirjamaija Mikkilä-Erdmann, University of Turku, Finland; Anni Holmström, University of Turku, Department of Teacher Education, Finland; Anu Warinowski, University of Turku, Finland

Replication study: Training diagnostic competence using problem-based learning with text-based cases

Alexander Wedel, TU Berlin, Germany; Christin R. Müller, Independent researcher, Germany; Jan Pfetsch, TU Berlin, Germany; Angela Ittel, TU Berlin, Germany

Session L: 20

Time: 15:30-17:00

Location: Seminar Room - S16

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS IN HIGHER EDUCATION**Chair**

Sanna Väisänen, University of Eastern Finland, Finland

Mechanisms of effective feedback: a realist synthesis of feedback interventions

Rola Ajjawi, Deakin University, Australia; Margaret Bearman, Deakin University, Australia; David Boud, Deakin University, Australia; Jaclyn Broadbent, Deakin University, Australia; Fiona Kent, Monash University, Australia; Joanna Tai, Deakin University, Australia

The patterns of self-assessment in different phases of the learning process

Zi Yan, The Education University of Hong Kong, Hong Kong

How Do Personal Beliefs Affect the Critical Dealing with Information in a Performance Assessment?

Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Jana Jurisch, Lehrstuhl für Wirtschaftspädagogik Johannes Gutenberg Universität Mainz, Germany; Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany; Susanne Schmidt, Johannes Gutenberg-Universität Mainz, Germany; Richard Shavelson, Stanford University, United States; Klaus Beck, Johannes Gutenberg-Universität, Germany; Dimitri Molerov, Humboldt-University Berlin, Germany

Course designs that cater for productive feedback: exploring feedback in practice

Rachelle Esterhazy, University of Oslo, Norway; Monika Nerland, University of Oslo, Norway; Crina Damsa, University of Oslo, Norway

Session L: 21

Time: 15:30-17:00

Location: Seminar Room - S15

SINGLE PAPER: CULTURAL DIVERSITY, ATTITUDES AND BELIEFS**Chair**

Malba Barahona, Pontificia Universidad Católica de Valparaíso, Chile

Primary School Teachers' Personal Resources and the Quality of Inclusive Learning Processes

Gamze Goerel, Paderborn University, Germany; Frank Hellmich, Paderborn University, Germany

Mathematics and science teacher's voice on argument based teaching and learning

Ida Kukliansky, Ruppin Academic Center, Israel

Silences in a climate of voicing: Teachers' perceptions of silencing sensitive historical issues

Geerte M. Savenije, University of Amsterdam, Netherlands; Tsafir Goldberg, University of Haifa, Israel

Match of Acculturation Orientations of Teachers and Students and Students' Educational Success

Andrea Haenni Hoti, University of Teacher Education of Lucerne, Switzerland; Christine Wolfram, University of Teacher Education Zurich, Switzerland; Marianne Müller, Institute for Diversity Education, University of Teacher Education, Switzerland, Switzerland; Buholzer Alois, Institute for Diversity in Education, Switzerland

Session L: 22

Time: 15:30-17:00

Location: Seminar Room - S02

SINGLE PAPER: PARENTAL INVOLVEMENT IN LEARNING**Chair**

Stefan Ufer, Ludwig-Maximilians-Universität (LMU), Germany

Differences between fathers and mothers in shared reading interactions: effects of child gender

Roel van Steensel, Erasmus University Rotterdam, Netherlands; Sanneke de la Rie, Rotterdam University of Applied Sciences, Netherlands; Kim Vlot, Erasmus University Rotterdam, Netherlands; Nicole Lucassen, Erasmus University Rotterdam, Netherlands

Students' and parents' beliefs about failure and control matter: reducing the failure dynamic.

Elizabeth R Peterson, University of Auckland, New Zealand

Effects of family literacy programs for at-risk children: A meta-analysis

Suzanne Fikrat-Wevers, Erasmus University Rotterdam, Netherlands; Roel van Steensel, Erasmus University Rotterdam, Netherlands; Wichor Bramer, Erasmus MC, Netherlands; Lidia Arends, Erasmus University Rotterdam, Netherlands

Parent-child book-sharing in immigrant families and children's first-language development

Veslemøy Rydland, University of Oslo, Norway; Vibeke Grøver, University of Oslo, Norway

Session M: 1

Time: 08:30-10:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: STUDYING STUDENT ENGAGEMENT IN AUTHENTIC LEARNING SETTINGS: MEASUREMENT, PREREQUISITES, CONSEQUENCES**Chair**

Sebastian Korinth, Goethe University Frankfurt; Institute of Psychology, Germany

Organisers

Franziska Baier, Goethe-Universität Frankfurt, Germany; Mareike Kunter, Goethe-Universität Frankfurt, Germany

Discussant

Julien Mercier, University of Quebec (Montreal), Canada

Hand-raising and successful learning. Relations to cognitive engagement and academic achievement.

Ricardo Böheim, Technical University of Munich, Germany; Maximilian Knogler, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Situational engagement in emotionally supportive classrooms

Sanni Pöysä, University of Jyväskylä, Finland; Kati Vasalampi, University of Jyväskylä, Finland; Joonas Muotka, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland; Anna-Maija Poikkeus, University of Jyväskylä, Finland

Leveraging a wearable electrodermal activity sensor to study engagement in a physics course

Héctor Javier Piñeira Díaz, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland; Paul A. Kirschner, Open University of the Netherlands, Netherlands

Effects of content relevance and student traits on engagement as measured by EEG alpha band activity

Franziska Baier, Goethe-Universität Frankfurt, Germany; Sebastian Korinth, Goethe University Frankfurt; Institute of Psychology, Germany; Christian Fiebach, Goethe University Frankfurt, Germany; Mareike Kunter, Goethe-Universität Frankfurt, Germany

Session M: 2

Time: 08:30-10:00

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: THE RELATION BETWEEN TEACHER-STUDENT INTERACTION IN CLASSROOM DISCOURSE AND LEARNING OUTCOMES**Chair**

Ilonca Hardy, Goethe-Universität Frankfurt, Germany

Organisers

Ilonca Hardy, Goethe-Universität Frankfurt, Germany; Jasmin Decristan, University of Wuppertal; IDEa-Research Center, Germany

Discussant

Janneke van de Pol, Utrecht University, Netherlands

Participation in classroom discussion: conditions and consequences for students' achievement

Franziska Locher, Otto-Friedrich-University of Bamberg, Germany; Bianka Troll, Leuphana Universität Lüneburg, Germany; Jasmin Decristan, University of Wuppertal; IDEa-Research Center, Germany; Benjamin Caspar Fauth, University of Tübingen, Germany; Eva Lena Heide, Goethe-Universität Frankfurt, Germany; Csaba Kurucz, Freie Universität Berlin, Germany; Mareike Kunter, Goethe-Universität Frankfurt, Germany

Effects of contingent support in primary science classroom discourse

Ilonca Hardy, Goethe-Universität Frankfurt, Germany; Susanne Mannel, Goethe University Frankfurt am Main, Germany; Nicola Meschede, University of Münster, Germany

How does changed quality of classroom discussions affect students' participation and motivation?

Miriam Moser, University of Fribourg, Switzerland; Matthias Zimmermann, University of Fribourg, Switzerland; Anke Wischgoll, University of Fribourg (CH), Switzerland; Kurt Reusser, University of Zurich, Switzerland; Christine Pauli, University of Fribourg, Switzerland

Mono- & multilingual students' participation and teachers' scaffolding in science classroom discourse

Anika Bürgermeister, University of Leipzig, Germany; Jasmin Rashad, University of Leipzig, Germany; Henrik Saalbach, University of Leipzig, Germany; Kim Lange-Schubert, University of Leipzig, Germany

Session M: 3

Time: 08:30-10:00

Location: Lecture Hall - H05

SYMPOSIUM: TASK-ORIENTED READING: CONDITIONS FOR LEARNING FROM TEXTS IN EDUCATIONAL CONTEXTS**Chair**

Amos van Gelderen, University of Amsterdam / Rotterdam University of Applied Sciences, Netherlands

Organisers

Mariska Okkinga, Rotterdam University of Applied Sciences, Netherlands; Jolique Kielstra, Radboud University Nijmegen, Netherlands

Discussant

Nadine Spörer, University of Potsdam, Germany

Effects of text availability and question format on readers' processing and learning

María-Angeles Serrano, University of Valencia / Interdisciplinary Research Structure for Reading Research (ERI Lectura), Spain; Eduardo Vidal-Abarca, Universidad de Valencia, Spain

Fostering secondary school students' text-learning strategy use through a strategy-focused program

Amélie Rogiers, Ghent University, Belgium; Emmelien Merchie, Ghent University, Belgium; Hilde Van Keer, Ghent University, Belgium

A Technology-Enhanced Learning Environment for Task-Oriented Reading in Groups

Mariska Okkinga, Rotterdam University of Applied Sciences, Netherlands; Amos van Gelderen, University of Amsterdam / Rotterdam University of Applied Sciences, Netherlands

Reading strategies enactment: the influence of task complexity on task-oriented reading

Jolique Kielstra, Radboud University Nijmegen, Netherlands; Inge Molenaar, Radboud University Nijmegen, Netherlands; Roel van Steensel, Erasmus University Rotterdam, Netherlands; Ludo Verhoeven, Radboud University Nijmegen, Netherlands

Session M: 4

Time: 08:30-10:00

Location: Lecture Hall - H08

SYMPOSIUM: CONTEXTUAL INFLUENCES ON TEACHER MOTIVATIONS, SELF-EFFICACY, AND INSTRUCTIONAL & WELLBEING OUTCOMES**Chair**

Helen Watt, The University of Sydney, Australia

Organiser

Helen Watt, The University of Sydney, Australia

Discussant

Einar Skaalvik, NTNU Social Research, Norway

Motives to choose a teaching career and burnout development during the first 10 years of service

Burkhard Gniewosz, University of Salzburg, Austria; Helen Watt, The University of Sydney, Australia; Paul Richardson, Monash University, Australia

Influences Among Teachers' Self-Efficacy, Behavior and School Contexts Into Mid-Career

Rebecca Lazarides, University of Potsdam, Germany; Helen Watt, The University of Sydney, Australia; Paul Richardson, Monash University, Australia

Influences on Beginning Teachers' Motivations, Reported Instruction and Burnout until Mid-Career

Helen Watt, The University of Sydney, Australia; Paul Richardson, Monash University, Australia

For Better and for Worse: School Principal Influences on Teachers' Achievement Goals and Instruction

Ruth Butler, Hebrew University of Jerusalem, Israel; Limor Shibaz, Psycho-Educational Services, Rehovot, Israel

Session M: 5

Time: 08:30-10:00

Location: Lecture Hall - H11

SYMPOSIUM: EXPLORING THE DEVELOPMENT OF SELF-EFFICACY: AN INTERACTIVE, INTERNATIONAL SYMPOSIUM**Chair**

Ellen Usher, University of Kentucky, United States

Discussant

Sharon Zumbrunn, Virginia Commonwealth University, United States

Self-efficacy of early career teachers: Beyond the first year 'reality shock'

Sindu George, Monash University, Australia; Paul Richardson, Monash University, Australia; Helen Watt, The University of Sydney, Australia

Gender Differences and Roles of Two Competence Beliefs in Predicting Post-College Outcomes

Kristy Robinson, Michigan State University, United States; Anthony Perez, Old Dominion University, United States; Arianna White-Levatic, Old Dominion University, United States; Lisa Linnenbrink-Garcia, Michigan State University, United States

Reading Self-Efficacy Development: A Longitudinal Analysis of Self-Efficacy and Its Sources

Eija Räikkönen, University of Jyväskylä, Faculty of Education and Psychology, Finland; Mikko Aro, University of Jyväskylä, Finland; Pilvi Peura, University of Jyväskylä, Finland; Tuija Aro, University of Jyväskylä, Finland; Ellen Usher, University of Kentucky, United States; Helena Viholainen, University of Jyväskylä, Finland; Tuire Koponen, University of Jyväskylä, Finland

Stimulating students' self-efficacy for writing: Lessons from a two-iteration intervention study

Fien De Smedt, Ghent University, Belgium; Steve Graham, Arizona State University, United States; Hilde Van Keer, Ghent University, Belgium

Session M: 6

Time: 08:30-10:00

Location: Lecture Hall - H09

SYMPOSIUM: STATE-OF-THE-ART PROCESS MEASURES OF STUDENT AND TEACHER EMOTIONS IN THE CLASSROOM SETTING**Chair**

Monika Donker, Utrecht University, Netherlands

Discussant

Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU), Germany

Control antecedents and achievement effects of test anxiety components: An intra-individual approach

Anna-Lena Roos, University of Konstanz, Germany; Thomas Goetz, Department of Empirical Educational Research, Germany; Maike Krannich, University of Konstanz, Germany

What do anxious students look at during real-world mathematics problem-solving?

Nora McIntyre, University of York, United Kingdom; Enrique Garcia Moreno-Esteva, University of Helsinki, Finland; Eeva Haataja, University of Helsinki, Finland; Miika Toivanen, University of Helsinki, Finland; Markku Hannula, University of Helsinki, Finland

Teachers' and Learners' Emotional Experiences in Class: Using Automated Facial Action Coding

Anton Marx, Ludwig-Maximilians-Universität (LMU), Germany; Anne Christiane Frenzel, University of Munich, Germany; Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU), Germany; Corinna Reck, Ludwig-Maximilians-Universität (LMU), Germany; Mitho Müller, Ludwig-Maximilians-Universität (LMU), Germany

Teachers' Physiological Arousal during Teacher-Student Interaction as Predictor of Teacher Emotions

Monika Donker, Utrecht University, Netherlands; Tim Mainhard, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Session M: 7

Time: 08:30-10:00

Location: Lecture Hall - H07

SYMPOSIUM: THE EFFECT OF EDUCATIONAL GAMES ON COGNITIVE AND NON-COGNITIVE PREDICTORS OF EARLY MATH ABILITIES.**Chair**

Delphine Sasanguie, KU Leuven, Belgium

Organiser

Fien Depaepe, KU Leuven, Belgium

Discussant

Judith ter Vrugte, University of Twente, Netherlands

The early development and training of ordering skills, and their relationship with maths abilities.

Fien Depaepe, KU Leuven, Belgium; Kinga Morsanyi, Queen's University Belfast, United Kingdom; Jort Peters, KU LEUVEN, Belgium; Stefanie Vanbecelaere, KU Leuven campus Kulak, Belgium; Patrick O'Connor, Queen's University, Belfast, Belgium; Delphine Sasanguie, KU Leuven, Belgium

The effect of an adaptive game on cognitive and non-cognitive factors in young children.

Stefanie Vanbecelaere, KU Leuven campus Kulak, Belgium; Katrien Van den Berghe, KU Leuven KULAK, Belgium; Frederik Cornillie, KU Leuven KULAK, Belgium; Delphine Sasanguie, KU Leuven, Belgium; Bert Reynvoet, KU Leuven, Belgium; Fien Depaepe, KU Leuven, Belgium

The predictive value of enumeration abilities for mathematical performance.

Brenda Jansen, University of Amsterdam, Netherlands

Understanding dyscalculic children's response to computer-based training.

Christin Schwenk, TU Dortmund University, Germany; Jörg-Tobias Kuhn, Technical University Dortmund, Germany; Vera Dehmelt, University of Muenster, Germany; Julia Raddatz, University of Muenster, Germany; Heinz Holling, University of Muenster, Germany; Christian Döbel, Friedrich-Schiller University, Jena, Germany

Session M: 8

Time: 08:30-10:00

Location: Lecture Hall - H10

SYMPOSIUM: NEUROCOGNITIVE ORIGINS OF LEARNING DISORDERS**Chair**

Michael Artur Skeide, Max Planck Institute for Human Cognitive and Brain Sciences, Germany

Organiser

Michael Artur Skeide, Max Planck Institute for Human Cognitive and Brain Sciences, Germany

Discussant

Bert De Smedt, KU Leuven - University of Leuven, Belgium

The neurobiological predisposition for developing dyslexia

Ulrike Kuhl, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Indra Kraft, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Gesa Schaadt, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Liane Dörr, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Jens Brauer, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Nicole Neef, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Ivonne Czepezaue, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Bent Müller, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Arndt Wilke, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Holger Kirsten, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Frank Emmrich, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Johannes Boltze, Fraunhofer Institute for Cell Therapy and Immunology, Germany; Angela Friederici, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Michael Artur Skeide, Max Planck Institute for Human Cognitive and Brain Sciences, Germany

Traces of dyslexia in the auditory cortex

Michael Artur Skeide, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Pierre-Louis Bazin, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Robert Trampel, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Andreas Schäfer, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Claudia Männel, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Katharina von Kriegstein, Max Planck Institute for Human Cognitive and Brain Sciences, Germany; Angela Friederici, Max Planck Institute for Human Cognitive and Brain Sciences, Germany

Growing up with dyscalculia – how does the numerical brain develop?

Ursina McCaskey, University Children's Hospital, Switzerland; Michael von Aster, Clinic for Child and Adolescent Psychiatry, German Red Cross Hospitals, Berlin, Germany; Ruth Tuura O'Gorman, Children's Hospital Zurich, Switzerland; Karin Kucian, University Children's Hospital, Switzerland

Cognitive correlates of early reading and early arithmetic in 5-year olds

Kiran Vanbinst, KU Leuven, Belgium; Elsje van Bergen, VU Amsterdam, Netherlands; Pol Ghesquiere, KU Leuven, Belgium; Bert De Smedt, KU Leuven - University of Leuven, Belgium

Session M: 9

Time: 08:30-10:00

Location: Seminar Room - S14

SINGLE PAPER: ATTITUDES AND BELIEFS IN PRIMARY EDUCATION**Chair**

Lindie van der Westhuizen, University of Luxembourg, Luxembourg

Personal epistemologies of elementary school students around the world

Florian Feucht, www.ThinkingHabitats.com, United States; Regina Rotshtein, University of Toledo, United States; Kristen Porter, Mercy College, United States; Andres Acher, Martin Luther University Halle-Wittenberg, Germany; Valerie Frède, Université Toulouse - Jean Jaurès, France; Yue Gu, University of Toledo, United States; Andrea Mohme, School System Luebeck, Germany; Elizabeth Curtis, Queensland University of Technology, Australia; Jo Lunn Brownlee, Queensland University of Technology, Australia

Attitudes to Mathematics in Young English and Chinese Children

Ann Dowker, University of Oxford, United Kingdom; Olivia Cheriton, Magdalen College, Oxford University, United Kingdom; Rachel Horton, St Anne's College, Oxford University, United Kingdom; Winifred Mark, Hong Kong University, Hong Kong

First grade reader self-concept – interactions with initial self-concept and reading intervention

Bente Walgermo, University of Stavanger, Norway; Jan Frijters, Child and youth studies, Canada; Oddny Judith Solheim, University of Stavanger, Norway

Prerequisites of Primary School Students' Pro-social Behavior in the Inclusive Classroom

Marwin Felix Löper, Paderborn University, Germany; Frank Hellmich, Paderborn University, Germany

Session M: 10

Time: 08:30-10:00

Location: Seminar Room - S04

SINGLE PAPER: MOTIVATION AND EMOTION**Chair**

Ian A.G. Wilkinson, University of Auckland, New Zealand

Self-Efficacy for Instructional Leadership: Relation with Engagement and Emotional Exhaustion

Cecilie Skaalvik, Norwegian University of Science and Technology (NTNU), Norway

Need Satisfaction and Achievement Goals of University Faculty for Teaching: A Multinational Study

Martin Daumiller, University of Augsburg, Germany; Raven Rinas, Augsburg University, Germany; Markus Dresel, University of Augsburg, Germany

Processes of Students' Effort Exertion, Competence Beliefs and Motivation

Lars-Erik Malmberg, University of Oxford, United Kingdom; Andrew Martin, University of New South Wales, Australia

Do expectancies and intrinsic value predict each other across learning situations?

Julia Dietrich, Friedrich Schiller University of Jena, Germany; Jaana Viljaranta, University of Eastern Finland, Finland; Asko Tolvanen, University of Jyväskylä, Finland; Julia Moeller, Universität Leipzig, Chad; Baerbel Kracke, University of Jena, Germany

Session M: 11

Time: 08:30-10:00

Location: Seminar Room - S06

SINGLE PAPER: MATHEMATICS AND CONCEPTUAL CHANGE**Chair**

Bram De Wever, Ghent University, Belgium

The role of intuition and inhibition in fraction magnitude comparison

Jo Van Hoof, KU Leuven, Belgium; Lieven Verschaffel, KU LEUVEN, Belgium; Wim De Neys, Université Paris Descartes, Paris, France; Wim Van Dooren, KU Leuven, Belgium

Response time patterns when comparing fractions and when comparing divisions

David Maximiliano Gomez Rojas, Universidad de O'Higgins, Chile; Pablo Dartnell, University of Chile, Chile

Natural number bias when comparing fraction magnitudes: strategy use and problem features

Andreas Obersteiner, University of Education Freiburg, Germany; Martha Alibali, University of Wisconsin-Madison, United States; Vijay Marupudi, UNIVERSITY of WISCONSIN-MADISON, United States

How robust are learners' misconceptions of fractions? An intervention study using refutation text.

Jo Van Hoof, KU Leuven, Belgium; Lieven Verschaffel, KU Leuven, Belgium; Wim Van Dooren, KU LEUVEN, Belgium

Session M: 12

Time: 08:30-10:00

Location: Seminar Room - S13

SINGLE PAPER: COMPUTER-ASSISTED LEARNING AND MATHEMATICS**Chair**

Gerry Geitz, NHL Stenden University of Applied Sciences, Netherlands

Teacher's gestures scaffold learning in collaborative problem solving but are students looking?

Anniina Koskinen-Salmia, University of Helsinki, Finland; Eeva Haataja, University of Helsinki, Finland; Miika Toivanen, University of Helsinki, Finland; Markku Hannula, University of Helsinki, Finland

Impact of a digital device on mathematics achievement in primary school: a randomized trial.

Manon Laurent, Laboratoire des Sciences de l'Education de Grenoble, France; Pascal Bressoux, Université Grenoble Alpes, France; Pierre Tchounikine, Université Grenoble Alpes, France

The Powerbar – Effects of a resource-restricting tool while solving spatial tasks on mobile devices

Michael Montag, Bauhaus-University of Weimar, Germany; Sven Bertel, Flensburg University of Applied Sciences, Germany; Björn B. DeKoning, Erasmus University Rotterdam, Netherlands, Netherlands; Steffi Zander, University of Applied Sciences Magdeburg-Stendal, Germany

Working with a Mathematics Teacher to Teach with Technology: A case in Turkey

Ipek Saralar, University of Nottingham, United Kingdom; Shaaron Ainsworth, University of Nottingham, United Kingdom; Geoff Wake, University of Nottingham, United Kingdom

Session M: 13

Time: 08:30-10:00

Location: Seminar Room - S09

SINGLE PAPER: TEACHING APPROACHES AND INSTRUCTION**Chair**

Tamal Kumar De, KU LEUVEN, Belgium

Fostering learning strategies to support self-regulated learning: A Multilevel Analysis

Andrea Vogt, Ulm University, Germany; Tina Seufert, Ulm University, Germany

Mentoring relationship in internships of teacher education

Miriam Gruening, Otto-Friedrich-Universität Bamberg, Germany; Anja Winkler, University of Bern, Switzerland

Embodiment as a Teaching Practice in High School Level Physics

Yael Kashtan, Levinsky College of Education, Israel; Einat Gil, Levinsky College of Education, Israel; Roni Mualem, Levinsky College of Education, Israel

Storytelling in taking over a perspective in order to support an identity for the environment

Florian Rietz, University of Teacher Education St.Gallen, Switzerland; Arvid Nagel, University of Teacher Education St.Gallen, Switzerland; Nicolas ROBIN, Fachdidaktik Naturwissenschaften, Switzerland

Session M: 14

Time: 08:30-10:00

Location: Seminar Room - S15

SINGLE PAPER: TEACHING APPROACHES**Chair**

Vera Busse, Universität Koblenz Landau, Germany

Exploring the effects of teaching reading strategies on student L2 reading skills; a one year study

Deborah Yapp, University of Utrecht, Netherlands; Rick de Graaff, IVLOS, Universiteit Utrecht, Netherlands; Huub van den Bergh, University Utrecht, Netherlands

Guided play in early years education: From observation to educational intervention

Valeska Grau, Pontificia Universidad Católica de Chile, Chile; Amaya Lorca de Urarte, Pontificia Universidad Católica de Chile, Chile; Macarena Perez, Pontificia Universidad Católica de Chile, Chile; Daniela Jadue, Universidad de O'Higgins, Chile; Katherine Strasser, Pontificia Universidad Católica de Chile, Chile; David Preiss, Pontificia Universidad Católica de Chile, Chile; Magdalena Muller, Pontificia Universidad Católica de Chile, Chile

Teaching democratic values through classroom discussions on controversial issues

Jaap Schuitema, University of Amsterdam, Netherlands; Kim Jurgens, University of Amsterdam, Netherlands; Patricia Kruit, Amsterdam University of Applied Sciences, Netherlands; Dubravka Knezic, University of Applied Sciences Amsterdam, Netherlands; Hessel Nieuwelink, Amsterdam University of Applied Sciences (AUAS), Netherlands

Teacher education for inclusion: didactic concepts and their impact on student teachers' beliefs

Saskia Opalinski, University of Potsdam, Germany; Katja Scharenberg, University of Education Freiburg, Germany

Session M: 15

Time: 08:30-10:00

Location: Seminar Room - S03

SINGLE PAPER: META-ANALYSIS AND ASSESSMENT, METHODS AND TOOLS**Chair**

Annabel Watson, University of Exeter, United Kingdom

Do we overestimate teachers' judgment achievement? A critical systematic overview and re-analysis

Esther Kaufmann, University of Education Zurich / University of Zurich, Switzerland

Does Peer Assessment Improve Academic performance? A Meta-analysis of Experimental Studies

Therese N. Hopfenbeck, University of Oxford, United Kingdom; Kit Double, University of Oxford, United Kingdom; Joshua McGrane, University of Oxford, United Kingdom

Scaffolding to Develop Diagnostic Competences in Medical and Teacher Education: A Meta-analysis

Olga Chernikova, Ludwig Maximilian University, Germany; Nicole Heitzmann, University Munich & Clinics of University Munich, Germany; Maximilian Christian Fink, Institute for Medical Education, Klinikum der Universität München, Germany; Venance Timothy, Ludwig-Maximilians-Universität (LMU), Tanzania, United Republic of; Tina Seidel, Technische Universität München (TUM), Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Effect of school entry age on student academic outcomes: Evidences from Austria and Switzerland

Giang Pham, Institute of Research on Teaching Profession and on Development of Competencies (IPK), Switzerland; Andrea B. Erzinger, University of Berne, Switzerland; Daniel Paasch, Federal Institute for Educational Research, Innovation and Development of the Austrian School System (BIFIE), Austria

Session M: 16

Time: 08:30-10:00

Location: Seminar Room - S01

SINGLE PAPER: CURRENT CHALLENGES IN EDUCATION POLICY FOR ECEC FOR 0 TO 3-YEAR-OLDS**Chair**

Francesca Suter, University of Zurich, Switzerland

Early childhood education and care in Portugal: policies and families' reasons for attendance

Tiago Ferreira, University of Porto, Portugal; Manuela Pessanha, Politécnico do Porto, Portugal; Joana Cadima, University of Porto, Portugal; Sílvia de Barros, Politécnico do Porto, Portugal; Carla Peixoto, Polytechnic Institute of Porto, Portugal; Vera Coelho, Porto University, FPCE, Portugal; Ana Isabel Mota e Costa Pinto, University of Porto - Portugal, Portugal; Donna Bryant, Frank Porter Graham Child Development Institute, United States

Who are the non-users of institutional childcare in Germany?

Kerstin Lippert, German Youth Institute, Germany; Christian Alt, German Youth Institute, Germany; Susanne Kuger, German Youth Institute (DJI), Germany

Implementation evaluation of the Finnish national core curriculum for ECEC

Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Child care fees in Germany

Susanne Kuger, German Youth Institute (DJI), Germany; Franz Neuberger, German Youth Institute, Germany; Christian Alt, German Youth Institute, Germany

Session M: 17

Time: 08:30-10:00

Location: Seminar Room - S02

SINGLE PAPER: EARLY CHILDHOOD EDUCATION**Chair**

Courtney Pollack, Massachusetts Institute of Technology, United States

Initial differences in reading acquisition process according to socioeconomic status

Victoria Espinoza, Pontificia Universidad Católica de Chile, Chile; Catalina Santa Cruz, Pontificia Universidad Católica de Chile, Chile; Ricardo Rosas, Psychology, Chile

Self-Regulatory Abilities at Kindergarten as Predictors of 4th Graders Mathematics Achievement

Ayse Cobanoglu, Graduate School of Education, University at Buffalo, United States; Fahredin Hasan Adagideli, ISTANBUL UNIVERSITY-CERRAHPASA, Turkey

Creating an instrument for measuring pedagogues' role in basing children's lifelong learning

Nikolett Takács, University of Szeged, Doctoral School of Education, Hungary

Designing Preschool Physical Learning Environments - The Children's Voice

Netta Perry, Bar Ilan University, Israel; Esther Adi-Japha, Bar-Ilan University, Israel; Ornit Spektor-Levy, Bar-Ilan University, Israel

Session M: 18

Time: 08:30-10:00

Location: Seminar Room - S12

WORKSHOP: TEACHER AS DESIGNER: AN EVIDENCE-BASED MODEL TO STIMULATE TEACHER DESIGN WORK**Chair**

Timo Leuders, University of Education Freiburg, Germany

Teacher as Designer: An evidence-based model to stimulate teacher design work

Lori Lockyer, University of Technology Sydney, Australia; Shirley Agostinho, University of Wollongong, Australia; Sue Bennett, University of Wollongong, Australia

Session M: 19

Time: 08:30-10:00

Location: Seminar Room - S16

SINGLE PAPER: VOCATIONAL EDUCATION, LEARNING AND PROFESSIONAL DEVELOPMENT**Chair**

Nanette Seago, WestEd, United States

The Practice of Leadership: Exploring Six Paradoxes of Leadership

Angela de Jong, Oberon research institute / Utrecht University, Netherlands; Ditte Lockhorst, Oberon research institute, Netherlands; Renske de Kleijn, UMC Utrecht, Netherlands; Jan van Tartwijk, Utrecht University, Netherlands; Mirkó Noordegraaf, Utrecht University, Netherlands; Ton Klein, Oberon, Netherlands

Student-run hospital wards: Institutionalised workplace-learning opportunities for nursing students

Michael Goller, University of Bamberg, Germany; Bianca Steffen, University of Paderborn, Germany

Educating for dynamic vocations: how to design responsive vocational education?

Loek Nieuwenhuis, HAN University of Applied Sciences, Netherlands; Haske van Vlokhoven, HAN University of Applied Sciences, Netherlands; Aimée Hoeve, HAN University of Applied Sciences, Netherlands; Femke Nijland, Open University, Netherlands; Hester Smulders, eco, Netherlands

Dealing with diverse student groups: Teaching practices of Icelandic VET teachers

Elsa Eiríksdóttir, University of Iceland, Iceland

Session N: 1

Time: 10:15-11:45

Location: Lecture Hall - H07

SIG INVITED SYMPOSIUM: HOW CAN PEER REVIEWING BE MADE FAIR FOR ALL THEORETICAL FRAMEWORKS IN EARLY AND BEYOND?**Chairs**

Giuseppe Ritella, University of Helsinki, Finland; Antti Rajala, University of Helsinki, Finland

Organisers

Antti Rajala, University of Helsinki, Finland; Rupert Wegerif, University of Cambridge, England, United Kingdom; Giuseppe Ritella, University of Helsinki, Finland

Discussant

Antti Rajala, University of Helsinki, Finland

Dialogic problematization of peer reviewing in academic social science journals

Ana Marjanovic-Shane, Independent Scholar, United States; Eugene Matusov, University of Delaware, United States

Returning to dialogue on a higher level

Rupert Wegerif, University of Cambridge, England, United Kingdom

Dilemmas of peer review and the art of constructive criticism

Roger Säljö, University of Gothenburg, Sweden

The challenge of bridging paradigms through editorial work

Grina Damsa, University of Oslo, Norway

Peer review of technical quality of quantitative and qualitative research.

Lars-Erik Malmberg, University of Oxford, United Kingdom

Session N: 2

Time: 10:15-11:45

Location: Lecture Hall - H05

SIG INVITED SYMPOSIUM: EMOTIONAL INFLUENCES ON THE NEURAL MECHANISMS OF LEARNING**Chair**

Sabine Peters, Universiteit of Leiden, Netherlands

Organisers

Nienke van Atteveldt, Vrije Universiteit Amsterdam, Netherlands; Sabine Peters, Universiteit of Leiden, Netherlands

Discussant

Lydia Krabbendam, Vrije Universiteit Amsterdam, Netherlands

Don't worry: Error monitoring of test-anxious students under performance pressure

Frieder Schillinger, Technische Universität Dresden, Germany; Clemens Brunner, University of Graz, Austria; Bert De Smedt, KU Leuven - University of Leuven, Belgium; Roland H. Grabner, University of Graz, Austria

Physiological mechanisms of the role of ability beliefs in effort, stress and failure attribution

Nienke van Atteveldt, Vrije Universiteit Amsterdam, Netherlands; Smiddy Nieuwenhuis, VU University Amsterdam, Netherlands; Tieme Janssen, VU University Amsterdam, Netherlands

Decision-making enhances episodic memory via mesolimbic engagement

Vishnu Murty, Temple University, United States

How emotion affects the learning-memory processes.

Michiko Sakaki, University of Reding, United Kingdom

Session N: 3

Time: 10:15-11:45

Location: Lecture Hall - H08

SIG INVITED SYMPOSIUM: LEARNING AS MATERIAL FORMATION**Chair**

Nathalie Muller Mirza, Université de Lausanne, Switzerland

Organiser

Asa Makitalo, University of Gothenburg, Sweden

Discussant

Alfredo Jornet Gil, University of Oslo, Norway

Designing Learning Experiences: An exploration of learning as material formation in fashion design

Todd Nicewonger, Virginia Tech, United States

Students' dialogical reconstruction of experience: a sociomaterial perspective

Antonio Iannaccone, Institut de Psychologie et Education, Switzerland; Elisa Cattaruzza, Institute of Psychology & Education, University of Neuchâtel, Switzerland

How moments add up to lives: Flat CHAT assemblage, embodiment, and lifespan becoming

Paul Prior, University of Illinois at Urbana-Champaign, United States

Textures of experience in professional practice: Learning from working with material formations

Asa Makitalo, University of Gothenburg, Sweden

Session N: 4

Time: 10:15-11:45

Location: Seminar Room - S09

SINGLE PAPER: QUANTITATIVE METHODS IN EDUCATIONAL PSYCHOLOGY**Chair**

Carmel Mesiti, University of Melbourne, Australia

Choosing a study program: The role of school subject-specific motivational beliefs

Julia Gorges, Bielefeld University, Germany

Academics' epistemic stances and formative cultures

Kathryn Bartimote-Aufflick, The University of Sydney, Australia; Peter C. Thomson, The University of Sydney, Australia

Emotional anticipation of the school-to-work transition: A latent profile analysis.

Michaël Parmentier, Université catholique de Louvain (UCL), Belgium; Thomas Pirsoul, Université catholique de Louvain (UCL), Belgium; Frédéric Nils, Université catholique de Louvain (UCL), Belgium

Youth Purpose and Interest Development: A Middle School Science Intervention Strategy

Jessica Summers, University of Arizona, United States; Lia Falco, University of Arizona, United States; Ashley Batchelor, University of Arizona, United States

Session N: 5

Time: 10:15-11:45

Location: Seminar Room - S11

SINGLE PAPER: METACOGNITION**Chair**

Dirk Tempelaar, Maastricht University, Netherlands

Mathematics Problem Solving in Primary Education: Self-perceived Performance and process

Estrella Fernandez Alba, University of Oviedo, Spain; Celestino Rodríguez, University of Oviedo, Spain; Débora Areces, University of Oviedo, Spain; Trinidad Garcia, University of Oviedo, Spain

Searching for information in a text: the role of text structure, strategies and emotions in children

Elise Tornare, University of Poitiers, France; Anna Potocki, Université de Poitiers, France; Christine Ros, CeReA UMR7295 Université de Poitiers, France; Julie Ayroles, University of Poitiers, France; Jean-Francois Rouet, University of Poitiers, France

Teaching quality as an interprofessional engagement for developing scientific thinking

Ines Langemeyer, Karlsruhe Institute of Technology, Institute for the Philosophy of Education, Germany

Children's Metacognitive Skills on Math Equivalence Problems

Lindsey Nelson, Indiana University, United States; Emily Fyfe, Indiana University, United States

Session N: 6

Time: 10:15-11:45

Location: Seminar Room - S06

SINGLE PAPER: MOTIVATION**Chair**

Penelope Watson, University of Auckland, New Zealand

Cultivating future researchers: motivating students for research as a first step towards success?

Floris van Blankenstein, Leiden University Medical Center, Netherlands; Belinda Ommering, Leiden University Medical Center, Netherlands; Friedo Dekker, Leiden University Medical Center, Netherlands

Need-supportive Teaching and Motivation of Gifted and Non-gifted Students in Regular Primary Schools

Lisette Hornstra, Utrecht University, Netherlands; Anouke Bakx, Fontys University, FHKE, Netherlands; Sven Mathijssen, CBO Talent Development, Nijmegen, Netherlands; Jaap Denissen, Department of Developmental Psychology, Tilburg University, Netherlands

Developing Expectancy-Value Motivational Scale in Mathematics: A Comparative Approach

Jelena Radisic, University of Oslo, Norway; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Ksenija Krstic, University of Belgrade, Serbia; Kajsa Yang Hansen, University of Gothenburg, Sweden; Anu Laine, University of Helsinki, Finland; Riikka Mononen, University of Oslo, Norway; Aleksander Baucal, University of Belgrade, Serbia; Lourdes Mata, Instituto Universitário / CIE - ISPA (Research Center in Education), Lisbon, Portugal

Interplay Between Achievement Goals and Goal Structures: Effects on Achievement and Motivation

Anders Hofverberg, Umeå University, Sweden; Mikael Winberg, Umeå University, Sweden

Session N: 7

Time: 10:15-11:45

Location: Seminar Room - S07

SINGLE PAPER: QUANTITATIVE METHODS IN TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Deborah Yapp, University of Utrecht, Netherlands

Do Teachers Consider Advice? On the Acceptance of Computerized Expert Models

Esther Kaufmann, University of Education Zurich / University of Zurich, Switzerland; David V. Budescu, Fordham University, United States

Changing Today's Higher Education with Flipped Classroom for the Future: Student Perception

Erkko Sointu, University of Eastern Finland, Finland; Teemu Valtonen, University of Eastern Finland, Finland; Jenni Kankaanpää, University of Eastern Finland, Finland; Laura Hirsto, University of Eastern Finland, Finland; Kati Mäkitalo, University of Oulu, Finland

Results of an Evaluation Study of Vocational Teachers in the Field of Automation Technology

Pia Schäfer, TU Kaiserslautern, Germany; Felix Walker, Technical University of Kaiserslautern, Germany; Nico Link, TU Kaiserslautern, Germany

Educational knowledge and mentoring within traditional and alternative teacher training

Stefanie Morgenroth, University of Duisburg-Essen, Germany; Eva Anderson-Park, University of Duisburg-Essen, Germany; Hermann J. Abs, University of Duisburg-Essen, Germany

Session N: 8

Time: 10:15-11:45

Location: Seminar Room - S01

SINGLE PAPER: EARLY CHILDHOOD EDUCATION**Chair**

Maartje Raijmakers, University of Amsterdam, Netherlands

Mathematical Skills as a Predictor of Interest in Mathematics in the First Grade

Riikka Mononen, University of Oslo, Norway; Anna Tapola, University of Helsinki, Finland; Anita Lopez-Pedersen, University of Oslo, Norway; Hedda Wahl, University of Oslo, Norway

Parental self-efficacy: Its components and how it relates to background characteristics of families

Juliane Schünke, Freie Universität Berlin, Germany; Elisa Oppermann, Freie Universität Berlin, Germany; Franziska Cohen, Freie Universität Berlin, Germany; Yvonne Anders, Freie Universität Berlin, Germany

Tomorrows Gender Education - Challenges for future Gender Perspectives in Early Childhood Education

Melanie Kubandt, University of Vechta, Germany

Predictors of pro-social behaviors in children with disabilities in inclusive preschools

Vera Coelho, Porto University, FPCE, Portugal; Joana Cadima, University of Porto, Portugal; Catarina Grande, University of Porto, Portugal; Ana Isabel Mota e Costa Pinto, University of Porto - Portugal, Portugal

Session N: 9

Time: 10:15-11:45

Location: Seminar Room - S13

SINGLE PAPER: COGNITIVE SKILLS**Chair**

Lan YANG, The Education University of Hong Kong, Hong Kong

Seeing is not knowing. Detection errors do not explain poor performance in reading dental x-rays.

Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany; Thérèse Eder, Leibniz-Institut für Wissensmedien (IWM), Germany; Juliane Richter, Leibniz-Institut für Wissensmedien, Germany; Fabian Huettig, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery with Dental School, Tübingen, Germany, Germany; Constanze Keutel, Tübingen University Hospital Center for Dentistry, Oral Medicine, and Maxillofacial Surgery with Dental School, Tübingen, Germany, Germany

Preparing Primary School Students for Acquiring Proportional Reasoning Ability

Christian Thurn, ETH Zurich - Research on Learning and Instruction, Switzerland; Daniela Nussbaumer, University of Applied Sciences of Special Needs Education, Switzerland; Ralph Schumacher, ETH Zurich, Switzerland; Elsbeth Stern, ETH Zurich, Switzerland

Developing performance assessment for research on critical thinking

Heidi Hyytinen, University of Helsinki, Finland; Auli Toom, University of Helsinki, Finland

The challenge of usability testing with a population with Williams syndrome

Sophie Bénard - Linh Quang, University of Geneva, France; Sandra Berner, University of Geneva, Switzerland; Kovijka Barisnikov, University of Geneva, Switzerland; Julie Heiz, University of Geneva, Switzerland

Session N: 10

Time: 10:15-11:45

Location: Seminar Room - S03

SINGLE PAPER: PSYCHOMETRICS, ASSESSMENT METHODS AND TOOLS IN HIGHER EDUCATION**Chair**

Judy M. Parr, University of Auckland, New Zealand

Critical Thinking: A Within- and Cross-Cultural Rasch-based Construct Validity Study

Tine Nielsen, University of Copenhagen, Denmark; Inmaculada Martínez-García, University of Cádiz, Spain; Enrique Alastor, University of Seville, Spain

Developing and Validating a Short-form Assessment of Conscientiousness Competencies

Patrick Franzen, University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Educational Sciences (FLSHASE), Luxembourg; Lindie van der Westhuizen, University of Luxembourg, Luxembourg; Samuel Greiff, University of Luxembourg, Luxembourg; Antoine Fischbach, Luxembourg Centre for Educational Testing, Luxembourg; Christoph Niepel, University of Luxembourg, Luxembourg

Validation of the Student Assessment for Learning Questionnaire (SAFL-Q) in upper primary school

Ron Pat-El, Open University, Netherlands; Dirk Hoek, Open University of the Netherlands, Netherlands

Accounting for DIF in cross-country comparisons: A trade-off between model fit and invariance

Yasmine El Masri, University of Oxford, United Kingdom; David Andrich, University of Western Australia, Australia

Session N: 11

Time: 10:15-11:45

Location: Seminar Room - S10

SINGLE PAPER: SPECIAL EDUCATIONAL NEEDS**Chair**

Jing Li, University of Cambridge, UK, United Kingdom

Educational Collaboration in Complex Diagnostic Processes

Mathias Mejeh, University of Bern, Switzerland

Accessibility, usability and acceptability of digital textbooks for visually impaired students

Laetitia Castellan, CLLE-LTC, University of Toulouse, France; Julie Lemarié, University of Toulouse, France; Mustapha Mojahid, University of Toulouse, France

Children's cognitive development in inclusive education. Longitudinal study of arts interventions

Minna Törmänen, University of Applied Sciences of Special Needs Education: Zurich; University of Helsinki, Switzerland; Tanja Linnavalli, University of Helsinki, Finland; Marja-Leena Juntunen, University of the Arts Helsinki, Finland; Eeva Anttila, University of Arts, Helsinki, Finland, Finland; Mari Tervaniemi, University of Helsinki, Finland

"That's what the mother said..." - Parents' experiences of co-operation with schools

Teija Koskela, University of Turku, Finland

Session N: 12

Time: 10:15-11:45

Location: Seminar Room - S15

SINGLE PAPER: GAME-BASED LEARNING**Chair**

Carla Quesada-Pallarès, Universitat Autònoma de Barcelona, Spain

The RAIDING project: Designing a mobile game to promote arithmetic fluency

Tim Jay, Sheffield Hallam University, United Kingdom

Structural Gamification for Adaptation based on Learning Analytics

Elise Lavoué, Jean Moulin Lyon 3 University, France; Stuart Hallifax, University Jean Moulin Lyon 3, France; Audrey Serna, INSA de Lyon, France; Jean-Charles Marty, LIRIS, France

An experimental study on gamifying vocabulary learning with a mobile language-learning app

Muhterem Dindar, University of Oulu, Finland; Lei Ren, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland

The Effect of Game-based Computational Thinking Workshops on Students' Computational Thinking Skills

Nur Akkus Cakir, Middle East Technical University, Turkey; Murat Perit Cakir, Middle East Technical University, Turkey; Arianna Gaas, Drexel University, United States; Frank Lee, Drexel University, United States

Session N: 13

Time: 10:15-11:45

Location: Seminar Room - S05

SINGLE PAPER: INSTRUCTIONAL DESIGN**Chair**

Kerstin Baeuerlein, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

EFFECTS OF EXAMPLE AND PROBLEM SOLVING SEQUENCES AND SEQUENCE LENGTH ON MOTIVATION AND LEARNING

Milou van Harsel, Avans University of Applied Sciences / Utrecht University, Netherlands; Vincent Hoogerheide, Utrecht University, Netherlands; Peter Verkoijen, Erasmus University Rotterdam, Netherlands; Tamara Van Gog, Utrecht University, Netherlands

Learning by tracing on computer screens

Paul Ginns, The University of Sydney, Australia; Fang-Tzu Agnes Hu, The University of Sydney, Australia; Janette Bobis, The University of Sydney, Australia

Scripting collaborative writing within a multi-shared visual workspace: a quasi-experimental study

Annelies Raes, imec-ITEC-KU Leuven Centre for Instructional Psychology and -Technology, Belgium; Maribel Montero Perez, KU LEUVEN, ITEC, Belgium

Developing creative thinking in mathematics and its impact on learning

Victoria Guentulle, Pontificia Universidad Católica de Chile, Chile; Miguel Nussbaum, Pontificia Universidad Católica de Chile, Chile; Sebastián Rivera, Pontificia Universidad Católica de Chile, Chile; Kevin Steinsapir, Pontificia Universidad Católica de Chile, Chile; Paulina Araya, Pontificia Universidad Católica de Chile, Chile; Benjamín Benavides, Pontificia Universidad Católica de Chile, Chile

Session N: 14

Time: 10:15-11:45

Location: Seminar Room - S16

SINGLE PAPER: AT-RISK STUDENTS**Chair**

Guillermo Solano-Flores, Stanford University, United States

Struggling with academic career choices: relations with neural correlates of self-concept

Laura van der Aar, Leiden University, Netherlands; Eveline Crone, Leiden University, Netherlands; Sabine Peters, Universiteit of Leiden, Netherlands

Students' perceptions and experiences of LGBTQ+ inclusion within UK secondary schools

Charlotte Allen, University of Cambridge, United Kingdom

Assessing Various Predictors and Outcomes of Students' Motivational Focus

Cameron Williams, University of New South Wales, Australia; Suzanne Dziurawiec, Murdoch University, Australia

Subject-specific task value profiles and well-being among students in Germany and Finland

Heta Tuominen, University of Helsinki, Finland; Hanna Gaspard, University of Tübingen, Germany; Yi Jiang, East China Normal University, China; Markku Niemivirta, University of Oslo, Norway

Session N: 15

Time: 10:15-11:45

Location: Seminar Room - S14

SINGLE PAPER: QUALITATIVE METHODS IN HIGHER EDUCATION**Chair**

Maria Tsapali, University of Cambridge, United Kingdom

University in the rear view mirror: Psychological needs in alumnis' pleasant and unpleasant memories

Stefan Janke, University of Mannheim, Germany; Melanie Alsmeyer, Universität Mannheim, Germany; Miriam Reißner, Universität Mannheim, Germany

Impact of short-term international experiences on students' academic engagement: One year later

Yusuke Sakurai, Ochanomizu University, Japan

Using visual representations to qualify students' understanding of causal relationships in price

Ann-Sofie Jägerskog, Stockholm University, Sweden; Peter Davies, University of Birmingham, United Kingdom; Cecilia Lundholm, Stockholm University, Sweden

Intended and Realised Interdisciplinarity: Experiences from the University of Copenhagen

Katrine Lindvig, University of Copenhagen, Denmark

Session N: 16

Time: 10:15-11:45

Location: Lecture Hall - H11

SINGLE PAPER: TEACHING AND TEACHER EDUCATION**Chair**

Peter Falmann, University of Koblenz and Landau, Germany

Teacher learning in 'multibla' schools: Perspectives to move beyond arbitrariness

Nikollett Szelei, Instituto de Educação da Universidade de Lisboa, Portugal

Searching for the missing link in coherence

Esther Canrinus, University of Agder, Norway; Kirsti Klette, University of Oslo, Norway; Karen Hamerness, American Museum of Natural History, United States

FALKO-Geschichte: A PCK/CK-test of teacher competences in history education

Jochen Kirchhoff, Universität Erfurt, Germany; Stefan Krauss, University of Regensburg, Germany

A Critical Stance Towards Pedagogical Content Knowledge

Thorsten Scheiner, Institute for Learning Sciences & Teacher Education, ACU, Australia

Session N: 17

Time: 10:15-11:45

Location: Seminar Room - S02

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Christine Wolfgramm, University of Teacher Education Zurich, Switzerland

Teacher education and teachers' valuations of theory and practice oriented professional development

Folke Glastra, Leiden University, Netherlands; Cornelis de Brabander, Leiden University, Netherlands; Kim Stroet, Leiden University, Netherlands

Teaching Examples and its Impact on Instruction Planning of Pre-Service Physical Education Teachers

Tim Heemsoth, Universität Hamburg, Germany

Teachers' view on formative assessment – impact of experimental teaching with peer-assessment

Iva Stuchlikova, University of South Bohemia Ceske Budejovice, Czech Republic; Iva Zlabkova, University of South Bohemia Ceske Budejovice, Czech Republic; Alena Hospesova, University of South Bohemia Ceske Budejovice, Czech Republic; Jan Petr, University of South Bohemia Ceske Budejovice, Czech Republic; Lukas Rokos, University of South Bohemia Ceske Budejovice, Czech Republic

An ideological perspective of School principals' perceptions as educational leaders

Roni Reingold, Achva Academic College; Hemdat Hadarom college of Education, Israel; Keren Dery, Achva Academic College, Israel

Session N: 18

Time: 10:15-11:45

Location: Seminar Room - S04

SINGLE PAPER: MATHEMATICS AND MOTIVATION AND EMOTION**Chair**

Lies Declercq, KU LEUVEN, Belgium

The "Perfect" Lens: Effects of Perfectionism on Early Adolescents' Math Self-Efficacy Development

Xiao-Yin Chen, University of Kentucky, United States; Calah Ford, University of Kentucky, United States; Ellen Usher, University of Kentucky, United States; Veronica Scott, University of Kentucky, United States

Validation of the State- and Trait-Math Anxiety-Model

Orbach Lars, Institut der Psychologie, Universität Duisburg-Essen, Germany; Moritz Herzog, University of Duisburg-Essen, Germany; Annemarie Fritz-Stratmann, University of Duisburg-Essen, Germany

The Relation Between Working Memory and Inhibitory Control in Math Anxiety: A Meta-Analyses Study

Patrícia Freitas, Multidisciplinary Institute of Health, Brazil

Profiles in mathematics achievement: Lessons from Japanese secondary schools

Quint Oga-Baldwin, Waseda University, Japan; Luke Fryer, University of Hong Kong, Hong Kong

Session O: 1

Time: 12:00-13:30

Location: Seminar Room - S12

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS**Chair**

Yusuke Sakurai, Ochanomizu University, Japan

Presentation of a short writing apprehension measure and its relationship with writing

Teresa Limpo, University of Porto, Portugal

Biases in the Recognition of High Cognitive Ability by Teachers and Peers

Jeroen Lavrijsen, KU Leuven (BE), Belgium; Karine Verschueren, KU Leuven, Belgium

Unpacking Feedback Types and Modes: An Analysis of Student-Teachers' Meaning-Making

Michel Cabot, University of Oslo, Faculty of Educational Sciences, Norway

Developing evaluative judgements in large classes: Generic skills and Content knowledge

Viivi Virtanen, University of Helsinki, Finland; Johanna Rämö, University of Helsinki, Finland; Jokke Häsä, University of Helsinki, Finland

Session O: 2

Time: 12:00-13:30

Location: Lecture Hall - H08

SINGLE PAPER: MOTIVATION**Chair**

Marjaana Veermans, University of Turku, Finland

Growing Perceptions of Control reduce Dropout Risk and enhance Achievement - A Longitudinal Study

Lisa Respondek, Ulm University, Germany; Tina Seufert, Ulm University, Germany; Jeremy M. Hamm, Concordia University, Canada; Ulrike Nett, Augsburg University, Germany

Pre-Service Teacher Self-Efficacy in the Context of Practicum of Teaching

Esen Uzuntiryaki Kondakci, Middle East Technical University, Turkey; Yesim Capa Aydin, Middle East Technical University, Turkey; Zubeyde Demet Kirbulut, Harran University, Turkey; Aydan Boran, Middle East Technical University, Turkey

Beyond the entity-incremental dichotomy: Different constructions of meaning systems

Junlin Yu, Cambridge University, United Kingdom; Ros McLellan, Cambridge University, United Kingdom

Association of self-efficacy and achievement goals in university lecturers teaching

Julia Hein, University of Mannheim, Germany; Stefan Janke, University of Mannheim, Germany; Martin Daumiller, University of Augsburg, Germany; Markus Dresel, University of Augsburg, Germany; Oliver Dickhaeuser, University of Mannheim, Germany

Session O: 3

Time: 12:00-13:30

Location: Seminar Room - S11

SINGLE PAPER: QUALITATIVE METHODS IN RESEARCHER EDUCATION**Chair**

Carla Oonk, Wageningen University, Netherlands

Design Characteristics of Play Areas and Children's Play Preferences

Serap Sevimli-Celik, METU, Turkey; Sebnem Cetken, Usak University, Turkey

Scaffolding a collaborative learning process in research ethics among novice researchers

Anu Tammeleht, University of Helsinki, Estonia; Maria Jesus Rodriguez-Triana, Tallinn University, Estonia; Erika Löfström, University of Helsinki, Finland

Doctoral students' experiences of the ethics of supervision

Marvi Remmik, University of Tartu, Estonia; Liana Roos, University of Tartu, Estonia; Erika Löfström, University of Helsinki, Finland

Research integrity as a core transversal academic career competence: Identifying expert learning

Erika Löfström, University of Helsinki, Finland

Session O: 4

Time: 12:00-13:30

Location: Seminar Room - S09

SINGLE PAPER: INSTRUCTIONAL DESIGN AND EXPERIMENTAL STUDIES**Chair**

Sebastien Laurent, IFSTTAR, France

Is your imagination sufficient? Effects of mental images on learning outcome and cognitive load

Patrick Albus, Ulm University Institute of Psychology and Education, Germany; Tina Seufert, Ulm University, Germany

The Influence of Background Music on Learners with varying Extraversion

Janina Lehmann, Ulm University, Germany; Tina Seufert, Ulm University, Germany

When does testing protect against forgetting? – Not when students have high mastery motivation.

Alexander Eitel, University of Freiburg, Germany; Tino Endres, University of Freiburg, Germany; Valentin Hörbrand, University of Freiburg, Germany; Fiona Wilke, University of Freiburg, Germany; Alexander Renkl, University of Freiburg, Germany

Does Socratic teaching foster learning?

Christof Wecker, Universität Hildesheim, Germany; Corinna Behrendt, University of Hildesheim, Germany; Melissa Windler, University of Hildesheim, Germany

Session O: 5

Time: 12:00-13:30

Location: Lecture Hall - H10

SINGLE PAPER: MIXED-METHOD RESEARCH IN TEACHING AND INSTRUCTION**Chair**

Michiel Voet, Ghent University, Belgium

Investigating Classroom Teachers' Development of Mathematical Task Implementation Quality

Engin Ader, Bogazici University, Turkey

Teaching as a Clinical Profession: Revisiting the Medical Model of Professional Work in Teaching

Ayelet Becher, Ben-Gurion University of the Negev, Israel; Adam Lefstein, Ben-Gurion University of the Negev, Israel

Does feedback by school leaders affect teachers' professional development and teaching quality?

Christopher Kellermann, Freie Universität Berlin, Germany; Max Nachbauer, Freie Universität Berlin, Germany; Holger Gaertner, Freie Universität Berlin, Germany; Felicitas Thiel, Freie Universität Berlin, Germany

Comparing self-perceived knowledge about classroom management to student misbehaviour

Sabine Schlag, University of Wuppertal, Germany; Sabine Glock, Bergische Universität Wuppertal, Germany

Session O: 6

Time: 12:00-13:30

Location: Lecture Hall - H06 -
Amazon Hörsaal**SINGLE PAPER: EDUCATIONAL POLICY****Chair**

Sarah Marrs, Virginia Commonwealth University, United States

Happy teachers, happy schools

Kim Ouweland, Erasmus University Rotterdam, Netherlands

Teacher satisfaction in high poverty schools in Estonia, Georgia, and Latvia

William Smith, University of Edinburgh, United Kingdom

New multilingual education policies in a country of old multilingual settlement

Adrian Lundberg, Malmö University, Sweden

The use of school self-evaluation results for school development. A matter of data quality?

Jerich Faddar, University of Antwerp, Belgium; Jan Vanhoof, University of Antwerp, Belgium; Sven De Maeyer, University of Antwerp, Belgium

Session O: 7

Time: 12:00-13:30

Location: Lecture Hall - H09

SINGLE PAPER: EMOTION AND AFFECT**Chair**

Tsafir Goldberg, University of Haifa, Israel

Exploring groups' situational affective states during collaborative learning

Tiina Törmänen, University of Oulu, Finland; Hanna Jarvenoja, University of Oulu, Finland; Kristiina Kurki, University of Oulu, Finland

How do student learning prerequisites affect perceptions of supportive climate in ICT instruction?

Molly Hammer, University of Tuebingen, Institute of Education, Germany; Kathleen Stürmer, University of Tübingen, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany; Benjamin Caspar Fauth, University of Tübingen, Germany

Effects of process heterogeneity in collaborative learning with tablets

Armin Weinberger, Saarland University, Germany; Lara Johanna Schmitt, Saarland University, Germany; Dimitra Tsovaltzi, Saarland University, Germany

Achievement Emotions Predict the Collaborative Problem-Solving Performance of Adolescents

Jesus Camacho-Morles, The University of Melbourne, Australia; Gavin Slemp, The University of Melbourne, Australia; Lindsay Oades, The University of Melbourne, Australia; Lucy Morrish, The University of Melbourne, Australia; Claire Scoular, The University of Melbourne, Australia

Session O: 8

Time: 12:00-13:30

Location: Seminar Room - S16

SINGLE PAPER: TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION**Chair**

Lois George, University of the West Indies, Mona Campus, Jamaica

A Social Capital MOOC Design for the Delivery of High-Quality PD to Science Teachers

Susan Yoon, University of Pennsylvania, United States; Kate Miller, University of Pennsylvania, United States; Joeoun Shim, University of Pennsylvania, United States; Daniel Wendel, Massachusetts Institute of Technology, United States; Ilana Schoenfeld, Massachusetts Institute of Technology, United States; Emma Anderson, Massachusetts Institute of Technology, United States; David Reider, Education Design, United States

Teachers, tablets, training - the acquisition of new skills in the use of mobile technologies

Lara Gerhardt, University of Paderborn, Germany; Lukas Dehmel, University of Paderborn, Germany; Dorothee M. Meister, University of Paderborn, Germany

Exploring Sex Differences in Visuospatial Cognition in the Context of Organic Chemistry

Pavlo Antonenko, University of Florida, Ukraine; Matthew Schneps, University of Massachusetts, United States; Marc Pomplun, University of Massachusetts, United States; Andreas Keil, University of Florida, United States; Kara Dawson, University of Florida, United States; Richard Lamb, SUNY Buffalo, United States; Koh Do Hyong, University of Massachusetts, United States; Andrea Burgess, University of Florida, United States

Middle-Schoolers' Attitudes To STEM in a 3D Scanning and Printing Infused Science Classroom

Pavlo Antonenko, University of Florida, Ukraine

Session O: 9

Time: 12:00-13:30

Location: Lecture Hall - H07

SINGLE PAPER: MOTIVATION**Chair**

Frieder Schillinger, Technische Universität Dresden, Germany

Enjoyment and Anxiety in Reading Comprehension: Exploring Emotion Antecedents Across Grade Levels

Sonia Zaccoletti, University of Padova, Italy, Italy; Gianmarco Altoè, University of Padova, Italy, Italy; Lucia Mason, University of Padova, Italy

The effects of situational interest, task effort, and their interaction on math test performance

Anna Tapola, University of Helsinki, Finland; Maximilian Knogler, Technical University of Munich (TUM), Germany; Markku Niemivirta, University of Oslo, Norway

A diary study on motivational regulation, academic procrastination, and college dropout intentions

Lisa Bäumke, University of Augsburg, Germany; Martin Daumiller, University of Augsburg, Germany; Markus Dresel, University of Augsburg, Germany

The Development and Validation of a new Multidimensional Test Anxiety Scale

Dave Putwain, Liverpool John Moores University, United Kingdom; Nathaniel von der Embse, University of South Florida, United States

Session O: 10

Time: 12:00-13:30

Location: Seminar Room - S15

SINGLE PAPER: EARLY CHILDHOOD EDUCATION**Chair**

Marion Tillema, Avans Hogeschool / Avans University of Applied Sciences, Netherlands

Unstructured Learning: Development of Free Form Construction in Waldorf and Normative Preschools

Salam Kodsí, Alqasemi College, Israel; Sharona T. Levy, University of Haifa, Faculty of Education, Israel

Inclusive good practice in preschool: teachers point of view

Maja Antonietti, University of Modena and Reggio Emilia - Department of Education and Human Sciences, Italy; Alice Veneziani, University of Modena and Reggio Emilia - Department of Education and Human Sciences, Italy

Is young children's self-regulation related to teachers' autonomy supportive style?

Antonia Zachariou, University of Roehampton, United Kingdom; Arielle Bonneville-Roussy, Roehampton University, United Kingdom

Emergence of Dialogical Interactions in Early Childhood Education Centers

Heli Muhonen, University of Jyväskylä, Finland; Priti Verma, Higher Colleges of Technology, United Arab Emirates; Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates; Helena Rasku-Puttonen, University of Jyväskylä, Finland

Session O: 11

Time: 12:00-13:30

Location: Lecture Hall - H11

SINGLE PAPER: COGNITIVE SKILLS IN EARLY CHILDHOOD EDUCATION**Chair**

Josef Guggemos, University St.Gallen, Switzerland

Robot intervention for promoting spatial relations and spatial language among preschool children

Sigal Eden, Bar-Ilan University, Israel; Einat Brainin, Bar-Ilan University, Israel; Adina Shamir, Bar-Ilan University, Israel

Using Storytelling to Scaffold Children's Cognitive Processing during Robotic Coding

Brian Zoellner, University of North Florida, United States; Meghan Parkinson, University of North Florida, United States; Daniel Dinsmore, University of North Florida, United States; Kelli Lacefield, University of North Florida, United States

Science competencies in elementary school. Does scientific thinking promote science understanding?

Susanne Koerber, University of Education Freiburg, Germany; Christopher Osterhaus, Ludwig-Maximilians-Universität (LMU), Germany

Practitioner's Perspective on Collaborative Learning among Young Children Using Mobile Technology

Pinsuda Srisontisuk, Open University, United Kingdom

Session O: 12

Time: 12:00-13:30

Location: Seminar Room - S05

SINGLE PAPER: METACOGNITION AND SELF-REGULATION**Chair**

Piedade Vaz-Rebello, Faculty of Psychology and Educational Sciences - University of Coimbra, Portugal

Providing metacomprehension-ratings to support self-regulated learning with texts

Lenka Schnaubert, University of Duisburg-Essen, Germany; Leonie Kowalski, University of Duisburg-Essen, Germany; Daniel Bodemer, University of Duisburg-Essen, Germany

Building bridges to enhance young children's agency: Metacognition and executive function

Loren Marulis, Connecticut College, United States; Sara Baker, Faculty of Education, United Kingdom; David Whitebread, University of Cambridge, United Kingdom

Does Measuring Metacognition Improve Performance?

Kit Double, University of Oxford, United Kingdom; Damian Birney, University of Sydney, Australia

Assessing the relationships between metacognition, mind wandering and mindfulness: A pilot study

David Preiss, Pontificia Universidad Catolica de Chile, Chile; Valeska Grau, Pontificia Universidad Católica de Chile, Chile; Miguel Ibaceta, Pontificia Universidad Católica de Chile, Chile; David Torres, Pontificia Universidad Católica de Chile, Chile

Session O: 13

Time: 12:00-13:30

Location: Seminar Room - S13

SINGLE PAPER: WORKPLACE LEARNING**Chair**

Lais Oliveira Leite, University of Eastern Finland, Finland

Hierarchy - Barrier or Opportunity for Team Learning?

Therese Grohnert, Maastricht University, Netherlands; Pleunie Simons, Maastricht University, Netherlands; Roger Meuwissen, Maastricht University, Netherlands; Wim Gijssels, Maastricht University, Netherlands

Pain in present gain in future: How professionals learn from self-made errors

Laura Smeets, Maastricht University, Netherlands; Wim Gijssels, Maastricht University, Netherlands; Therese Grohnert, Maastricht University, Netherlands; Roger Meuwissen, Maastricht University School of Business and Economics, Netherlands

Changes in learning-to-teach patterns of student teachers during internships: An LTA approach

Michael Goller, University of Bamberg, Germany; Dagmar Festner, University of Paderborn, Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany; Tina Hascher, University of Bern, Switzerland

Reflection in professional contexts – views of teachers in vocational education and training

Baerbel Fuerstenau, TU Dresden, Germany; Mandy Hommel, TU Dresden, Germany; Regina Mulder, University of Regensburg, Germany

Session O: 14

Time: 12:00-13:30

Location: Lecture Hall - H05

SINGLE PAPER: IN-SERVICE TEACHER EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Barbara Otto, Psychology, University of Landau, Germany

Media literacy of teachers and technology equals high-quality teaching in classrooms?

Michael Sailer, Ludwig-Maximilians-Universität (LMU), Germany; Julia Murböck, Ludwig-Maximilians-Universität (LMU), Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Teacher Reflection and Motivation

Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel; Yael Mishaëli, Ben Gurion University of the Negev, Israel; Guy Roth, Ben-Gurion University of the Negev, Israel

A Comparison of Experienced and New Facilitators of Structured Professional Development in Science

Judith Warren Little, University of California, Berkeley, United States; Elena Duran Lopez, University of California Berkeley, United States; Anna Weltman, University of California Berkeley, United States

Teachers in Estonia: Low motivation is more critical than low general pedagogical knowledge

Äli Leijen, University of Tartu, Estonia; Liina Malva, University of Tartu, Estonia; Katrin Poom-Valickis, Tallinn University, Estonia; Margus Pedaste, University of Tartu, Estonia; Aleksander Bauca, University of Belgrade, Serbia

Session O: 15

Time: 12:00-13:30

Location: Seminar Room - S03

SINGLE PAPER: SCIENCE EDUCATION**Chair**

Peter David Renshaw, The University of Queensland, Australia

Latent Profiles of Elementary School Student's Epistemic Beliefs in Science

Julia Schiefer, University of Tuebingen, Germany; Andrea Bernholt, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Nele Kampa, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Develop student scientific argumentation via metacognitive scaffolding

Qingna Jin, University of Alberta, Canada

Longitudinal study of the primary students' Topic Specific Science related ability beliefs

Kalle Juuti, University of Helsinki, Finland; Anni Loukomies, University of Helsinki, Finland; Jari Lavonen, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland

Examining the relationship between learners' observation and knowledge structures in field geology

Lauren Barth-Cohen, University of Utah, United States; Sarah K. Braden, Sarah K. Braden School of Teacher Education and Leadership Utah State University, United States

Session O: 16

Time: 12:00-13:30

Location: Seminar Room - S10

SINGLE PAPER: EDUCATIONAL THEORY AND PHILOSOPHY**Chair**

Franziska Vogt, University of Teacher Education St.Gallen, Switzerland

What is an educational theory?

Cristian Simoni, University of Padua, Italy

Transformation of subject knowledge between lectures, lab exercises and report writing

Niels Dohn, Aarhus University, Denmark; Nina Bonderup Dohn, University of Southern Denmark, Denmark

Education as technology. Theoretical reflections.

Denis Francesconi, Danish School of Education, Denmark

Education in a Leisure-Based Jobless Society

Eugene Matusov, University of Delaware, United States

Session O: 17

Time: 12:00-13:30

Location: Seminar Room - S07

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION

Chair

Els Boshuizen, Open University of the Netherlands, Netherlands

Preparing teachers for the 21st century practice: A longitudinal study

Kati Mäkitalo, University of Oulu, Finland; Päivi Häkkinen, University of Jyväskylä, Finland; Sanna Järvelä, University of Oulu, Finland; Arto K. Ahonen, University of Jyväskylä, Finland; Jari Kukkonen, University of Eastern Finland, Finland; Piia Naykki, University of Oulu, Finland; Johanna Pöysä-Tarhonen, University of Jyväskylä, Finland; Erkki Sointu, University of Eastern Finland, Finland; Teemu Valtonen, University of Eastern Finland, Finland; Anne Virtanen, University of Jyväskylä, Finland

Measuring Lesson Planning Competency: Scale Development and Validation

Olga Chernikova, Ludwig Maximilian University, Germany; Karsten Stegmann, Ludwig-Maximilians-Universität (LMU), Germany; Jan-Willem Strijbos, University of Groningen, Netherlands; Tina Seidel, Technische Universität München (TUM), Germany

Group concept mapping as starting point for educational design research in primary education

Iwan Wopereis, Open University of the Netherlands, Netherlands; Emmy Vrieling, Open University of the Netherlands, Netherlands; Marjon De Boer-Bruggink, Iselinge Hogeschool, Netherlands; Slavi Stoyanov, Open University of the Netherlands, Netherlands

Exploring Pre-Service Teachers' Professional Vision in the Context of Lesson Planning

Adriana Zaragoza, Technische Universität München (TUM), Germany; Martina Alles, Technische Universität München (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Session O: 18

Time: 12:00-13:30

Location: Seminar Room - S01

SINGLE PAPER: EDUCATIONAL POLICY

Chair

Jessica Summers, University of Arizona, United States

School principals' work-related stress and coping strategies

Mailis Elomaa, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Sirpa Eskelä-Haapanen, University of Jyväskylä, Finland; Leena Halttunen, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Value-added modeling in primary school: What covariates to include ?

Jessica Levy, University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Educational Sciences (FLSHASE), Luxembourg; Martin Brunner, University of Potsdam, Germany; Ulrich Keller, University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Educational Sciences (FLSHASE), Luxembourg; Antoine Fischbach, University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Educational Sciences (FLSHASE), Luxembourg

School inspection: Is it worth the effort? A systematic review of 30 years of international research

Sarah Isabelle Hofer, TU Munich School of Education, Germany

'Intractable' schools: can an Ofsted classification prevent sustainable improvement?

Bernardita Munoz Chereau, University College London IOE, United Kingdom; Melanie Ehren, UCL Institute of Education, United Kingdom

Session O: 19

Time: 12:00-13:30

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SINGLE PAPER: STUDENT LEARNING

Chair

Martine Baars, Erasmus University Rotterdam, Netherlands

Investigating differentiated instruction in a text-learning strategy intervention with mind maps

Rielke Bogaert, Ghent University, Belgium; Emmelien Merchie, Ghent University, Belgium; Hilde Van Keer, Ghent University, Belgium

Profiles of instructional quality in classes with a special emphasis on music or science education.

Ariane S. Willems, University of Goettingen, Germany; Sonja Nonte, University of Goettingen, Germany; Tobias Stubbe, University of Goettingen, Germany

Effects of learning progress assessment and differentiated reading instruction in second grade

Martin T. Peters, University of Muenster, Germany; Karin Hebbeker, University of Muenster, Germany; Elmar Souvignier, University of Muenster, Germany

Preservice teachers as learners and collaborators – Longitudinal study in Finnish teacher education

Päivi Häkkinen, University of Jyväskylä, Finland; Anne Virtanen, University of Jyväskylä, Finland; Asko Tolvanen, University of Jyväskylä, Finland; Johanna Pöysä-Tarhonen, University of Jyväskylä, Finland; Mikko Niilo-Rämä, University of Jyväskylä, Finland; Piia Naykki, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland

Keynotes - PART 2: 1

Time: 13:45-15:15

Location: Lecture Hall - H01

EARLI KEYNOTE SESSION: THINKING TOMORROW'S COMPUTER-SUPPORTED COLLABORATIVE LEARNING: CHALLENGES AND OPPORTUNITIES**Chair**

Sanna Järvelä, University of Oulu, Finland

Thinking Tomorrow's Computer-Supported Collaborative Learning: Challenges and Opportunities
Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Keynotes - PART 2: 2

Time: 13:45-15:15

Location: Lecture Hall - H02 -
Trivago Hörsaal**EARLI KEYNOTE SESSION: ARGUMENTATION, INTERACTION AND LEARNING: LESSONS FROM SCIENCE EDUCATION****Chair**

Costas Constantinou, University of Cyprus, Cyprus

Argumentation, Interaction and Learning: Lessons from Science Education
Jonathan Osborne, Stanford University, United States

Keynotes - PART 2: 3

Time: 13:45-15:15

Location: Lecture Hall - H03 - Otto
Fuchs Hörsaal**EARLI KEYNOTE SESSION: EDUCATIONAL NEUROSCIENCE: PROMISES AND PITFALLS****Chair**Nienke van Atteveldt, Vrije Universiteit Amsterdam,
Netherlands**Educational neuroscience: promises and pitfalls**
Lydia Krabbendam, Vrije Universiteit Amsterdam, Netherlands

Session P: 1

Time: 15:30-17:00

Location: Lecture Hall - H10

SYMPOSIUM: STUDENT, TEACHER, AND OBSERVER RATINGS OF TEACHING QUALITY: INVESTIGATING REASONS FOR (DIS)AGREEMENT**Chair**Anna-Katharina Praetorius, Institut für
Erziehungswissenschaft, Switzerland**Discussant**Jan Hochweber, University of Teacher Education St. Gallen,
Switzerland**Measuring Teaching Quality from Different Perspectives: Conceptual Considerations**

Anna-Katharina Praetorius, Institut für Erziehungswissenschaft, Switzerland; Benjamin Caspar Fauth, University of Tübingen, Germany; Richard Goellner, University of Tuebingen, Germany; Gerlinde Lenske, Universität Koblenz-Landau, Germany; Wolfgang Wagner, University of Tuebingen, Germany

Us And Them: Comparing Classroom Level And Individual Level Referents In Climate Surveys

Jonathan Schweig, RAND Corporation, United States; Jose Felipe Martinez, University of California, Los Angeles, United States

Which Predicts Student Learning Better? Comparing Three Approaches of Exploring Teaching Quality

Charalambos Charalambous, University of Cyprus, Cyprus; Ermis Kyriakides, University of Cyprus, Cyprus

Predicting Achievement with Classroom Management Is Monitoring all you need?

Johanna Marder, University of Tuebingen, Germany; Wolfgang Wagner, University of Tuebingen, Germany; Richard Goellner, University of Tuebingen, Germany

Session P: 2

Time: 15:30-17:00

Location: Lecture Hall - H11

POSTER PRESENTATION: WRITING AND LITERACY

Chair

Hilda Borko, Stanford University, United States

Students' Use of Diagrams in Writing Explanations: Does Instruction in Diagram Use Help?

Emmanuel Manalo, Kyoto University, Japan; Ouhaio Chen, National Institute of Education, Nanyang Technological University, Singapore; Jin Wang, Pearl River College of Tianjin University of Finance and Economics, China

Poetry, meaning making and mind wandering: Implications for Education

David Preiss, Pontificia Universidad Catolica de Chile, Chile

Lesson study or lesson development? Teachers' collaborative learning in basic skills

Pernille Fiskerstrand, Volda University College, Norway

Text Revision in Inclusive Classrooms

Daria Ferencik-Lehmkuhl, University of Duisburg Essen, Germany

Features of Historical Reasoning in Undergraduate English Language Learners' Writing

Kristin Sendur, University of Amsterdam, Sabanci University, Turkey; Jannet van Drie, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands; Kees Jan Kan, University of Amsterdam, Netherlands

Using speech recognition to facilitate writing for children with dyslexia – for whom does it work?

Åsa Wengelin, University of Gothenburg, Sweden; Sanna Kraft, University of Gothenburg, Sweden; John Rack, Linnaeus University, Sweden; Fredrik Thurfjell, University of Gothenburg, Sweden

Session P: 3

Time: 15:30-17:00

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: SCREEN-MEDIATED PERMEABILITY: TEACHING AND LEARNING IN THE COMPANY OF PERSONALIZED PHONE CONTENT

Chair

Fritjof Sahlström, Åbo Akademi University, Finland

Organiser

Marie Tanner, Karlstad University, Sweden

Discussant

Giulia Messina Dahlberg, University of Gothenburg, Sweden

“Omg talk existence instead plz :)))”. Learning in phone mediated classroom participation

Marie Tanner, Karlstad University, Sweden; Christina Olin-Scheller, Karlstad University, Sweden

Photoblogs and re-territorialisation of teaching and learning in a psychology lesson on puberty

Fritjof Sahlström, Åbo Akademi University, Finland; Antti Paakkari, University of Helsinki, Finland; Verner Valasmo, Åbo Akademi University, Finland

Private phone-mediated interaction as a resource for doing language learning in classrooms

Fredrik Rusk, Nord University, Norway

Learning and longitudinality in mobile phone interaction in classrooms

Fritjof Sahlström, Åbo Akademi University, Finland

Session P: 4

Time: 15:30-17:00

Location: Lecture Hall - H08

SYMPOSIUM: USING ICT TO REFLECT UPON TEACHING IN TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT

Chair

Susi Klaß, Friedrich Schiller University Jena, Germany

Organisers

Susi Klaß, Friedrich Schiller University Jena, Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany

Discussant

Heli Ruokamo, University of Lapland, Finland

Anchoring Reflection in Mobile Note-Taking: Case Studies with Preservice Teachers

Regina Schmid, Schwyz University of Teacher Education, Switzerland; Laura Müller, Schwyz University of Teacher Education, Switzerland; Michael Hielscher, Pädagogische Hochschule Schwyz, Switzerland; Dominik Petko, University of Zurich, Institute of Education, Switzerland

Using video as a stimulus for extending teacher noticing

Maria Vrikki, University of Cyprus, Cyprus; Paul Warwick, University of Cambridge, United Kingdom; Victoria Cook, University of Cambridge, UK, United Kingdom; Louis Major, University of Cambridge, United Kingdom

Learning to Teach with Content-Focused Coaching – Design of a Blended Learning Environment

Fritz C. Staub, University of Zurich, Switzerland; Eva Becker, University of Zurich, Switzerland

Virtual feedback on real teaching? Enhancing preservice teachers' reflection upon teaching practice

Miriam Jähne, Friedrich-Schiller-University Jena, Germany; Susi Klaß, Friedrich Schiller University Jena, Germany; Alexander Groeschner, Friedrich Schiller University Jena, Germany

Session P: 5

Time: 15:30-17:00

Location: Lecture Hall - H07

SYMPOSIUM: CONCEPTUAL AND PROCEDURAL KNOWLEDGE IN MATHEMATICS LEARNING: OPEN ISSUES IN THEORY AND MEASUREMENT**Chair**

Terezinha Nunes, University of Oxford, United Kingdom

Organisers

Xenia Vamvakoussi, University of Ioannina, Greece; Jake McMullen, University of Turku, Finland

Discussant

Terezinha Nunes, University of Oxford, United Kingdom

Assessing conceptual and procedural fraction knowledge – A focus on validity

Katja Lenz, University of Education Freiburg, Germany; Germany; Anika Dreher, University of Education Freiburg, Germany; Lars Holzäpfel, University of Education Freiburg, Germany; Gerald Wittmann, University of Education Freiburg, Germany

The Longitudinal Relations between Conceptual and Procedural Knowledge: A Meta-Analysis

Michael Schneider, University of Trier, Germany; Bethany Rittle-Johnson, Vanderbilt University, United States; Alisha Töre, University of Trier, Germany; Katharina Weber, University of Trier, Germany

Individual differences in bootstrapping procedural and conceptual knowledge for future learning

Jake McMullen, University of Turku, Finland; Bethany Rittle-Johnson, Vanderbilt University, United States; Jon Star, Harvard Graduate School of Education, United States

Issues in studying conceptual and procedural fraction knowledge: Reflecting on a series of studies

Xenia Vamvakoussi, University of Ioannina, Greece; Maria Bempeni, University of Ioannina, Greece; Stavroula Pouloupoulou, Athens University of Economics and Business, Greece; Ioanna Tsiplaki, University of Ioannina, Greece

Session P: 6

Time: 15:30-17:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: IDENTIFYING LITERACIES PROTECTIVE AGAINST MISINFORMATION AND SCIENCE SKEPTICISM**Chair**

Friederike Hendriks, University of Münster, Germany

Organisers

Dorothe Kienhues, University of Münster, Germany; Friederike Hendriks, University of Münster, Germany

Discussant

Eleni Kyza, Cyprus University of Technology, Cyprus

Strategies in Dealing with Science-Based Information

Dorothe Kienhues, University of Münster, Germany; Friederike Hendriks, University of Münster, Germany; Regina Jucks, WWU Münster, Germany; Rainer Bromme, University of Münster, Germany

Knowing your Limits? Source Evaluation does not Override the Persuasiveness of Information Easiness

Lisa Scharrer, Ruhr-Universität Bochum, Germany; Marc Stadler, Ruhr-Universität Bochum, Germany; Rainer Bromme, University of Münster, Germany

Epistemic Trust and Critique of Methodology in Lay Use of Science Information for Health Decisions

Michael Weinstock, Ben-Gurion University of the Negev, Israel; Iris Tabak, Ben-Gurion University of the Negev, Israel; Efrat Yahav, Ben-Gurion University of the Negev, Israel; Sarit Barzilai, University of Haifa, Israel

Instructional Scaffolds to Shift Students' Epistemic Evaluations toward the Scientific

Doug Lombardi, Temple University, United States; Timothy G. Klavon, Temple University, United States; Margaret A. Holzer, Chatham High School, New Jersey, United States; Reed Kendall, Temple University, United States

Session P: 7

Time: 15:30-17:00

Location: Lecture Hall - H05

SYMPOSIUM: EFFECTIVE TEACHING AND ITS EFFECTS ON EARLY CHILDHOOD DEVELOPMENT**Chair**

Jyrki Reunamo, University of Helsinki, Finland

Organiser

James Ko, The Education University of Hong Kong, Hong Kong

Discussant

Kathy Sylva, University of Oxford, United Kingdom

The distinctive roles of individual- and school-level self-regulation in early development gaps

James Ko, The Education University of Hong Kong, Hong Kong; Jin Sun, The Education University of Hong Kong, Hong Kong; Rong Kang, The Education University of Hong Kong, Hong Kong

Effective teaching and its effects on early childhood development: Theories and methods

James Ko, The Education University of Hong Kong, Hong Kong; Pamela Sammons, University of Oxford, United Kingdom

Findings from Pilots on Teaching Effects through Observing Children in Finland and Hong Kong

Jyrki Reunamo, University of Helsinki, Finland; James Ko, The Education University of Hong Kong, Hong Kong

The role and impact of School Sponsoring Body in Hong Kong kindergartens

Jyrki Reunamo, University of Helsinki, Finland; Doris CHENG, Tung Wah College, Hong Kong; Yasmin Fong, The Education University of Hong Kong, Hong Kong

Session P: 8

Time: 15:30-17:00

Location: Lecture Hall - H09

SYMPOSIUM: ASSESSMENTS OF TEACHERS' PROFESSIONAL KNOWLEDGE, INSTRUCTIONAL SKILLS AND THEIR RELATIONS**Chair**

Alicia Alonzo, Michigan State University, United States

Organisers

Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Jennifer Fischer, Johannes Gutenberg-Universität, Germany

Discussant

Fien Depaepe, KU Leuven, Belgium

Analyzing the Development of Pre-service Physics Teachers' Professional Competence

Christoph Vogelsang, University of Paderborn, Germany; Andreas Borowski, University of Potsdam, Germany; Christoph Kulgemeyer, University of Bremen, Germany; Josef Riese, RWTH Aachen University, Germany

The Competence of Teaching Multilingual Learners – Video-Based Test with Auditory Responses

Sarah-Larissa Hecker, Universität Bielefeld, Germany; Svenja Hammer, Leuphana University Lüneburg, Germany; Svenja Lemmrich, Leuphana Universität Lüneburg, Germany; Stephanie Klein, University of Bielefeld, Germany; Timo Ehmke, Leuphana University Lüneburg, Germany; Barbara Koch-Priewe, University of Bielefeld, Germany; Anne Köker, University of Bielefeld, Germany; Udo Ohm, University of Bielefeld, Germany

Measuring "Economics and Society" Teachers' Content Knowledge and Pedagogical Content Knowledge

Doreen Holtsch, University of Teacher Education St.Gallen, Switzerland

Relationships Between Teachers' Domain-specific Knowledge, Generic and Instructional Skills

Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Christiane Kuhn, Johannes Gutenberg University Mainz, Germany; Hannes Saas, Johannes Gutenberg-Universität, Germany

Session P: 9

Time: 15:30-17:00

Location: Seminar Room - S03

POSTER PRESENTATION: HIGHER EDUCATION**Chair**

Sittipan Yotyodying, FernUniversität in Hagen, Germany

How's it relevant to me? Student Perception of Learning Science from Transformative Activist Stance

Sanaz Farhangi, Florida International University, United States

Energizing the college classroom: Using movement to activate learning

Stacia Miller, Midwestern State University, United States; Suzanne Lindt, Midwestern State University, United States

Mind the gap! Differences in monitoring of learning for an assessment between low and high achievers

Jeroen van der Linden, HAN University of Applied Sciences, Netherlands

The assessment of pre-service teachers' scientific inquiry skills

Gábor Z. Orosz, Doctoral School of Education, University of Szeged; MTA-SZTE Science Education Research Group, Hungary; Erzsébet Korom, University of Szeged, MTA-SZTE Science Education Research Group, Hungary; Mária B. Németh, MTA-SZTE Research Group on the Development of Competencies, Hungary

Problems in cross-contextual learning designs in Higher Education

Bernadette Dilger, University of St.Gallen, Institute of Business Education and Educational Management, Switzerland; Luci Gommers, University of St.Gallen, Switzerland; Christian Rapp, Zurich University of Applied Sciences, Germany

Understanding and nurturing emergence – Exploring the temporality of being and becoming

Eva Vass, Western Sydney University, Australia; Josephine Moate, University of Jyväskylä, Finland

Session P: 10

Time: 15:30-17:00

Location: Seminar Room - S13

POSTER PRESENTATION: MOTIVATION, EMOTION AND SELF-EFFICACY

Chair

Laurie Delnoij, Open University, Netherlands

Exploring Achievement Goals, Self-Efficacy, and Performance among New Zealand University Students

Valerie Sotardi, University of Canterbury, NZ, New Zealand

Is Seeing Believing? Comparing Perceived Similarity in a Dual-Modality Belonging Intervention

Xiao-Yin Chen, University of Kentucky, United States; Ellen Usher, University of Kentucky, United States; Christia Brown, University of Kentucky, United States; Calah Ford, University of Kentucky, United States

Making appreciation visible - a video analyzes of a relationship-oriented facet of teacher ethos

Simone Ziegler, Otto-Friedrich-Universität Bamberg, Germany

Using task-specific assessment of self-efficacy to identify individual competency profiles

Katharina Siefer, University of Education Freiburg, Germany; Timo Leuders, University of Education Freiburg, Germany; Andreas Obersteiner, University of Education Freiburg, Germany

Influences of motivational constructs on scientific thinking in school-age children

Kristin Nyberg, University of Education Freiburg, Germany; Susanne Koerber, University of Education Freiburg, Germany

Anxiety, Mathematics Performance and Profession Preference of Students. A Longitudinal Study

Laurain Fares, University of Haifa, Israel

Session P: 11

Time: 15:30-17:00

Location: Seminar Room - S14

POSTER PRESENTATION: ASSESSMENT METHODS AND TOOLS

Chair

Marjaana Puurtinen, University of Turku, Finland

Low-stakes performance testing in Germany: Teachers' perceptions and test preparation methods

Inga Wagner, Centre for Educational Research, University of Koblenz-Landau, Germany; Ursula Koch, Centre for Educational Research / Univ. Landau, Germany

Assessment of collaboration with groups formed by students with and without virtual agents

Matias Rojas, Pontificia Universidad Católica de Chile, Chile; Miguel Nussbaum, Pontificia Universidad Católica de Chile, Chile; Orlando Guerrero, Pontificia Universidad Católica de Chile, Chile; Pablo Chiuminatto, Pontificia Universidad Católica de Chile, Chile

Evidence informed practice: Critical thinking and question-posing skills in a PBL environment

Irit Sasson, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel; Shirley Miedijensky, Oranim Academic College of Education, Shamir Research Institute - University of Haifa, Israel; Itamar Yehuda, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel

Assessment of Teachers' Gains Across Multiple Historic Site-Based Professional Development Programs

Christine Baron, Teachers College, Columbia University, United States; Sherri Sklarwitz, Tufts University, United States; Yiannella Blanco, Teachers College, Columbia University, United States

ACHIEVEMENT PROFILES IN MATHEMATICS AND SCIENCE AMONG FLEMISH FOURTH GRADERS AN EXPLORATORY ANALYSIS

Jerich Faddar, University of Antwerp, Belgium; Lies Appels, University of Antwerp, Belgium; Sven De Maeyer, University of Antwerp, Belgium; Peter Van Petegem, University of Antwerp, Belgium

Tools for Assessment of Young Learners Functional Writing Proficiency

Gustaf Bernhard Uno Skar, Norwegian University of Science and Technology (NTNU), Norway; Lennart Jølle, Norwegian University of Science and Technology (NTNU), Norway

Session P: 12

Time: 15:30-17:00

Location: Seminar Room - S15

POSTER PRESENTATION: EARLY CHILDHOOD EDUCATION

Chair

Béatrice Arend, University of Luxembourg, Luxembourg

Preschool children and environmental awareness: the role of experiences in nature

Maja Antonietti, University of Modena and Reggio Emilia - Department of Education and Human Sciences, Italy; Rossella Gilioli, University of Modena and Reggio Emilia - Department of Education and Human Sciences, Italy; Alessandra Ferrari, Azienda Servizi Bassa Reggiana, Italy; Roberta Cardarello, University of Modena and Reggio Emilia, Italy; Andrea Pintus, Università di Modena e Reggio Emilia, Italy

Learning to Teach in a Global Crisis

Rabia Hos, University of Rhode Island, United States; Halil Ibrahim Cinarbas, Middle East Technical University, Turkey

Techcat Project. How evaluate and improve four dimensions of self-regulation in preschool settings

MILAGROS FERNANDEZ-MOLINA, FACULTY OF EDUCATION. UNIVERSITY OF MALAGA, Spain; BEATRIZ BARROS BLANCO, COMPUTER SCIENCE. UNIVERSITY OF MALAGA., Spain; MONICA TRELLA, COMPUTER SCIENCE. UNIVERSITY OF MALAGA, Spain; ANTONIO MARTOS, FACULTY OF EDUCATION. UNIVERSITY OF GRANADA., Spain

Learner Agency of Multilingual Pupils in a Finnish Complementary Language Classroom

Dukkeum Sun, University of Jyväskylä, Korea, Republic of

The exploratory mind: children's argumentative thinking in narrative scenarios

Antonio Iannaccone, Institut de Psychologie et Education, Switzerland; Anne-Nelly Perret-Clermont, University of Neuchâtel, Switzerland

Content validity study as a way to develop a children's curiosity behaviour rating scale

John Kaneko, Stockholm University, Sweden

Session P: 13

Time: 15:30-17:00

Location: Seminar Room - S06

POSTER PRESENTATION: CULTURAL DIVERSITY AND SOCIAL INTERACTION IN SCHOOLS

Chair

Janneke van de Pol, Utrecht University, Netherlands

A new education pathway for marginalised youth in the US: A model for Europe as well?

Frans Andersen, Educational psychology, Denmark

Practices used by teachers in relation to errors during whole class interaction

Martin Majcák, Masaryk University, Czech Republic

Teacher attitudes on the relationship between prejudice reduction practices and student engagement

Ceren Abacioglu, University of Amsterdam, Netherlands; Monique Volman, University of Amsterdam, Netherlands; Agneta Fischer, University of Amsterdam, Netherlands

Building Intercultural Competence of Students in Higher Education: The Role of Multicultural Beliefs

Lonneke de Meijer, Erasmus University Rotterdam, Netherlands; Aike Senna Broens, Erasmus University Rotterdam, Netherlands; Marieke Meeuwisse, Erasmus University Rotterdam, Netherlands

Enacting reading, enacting race: How one young reader becomes (in)visible

Suki Mozenter, Stanford University, United States

Relation between supportive climate of help-seeking and learning activities with classmates

Ayafumi Goto, Gifu Shotoku Gakuen University, Japan; Motoyuki Nakaya, Graduate School of Education and Human Development, Nagoya University, Japan

Session P: 14

Time: 15:30-17:00

Location: Seminar Room - S01

POSTER PRESENTATION: NEUROSCIENCE AND LEARNING ANALYTICS

Chair

Thomas Moser, Educational Science, Norway

A quantitative review of the “spacing-of-tests” effect

Alice Latimier, Ecole Normale Supérieure, France; Hugo Peyre, Ecole Normale Supérieure, France; Franck Ramus, Ecole Normale Supérieure, France

Fostering Students' Understanding of Fraction Magnitudes: Behavioral Effects and Neural Correlates

Johannes Rosenkranz, University of Education Freiburg, Germany; Andreas Obersteiner, University of Education Freiburg, Germany; Thomas Dresler, University of Tuebingen, Germany; Johannes Bloechle, University of Tuebingen, Germany

Imaging the effects of training on the interference effect in multiplication fact solving

Alexander E. Heidekum, Karl-Franzens University of Graz, Austria; Bert De Smedt, KU Leuven - University of Leuven, Belgium; Alice De Visscher, Université catholique de Louvain, Belgium; Stephan Vogel, University of Graz, Austria; Roland H. Grabner, University of Graz, Austria

Gifted students' visual behaviors of reading Scratch programs: The role of computational thinking

Dai-Rung Li, National Taiwan University of Science & Technology, Taiwan; You Bang Wu, National Taiwan University of Science and Technology, Taiwan; Meng-Jung Tsai, National Taiwan Normal University, Taiwan; Silvia Wen-Yu Lee, National Changhua University of Education, Taiwan

Effects of web types on visual pattern, perception and performance of online inquiry learning

An-Hsuan Wu, National Taiwan University of Science and Technology, Taiwan; Meng-Jung Tsai, National Taiwan Normal University, Taiwan; Yuping Chen, Georgia State University, United States

READING COMPREHENSION OF IMMIGRANT MOTHERS' CHILDREN IN MATHEMATICAL WORD PROBLEMS

Yun Hsia Pai, National Tsing Hua University, Taiwan; Su-Wei Lin, National University of Tainan, Taiwan; Chia-Huang Chen, National Taichung University of Education, Taiwan; Ching-Shu Chen, Tainan University of Technology, Taiwan

Session P: 15

Time: 15:30-17:00

Location: Seminar Room - S12

POSTER PRESENTATION: METACOGNITION

Chair

Daniel Araneda, Pontificia Universidad Católica de Chile, Chile

Developing a tool to better understand students' social regulation of learning in the classroom

Thomas Harriott, University of Cambridge, United Kingdom

Towards a reliable assessment of metacognitive instructional quality across school subjects

Nowinska Edyta, Universität Osnabrück, Germany; Anna-Katharina Praetorius, Institut für Erziehungswissenschaft, Switzerland; Martina Blasberg-Kuhnke, Universität Osnabrück, Germany; Elmar Cohors-Fresenborg, Universität Osnabrück, Germany; Frank Lipowsky, University of Kassel, Germany; Meik Zülzdorf-Kersting, Universität Osnabrück, Germany

Using microanalysis to measure self-regulated learning in a game for emergency care – a pilot

Tjitske Faber, Erasmus MC, Netherlands; Mary Dankbaar, Erasmus MC, Netherlands; Walter van den Broek, Erasmus MC, Netherlands

Tracing monitoring and shared regulation in collaborative learning with psychophysiological data

Eetu Haataja, University of Oulu, Finland; Jonna Malmberg, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland; Muhterem Dindar, University of Oulu, Finland

Focus of attention during a modular robotic problem-solving task.

Margarida Romero, Laboratoire d'Innovation et Numérique pour l'Education, France; Dayle David, Laboratoire LINE, ESPE de Nice, France

Session P: 16

Time: 15:30-17:00

Location: Seminar Room - S04

POSTER PRESENTATION: TEACHER PROFESSIONAL DEVELOPMENT

Chair

Moir Newton, The University of Auckland, New Zealand

English, Russian and Azerbaijani Teachers' Perceptions of Professional Development Needs

Konul Karimova, University of Szeged, Doctoral School of Education, Hungary

Co-teaching in making projects changes collaboration and agency for teachers as well as pupils

Tellervo Härkki, University of Helsinki, Finland; Henriikka Vartiainen, University of Eastern Finland, Finland

How is teachers' motivation related to their general pedagogical knowledge?

Liina Malva, University of Tartu, Estonia; Äli Leijen, University of Tartu, Estonia; Katrin Poom-Valickis, Tallinn University, Estonia

Facilitating highly specified video-based professional development materials with fidelity

Karen Koellner, Hunter College, City University of New York, United States; Nanette Seago, WestEd, United States

Analytics-supported Teacher Professional Development: The Impact on Classroom Talk

Gaowei Chen, The University of Hong Kong, Hong Kong; Kennedy Chan, The University of Hong Kong, Hong Kong; Carol Chan, The University of Hong Kong, Hong Kong; Liru Hu, The University of Hong Kong, Hong Kong; Albert Jinjian Yu, The University of Hong Kong, Hong Kong

Diverse teachers' approaches to dialogic teacher orientation

Ana Marjanovic-Shane, Independent Scholar, United States

Session P: 17

Time: 15:30-17:00

Location: Seminar Room - S05

POSTER PRESENTATION: TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION

Chair

Stephen Darwin, Universidad Alberto Hurtado, Chile

Seeing the classroom: Using machine learning to observe teaching and technology integration

Sarah Howard, University of Wollongong, Australia; Jie Yang, University of Wollongong, Australia; Jun Ma, University of Wollongong, Australia; Christian Ritz, University of Wollongong, Australia; Jiahong Zhao, University of Wollongong, Australia; Kylie Wynne, NSW Department of Education, Australia

Home Tablet use and its relationships with reading performance of 6-8 year-olds

Álvaro Jáñez, University of Salamanca, Spain; Marta Ramos, Salamanca University, Spain; Raquel De Sixte, Faculty of Education, University of Salamanca, Spain, Spain; Javier Rosales, University of Salamanca, Spain

Design of digital learning environment based on cultural local principles for knowledge convergence

Andrea Ximena Castano, National University of Education, Ecuador

Computer Science On the Move - An empirical study to foster computational thinking

Katinka Penert, Rudolf Steiner Schule Winterthur, Switzerland

Invent with Environment: A Maker Course for Environmental Science and Art

Mamta Shah, Drexel University, United States; Aroutis Foster, Drexel University, United States; Raja Schaar, Drexel University, United States

Teaching self-regulation strategies in task-oriented reading: ITSs or classroom instruction?

Maria-Angeles Serrano, University of Valencia / Interdisciplinary Research Structure for Reading Research (ERI Lectura), Spain; Eduardo Vidal-Abarca, Universidad de Valencia, Spain; Antonio Ferrer, University of Valencia / Interdisciplinary Research Structure for Reading Research (ERI Lectura), Spain

Session P: 18

Time: 15:30-17:00

Location: Seminar Room - S10

POSTER PRESENTATION: MOTIVATION AND EMOTION

Chair

Katrine Lindvig, University of Copenhagen, Denmark

Determining the factorial structure of the Basic Needs Satisfaction Scale

Karel Kreijns, Open University of the Netherlands, Netherlands; Arnoud T. Evers, Open Universiteit, Netherlands; Andrea Klaijsen, Expertisecentrum beroepsonderwijs, Netherlands; Joseph Kessels, Twente University - Open University, Netherlands

The influencing factors of Hungarian senior learners' language learning motivation

Emese Schiller, Eötvös Loránd University, Budapest, Hungary; Helga Dorner, Central European University, Hungary

The impact of uncertainty on proactive work behaviour: the role of motivation

Leonie Jacob, University of Regensburg, Germany; Vasudha Chaudhari, Open University, United Kingdom; Regina H. Mulder, University of Regensburg, Germany; Allison Littlejohn, Open University, United Kingdom

Do the subjective task values affect work avoidance goal?

Hisashi Uebuchi, Waseda University, Japan; Hidenori Takehana, Waseda University, Japan

Motivation and emotions in mathematics in elementary school

Filipa Dinis, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Ana Carolina Neves, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Carolina Costa, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal; Lourdes Mata, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal

Motivational interviewing for improvement of learning strategies: a short intervention

Åge Diseth, University of Bergen, Norway

Session P: 19

Time: 15:30-17:00

Location: Seminar Room - S16

POSTER PRESENTATION: LEARNING, TEACHING AND INSTRUCTION

Chair

Lisa Stark, Saarland University, Germany

Discursive constructions on links to professional practice and research in engineering education

Marie Magnell, KTH Royal Institute of Technology, Sweden

TEACHERS' PERCEPTION OF PROFESSIONAL ETHICS AND MORALITY

Davaajav Purevjav, Doctoral School of Education, University of Szeged, Hungary; Edit Katalin Molnár, University of Szeged, Hungary

Reflective process of pre-service teachers who watch video recordings of lessons they taught

Gila Zilka, Bar-Ilan University; Achva Academic College, Israel, Israel

Strategies in logical reasoning in a deductive version of the Mastermind game

Maartje Raijmakers, University of Amsterdam, Netherlands

The use and challenges of different representations in economic education

Malte Ring, University of Tübingen, Germany; Taiga Brahm, University of Tübingen, Germany

Evolutionary theory: A review of misconceptions and interventions in kindergarten and primary school

Rachel Schwager, Pädagogische Hochschule Schwyz, Switzerland; Lennart Schalk, PH Schwyz, Switzerland

Session P: 20

Time: 15:30-17:00

Location: Seminar Room - S02

POSTER PRESENTATION: ASSESSMENT, EVALUATION AND TOOLS**Chair**

Tuire Palonen, University of Turku, Finland

Uncovering The Key Elements of Success and Failure in Complex Problem Solving: A Log-file Analysis

Björn Nicolay, University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Educational Sciences (FLSHASE), Luxembourg; Florian Krieger, University of Luxembourg, Luxembourg; Charalampia Lagou, University of Luxembourg, Luxembourg; Samuel Greiff, University of Luxembourg, Luxembourg

Intelligence and Domain-Specific Knowledge: A Meta-Analysis

Tobias Heltemes, University of Trier, Germany; Michael Schneider, University of Trier, Germany

Long-term Trajectories of Academic Performance in the Context of Social Disparities

Martin J. Tomasik, University of Zurich, Switzerland; Laura A. Helbling, University of Zurich, Switzerland; Urs Moser, University of Zurich, Switzerland

Comparing performance of collaborative problem-solving in Chinese-speaking economies in PISA 2015

Man-kai leong, University of Macau, Macao; Kwok-cheung Cheung, University of Macau, Macao; Pou Seong Sit, University of Macau, Macao; Soi-kei Mak, University of Macau, Macao

Advancing Item Response Technique in Educational Research

Agnes Tiwari, The Hong Kong Sanatorium & Hospital, China; Amanda Chu, Hang Seng University, Hong Kong; Mike So, Hong Kong University of Science and Technology, Hong Kong

The curricular fit theory of motivation

Rob Kickert, Erasmus University Rotterdam, Netherlands; Marieke Meeuwisse, Erasmus University Rotterdam, Netherlands; Karen Stegers-Jager, Erasmus MC, Institute of Medical Education Research Rotterdam, Netherlands; Peter Prinzie, Erasmus University Rotterdam, Netherlands; Lidia Arends, Erasmus University Rotterdam, Netherlands

Session P: 21

Time: 15:30-17:00

Location: Seminar Room - S07

POSTER PRESENTATION: MOTIVATION, ATTITUDES AND BELIEFS**Chair**

Susan Bridges, The University of Hong Kong, Hong Kong

Do beliefs about intelligence mediate the link between perceived competence and school outcomes?

Therese Bouffard, Université du Québec à Montréal, Canada; Elizabeth Parent-Taillon, Université du Québec à Montréal, Canada; Carole Vezeau, College Regional of Lanaudiere at Joliette, Canada

Shared antecedents of negative self-evaluation bias of competence and impostorism in students

Elisa Grenon, Université du Québec à Montréal, Canada; Therese Bouffard, Université du Québec à Montréal, Canada

Effects of Praise in Daily Friendship Situation: Effects on Mindsets and Motivation

Kyosuke Kakinuma, Doshisha University, Japan; Ayumi Tanaka, Doshisha University, Japan; Fumika Nishiguti, Doshisha University, Japan; Kotoe Sonoda, Doshisha University, Japan; Haruhi Tajiri, Doshisha University, Japan

Help Seeking, Epistemological Beliefs, and Motivational Beliefs in (Pre)vocational Students

Florinda Sauli, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Jean-Louis Berger, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Matilde Wenger, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Valentin Gross, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland

High, average, and low achievement in Mathematics: Metacognitive, motivational and emotional aspects

Dimitrios Moustakas, University of Macedonia, Greece; Eleftheria Gonida, Aristotle University of Thessaloniki, Greece; Dimitrios Goudiras, University of Macedonia, Greece

Measuring Critical Thinking and Metacognition among Students in Technical College

Felipe López, Pontificia Universidad Católica de Chile, Chile; Miguel Nussbaum, Pontificia Universidad Católica de Chile, Chile; Mayra Contreras, Pontificia Universidad Católica de Chile, Chile; Damian Gelerstein, Pontificia Universidad Católica de Chile, Chile; Pablo Chiuminatto, Pontificia Universidad Católica de Chile, Chile

Session P: 22

Time: 15:30-17:00

Location: Seminar Room - S11

POSTER PRESENTATION: COGNITIVE DEVELOPMENT AND SKILLS

Chair

Molly Hammer, University of Tuebingen, Institute of Education, Germany

Children's knowledge of multiple word meanings: Devising a receptive test of polyseme vocabulary

Sophie Turnbull, University of Oxford, United Kingdom; Victoria Murphy, University of Oxford, United Kingdom

Early cognitive and environmental predictors of arithmetic skills at 11.5 years old

Ava Guez, Ecole Normale Supérieure, France; Hugo Peyre, Robert Debré Hospital, APHP, France; Manuela Piazza, Neuroimaging Unit, Neurospin Center, Italy; Barbara Heude, INSERM, France

Problem solving through educational robotics in children with Developmental Coordination Disorder

Anaïs Leroy, University of Nice-Sophia-Antipolis, France; Margarida Romero, Université Nice Sophia Antipolis, France

Belief about intelligence: its role on the link between memories of failures and academic adaptation

Élizabeth Parent-taillon, Université du Québec à Montréal, Canada; Therese Bouffard, Université du Québec à Montréal, Canada; Carole Vezeau, Université du Québec à Montréal (UQAM), Canada

First-graders' updating capacity in relation to cognitive processes involved in text comprehension

Wienke Wannagat, University of Würzburg, Germany; Gerhild Nieding, University of Würzburg, Germany

Investigating the L2 Writing Processes and Real-time Fluency Using Inputlog

Meshail Almasri, King AbdulAziz University, Saudi Arabia

Session P: 23

Time: 15:30-17:00

Location: Seminar Room - S09

POSTER PRESENTATION: INSTRUCTIONAL DESIGN

Chair

Sarah Bichler, Ludwig-Maximilians-Universität (LMU), Germany

Learning and engagement evolutionary ideas within integrated informal learning environments

Orit Ben Zvi-Assaraf, Ben Gurion University of the Negev, Israel; Dina Agadi, The Ben-Gurion University of the Negev, Israel; Yael Gavrieli, The Steinhardt Museum of Natural History, Tel Aviv University, Israel

Using Meta-strategy to Deepen Students' Understanding of Knowledge Building in Science Class

Lillian Liu, The University of Hong Kong, Hong Kong; Carol Chan, The University of Hong Kong, Hong Kong; Yuyao Tong, The University of Hong Kong, Hong Kong

Comparison of experiments and computer simulations as learning tools for out-of-school education

Johanna Krüger, Leibniz Institute for Science and Mathematics Education at Kiel University (IPN), Germany; Tim Hoeffler, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Katrin Knickmeier, Kieler Forschungswerkstatt, Germany; Martin Wahl, Helmholtz-Zentrum für Ozeanforschung Kiel, GEOMAR, Germany; Ilka Parchmann, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Benefits of task contextualization: What is the effect of interest on the learning outcome?

Sebastian Kempert, University of Potsdam, Germany; Ann-Kathrin Laufs, University of Potsdam, Germany

Recovery Effects in German Orthography Acquisition

Julia Erdmann, Ruhr University Bochum, Institute of Educational Research, Germany; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Engaging Students in Theory Building in the Science Classroom

Hillary Swanson, Northwestern University, United States; Uri Wilensky, Northwestern University, United States

Session Q: 1

Time: 17:15-18:45

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SIG INVITED SYMPOSIUM: PARENT AND CHILD FACTORS ASSOCIATED WITH SELF-REGULATION IN (EARLY) CHILDHOOD

Chairs

Miriam Compagnoni, University of Zurich, Switzerland; Kim Gärtner, Heidelberg University, Germany

Organisers

Miriam Compagnoni, University of Zurich, Switzerland; Kim Gärtner, Heidelberg University, Germany

Discussant

Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

"I am the best!": Preacademic self-concepts and self-regulation in kindergarten children

Miriam Compagnoni, University of Zurich, Switzerland

Children's Monitoring and Regulation of Learning: Consistency Across Tasks and Stability over Time

Mariette van Loon, University of Bern, Switzerland; Martina Steiner, University of Bern, Switzerland; Natalie Bayard-Guggisberg, University of Bern, Switzerland; Claudia Roebers, University of Bern, Switzerland

The Effects of Parent Stress and Child-Parent Relationship Quality on Children's Self-Regulation

Lynda Hutchinson, King's University College at the University of Western Ontario, Canada; Cassandra Trevisani, University of Western Ontario, Canada; Devon Trower, Western University, Canada; Nancy Perry, University of British Columbia, Canada; Marissa Hall, King's University College at the University of Western Ontario, Canada

Self-Regulation in Full- and Preterm Toddlers – Effects of Parenting Practices, Beliefs and Stress

Kim Gärtner, Heidelberg University, Germany; Verena Vetter, University Hospital Heidelberg, Germany; Michaela Schäferling, University Hospital Heidelberg, Germany; Gitta Reuner, Ruprecht-Karls-Universität Heidelberg, Germany; Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany

Session Q: 2

Time: 17:15-18:45

Location: Lecture Hall - H07

SIG INVITED SYMPOSIUM: NEW HORIZONS FOR PHENOMENOGRAPHY AND VARIATION THEORY IN HIGHER EDUCATION

Chair

Jaana Kettunen, University of Jyväskylä, Finland

Organiser

Ake Ingeman, University of Gothenburg, Sweden

Discussant

Päivi Tynjälä, University of Jyväskylä, Finland

Identifying the Object of Learning in Contested Subject Matter Contexts

Elina Wright, University of Oxford, United Kingdom; Ruksana Osman, Wits University, South Africa

The utility of variation theory where disciplinary relevant aspects are appresent

Ake Ingeman, University of Gothenburg, Sweden; Cedric Linder, Uppsala University, Sweden; Anne Linder, Uppsala University, Sweden; Susanne Wikman, Linnaeus University, Sweden

Beginner Teachers' knowledge of students' understandings: evidence from Learning Study

Guy Durden, University College London, United Kingdom

Changing teaching, changing teachers: learning through contrast, generalization and fusion

Keith Wood, SHBIE, UBD, Brunei Darussalam; Airi Rovio-Johansson, University of Gothenburg, Sweden

Session Q: 3

Time: 17:15-18:45

Location: Lecture Hall - H10

SIG INVITED SYMPOSIUM: FEEDBACK ON TEACHING: ISSUES OF CONCEPTUALIZATION, OPERATIONALIZATION AND APPLICATION

Chairs

Wolfram Rollett, University of Education Freiburg, Germany; Charalambos Charalambous, University of Cyprus, Cyprus

Organisers

Wolfram Rollett, University of Education Freiburg, Germany; Charalambos Charalambous, University of Cyprus, Cyprus

Discussant

Daniel Muijs, Ofsted, United Kingdom

Reflecting on the Promise of Classroom Observation Frameworks for Measuring Feedback Quality

Merle Ruelmann, University of Teacher Education of Lucerne, Switzerland; Charalambos Charalambous, University of Cyprus, Cyprus; Anna-Katharina Praetorius, Institut für Erziehungswissenschaft, Switzerland

Does variance in student ratings add information about teachers' teaching quality?

Rikkert van der Lans, University of Groningen, Netherlands

Factors influencing the utilization of student feedback on teaching quality

Hannah Bijlsma, Fac. of Behavioural Sciences, University of Twente, Netherlands; Adrie Visscher, Univ. of Twente, Netherlands

Types of teachers in using student feedback. Quantitative and qualitative findings

Sebastian Röhl, University of Education Freiburg, Germany; Wolfram Rollett, University of Education Freiburg, Germany

Session Q: 4

Time: 17:15-18:45

Location: Lecture Hall - H11

SIG INVITED SYMPOSIUM: WORLDVIEWS AND RELIGIONS IN EDUCATION – PERSPECTIVES TO FUNCTIONS AND EXPERIENCES**Chair**

Elina Kuusisto, University of Humanistic Studies, Netherlands

Organiser

Laura Hirsto, University of Helsinki/ University of Eastern Finland, Finland

Discussant

Alexander Unser, TU Dortmund University, Germany

Religious and professional beliefs of schoolteachers – a literature review of empirical research
Manfred L. Pirner, University of Erlangen-Nuremberg, Germany; Nastja Häusler, University of Erlangen-Nürnberg, Germany**The Largely Absent Worldview needed for Understanding Global Jihadism**

Terence Lovat, The University of Newcastle, Australia

Position of worldviews in education: experiences from teachers and learners

Arniika Kuusisto, Stockholm University, Sweden

University students' personal worldviews –contextual experiences

Laura Hirsto, University of Helsinki/ University of Eastern Finland, Finland

Session Q: 5

Time: 17:15-18:45

Location: Seminar Room - S16

SINGLE PAPER: SOCIAL INTERACTION IN LEARNING AND INSTRUCTION**Chair**

Erkka Laine, University of Turku, Finland

"You see the cup? I put the bill inside" Hybrid discourse in family everyday science engagement

Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel

"Pull the rope!" –Identity and embodied positioning in a science museum

Neta Shaby, Ben Gurion University of the Negev, Israel; Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel

Episodes of Error Correction in Bar-Mitzvah Torah-Reading Tutoring Sessions

Hadar Netz, Tel Aviv University, Israel; Orna Fogel, Tel Aviv University, Israel

Investigation of parents' use of Parent Assisted Interactive Reading (PAIR) books

Elisabeth Duursma, University of Wollongong/Early Start Research Institute, Australia; Sarah Howard, University of Wollongong, Australia; Karl Maton, The University of Sydney, Australia; John Walters, independent author, Australia

Session Q: 6

Time: 17:15-18:45

Location: Seminar Room - S07

SINGLE PAPER: ARGUMENTATION, DIALOGUE AND REASONING**Chair**

Cornelis de Brabander, Leiden University, Netherlands

What does the silence mean? Student non-participation in classroom discourse: reasons and effects

Klara Sedova, Masaryk University, Czech Republic; Jana Navratilova, Masaryk University, Czech Republic; Zuzana Salamounova, Department of Educational Sciences, Faculty of Arts, Masaryk University, Czech Republic; Roman Švaříček, Masaryk University, Faculty of Arts, Czech Republic

Reliable epistemic processes in academic historiography

Mikko Kainulainen, University of Turku, Finland; Marjaana Puurtinen, University of Turku, Finland; Clark A. Chinn, Rutgers University, United States

Talk about Texts in New Zealand Secondary School

Aaron Wilson, University of Auckland, New Zealand

Diagnostic activity patterns of pre-service teachers in learning with case-simulations

Elisabeth Bauer, Ludwig-Maximilians-Universität (LMU), Germany; Michael Sailer, Ludwig-Maximilians-Universität (LMU), Germany; Claudia Schulz, Technische Universität Darmstadt, Germany; Jan Kiesewetter, University Hospital of LMU Munich, Germany; Martin R. Fischer, University Hospital of LMU Munich, Germany; Iryna Gurevych, Technische Universität Darmstadt, Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Session Q: 7

Time: 17:15-18:45

Location: Seminar Room - S15

SINGLE PAPER: QUALITATIVE METHODS IN HIGHER EDUCATION**Chair**

Allyson Holbrook, SORTI, The University of Newcastle, Australia

Professional Growth in Research Supervisors' Pedagogical Content Knowledge as Result of Lesson Study

Bas Agricola, Amsterdam University of Applied Sciences, Netherlands; Marieke Van der Schaaf, University Medical Centre Utrecht, Netherlands; Frans Prins, Utrecht University, Netherlands; Jan van Tartwijk, Utrecht University, Netherlands

Ethical issues in conducting insider research in academic workplaces: challenges and opportunities

Irina Lokhtina, University of Central Lancashire Cyprus, Cyprus

Feedback practices within PhD supervision: a framework-based synthesis of the literature

Joanna Tai, Deakin University, Australia; Margaret Bearman, Deakin University, Australia; Rachelle Esterhazy, University of Oslo, Norway; Michael Henderson, Monash University, Australia; Elizabeth Molloy, University of Melbourne, Australia

Doctoral students' professional development: a conceptual change approach to program evaluation

Helga Dorner, Central European University, Hungary; Swapna Kumar, University of Florida, United States

Session Q: 8

Time: 17:15-18:45

Location: Seminar Room - S13

SINGLE PAPER: METHODS IN LEARNING RESEARCH**Chair**

Gwendolin Blossfeld, University of Bamberg, Germany

Exploring learning relationships in "a mixed way": Mixed Structural Analysis

Dominik E. Froehlich, University of Vienna, Austria

Cross-year peer assisted learning and the development of social skills

Caroline Buts, Vrije Universiteit Brussel (VUB), Belgium; Mariane Frenay, Université catholique de Louvain (UCL), Belgium

The relationship between theory and practice in T-VET. On the grounds of key actors' perspectives.

Mariana Orozco, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium; Christiane Timmerman, University of Antwerp, Belgium

New approach to educational interaction: sociocultural discourse analysis meets multimodal analysis

Alison Twiner, The Open University, United Kingdom; Caroline Coffin, The Open University, United Kingdom; Karen Littleton, Open University, United Kingdom; Denise Whitelock, Open University, United Kingdom

Session Q: 9

Time: 17:15-18:45

Location: Seminar Room - S04

SINGLE PAPER: EDUCATIONAL PSYCHOLOGY**Chair**

Claudia Kastens, Bergische University Wuppertal, Germany

Exploring UK international student experiences during times of home-country conflict

Emily-Marie Pacheco, University of Glasgow, Canada

Collaborative and individual argumentation don't differ at prompting natural selection understanding

Antonia Larrain, Universidad Alberto Hurtado, Chile; Paulina Freire, Universidad Alberto Hurtado, Chile; Sebastian Verdugo, Universidad Alberto Hurtado, Chile; Marisol Gómez, Universidad Alberto Hurtado, Chile; Patricia López, Universidad Alberto Hurtado, Chile; Diego Cosmelli, Pontificia Universidad Católica de Chile, Chile; Valeska Grau, Pontificia Universidad Católica de Chile, Chile

Belief in a just world and justice experiences of cyber-victimized students

Matthias Donat, Martin Luther University Halle-Wittenberg, Germany; Claudia Rüprich, MLU Halle-Wittenberg, Germany; Christoph Gallschütz, MLU Halle-Wittenberg, Germany

Adolescents' bullying, risk behavior and problems: Do social factors matter in three countries?

Anett Wolgast, Martin-Luther-Universität Halle-Wittenberg, Germany; Matthias Donat, Martin Luther University Halle-Wittenberg, Germany

Session Q: 10

Time: 17:15-18:45

Location: Seminar Room - S05

SINGLE PAPER: WRITING, LITERACY AND LANGUAGE**Chair**

Marjolein Dobber, Vrije Universiteit Amsterdam, Netherlands

Grammatical Reasoning: students' metatalk about grammar for writing

Annabel Watson, University of Exeter, United Kingdom; Ruth Newman, University of Exeter, United Kingdom

Making metalinguistic choices: different ways of 'knowing'

Susan Jones, University of Exeter, United Kingdom; Debra Myhill, University of Exeter, United Kingdom; Helen Lines, University of Exeter, United Kingdom

How and how well do Dutch secondary students write? A national baseline study on synthesis writing

Nina Vandermeulen, University of Antwerp, Belgium; Elke Van Steendam, KU Leuven, Belgium; Gert Rijlaarsdam, University of Amsterdam, Netherlands; Sven De Maeyer, University of Antwerp, Belgium; Marije Lesterhuis, University of Antwerp, Belgium

Examining Grammar as Choice: An RCT Writing Intervention

Debra Myhill, University of Exeter, United Kingdom; Susan Jones, University of Exeter, United Kingdom; Helen Lines, University of Exeter, United Kingdom

Session Q: 11

Time: 17:15-18:45

Location: Seminar Room - S01

SINGLE PAPER: HIGHER EDUCATION**Chair**

Orit Ben Zvi-Assaraf, Ben Gurion University of the Negev, Israel

Design Principles for Wicked Problem Solving: Dealing with Complexity, Uncertainty and Divergence

Marieke Veltman, Windesheim University of Applied Sciences, Netherlands; Hanno Van Keulen, Windesheim Flevoland University of Applied Science, Netherlands; Joke Voogt, Windesheim University of Applied Sciences, Netherlands

Building a boundary crossing Master course through an intervention-based approach

Carla Oonk, Wageningen University, Netherlands; Perry den Brok, Wageningen University, Netherlands; Judith Gulikers, Wageningen University, Netherlands

Unveiling the Predictors of Academic Belonging in Higher Education

Yesim Capa Aydin, Middle East Technical University, Turkey; Sercan Erer, Middle East Technical University, Turkey

Improving individual learning processes in civil engineering by the use of a digital support concept

Marcel Pelz, University of Duisburg-Essen, Germany; Martin Lang, University of Duisburg-Essen, Germany; Yasemin Özmen, University of Duisburg-Essen, Germany; Jörg Schröder, University of Duisburg-Essen, Germany; Felix Walker, Technical University of Kaiserslautern, Germany; Ralf Müller, Technical University Kaiserslautern, Germany

Session Q: 12

Time: 17:15-18:45

Location: Seminar Room - S12

SINGLE PAPER: EDUCATIONAL TECHNOLOGY AND GAME-BASED LEARNING**Chair**

Kati Mäkitalo, University of Oulu, Finland

Conceptualizing Augmented Reality from a Psychological Perspective

Jule Krüger, Universität Duisburg-Essen, Germany; Daniel Bodemer, University of Duisburg-Essen, Germany

Gamifying a Simulation: Analyzing Game Goal, Choice, Points, and Praise

Tereza Hannemann, Charles University, Faculty of Mathematic and Physics, Czech Republic; Tereza Starkova, Charles University, Czech Republic; Edita Bromová, Charles University Prague, Czech Republic; Filip Děchtěrenko, The Czech Academy of Sciences, Czech Republic; Cyril Brom, Charles University, Czech Republic

ADAPTIVE OPPONENTS WITHIN EDUCATIONAL VIDEO GAMES: MANIPULATING FACIAL EXPRESSIONS AND DIFFICULTY

Steve Nebel, Chemnitz University of Technology, Germany; Maik Beege, Chemnitz University of Technology, Germany; Sascha Schneider, Chemnitz University of Technology, Germany; Günter Daniel Rey, Chemnitz University of Technology, Germany

Effects of Domain-Specific Prior Knowledge on Complex Skill Acquisition in a Simulation Game

Joy Yeonjoo Lee, Maastricht University, Netherlands; Jeroen Donkers, Maastricht University, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Jeroen Van Merriënboer, Maastricht University, Netherlands

Session Q: 13

Time: 17:15-18:45

Location: Seminar Room - S10

SINGLE PAPER: MATHEMATICS**Chair**

Francesca Suter, University of Zurich, Switzerland

Making the Psychological Dimension of Learning Mathematics Visible

Gyongyver Molnar, University of Szeged, Hungary; Moritz Herzog, University of Duisburg-Essen, Germany; Benő Csapó, University of Szeged, Hungary

The development of arithmetic concepts up to 100

Antje Ehler, University of Potsdam / University of Johannesburg, Germany; Annemarie Fritz-Stratmann, University of Duisburg-Essen, Germany

Testing the Efficacy of a Number Sense Intervention for At-Risk Kindergarten Students

Ben Clarke, University of Oregon, United States; Christian Doabler, University of Texas at Austin, United States

The opportunity propensity model predicting mathematical accuracy and speed.

Annemie Desoete, Ghent University / Artevelde University College, Belgium; Elke Baten, University of Ghent, Belgium

Session Q: 14

Time: 17:15-18:45

Location: Seminar Room - S02

SINGLE PAPER: EDUCATIONAL TECHNOLOGY AND INSTRUCTIONAL DESIGN**Chair**

Sigal Eden, Bar-Ilan University, Israel

Researching mental model growth of complex skills in formative assessment via Video-enhanced rubrics

Kevin Ackermans, Open University of the Netherlands, Netherlands; Ellen Rusman, Welten Institute - Open University of the Netherlands, Netherlands; Rob Nadolski, Welten Institute - Open University of the Netherlands, Netherlands; Saskia Brand-Gruwel, Welten Institute - Open University of the Netherlands, Netherlands; Marcus Specht, Welten Institute - Open University of the Netherlands, Netherlands

The effect of augmented reality instructions as cognitive support during assembly tasks

Pieter Vanneste, KU Leuven KULAK, Belgium; Yi Huang, Faculty of Psychology and Educational Sciences, KU Leuven, Dekenstraat 2, 3000 Leuven, Belgium, China; Ellie Park, imec-ITEC, KU Leuven campus Kulak Kortrijk, Etienne Sabbelaan 51, 8500 Kortrijk, Belgium; Faculty of Psychology and Educational Sciences, KU Leuven, Dekenstraat 2, 3000 Leuven, Belgium, Belgium; Annelies Raes, imec-ITEC-KU Leuven Centre for Instructional Psychology and -Technology, Belgium; Fien Depaepe, KU Leuven, Belgium; Wim Van den Noortgate, imec-ITEC, KU Leuven campus Kulak Kortrijk, Etienne Sabbelaan 51, 8500 Kortrijk, Belgium; Faculty of Psychology and Educational Sciences, KU Leuven, Dekenstraat 2, 3000 Leuven, Belgium, Belgium

Effects of Augmented Reality Apps in the Early Astronomy Classroom

Andreas Lachner, University of Tübingen, Germany; Elisabeth Wegner, University of Freiburg, Germany; Gjylizare Haziri, University of Freiburg, Germany; Caroline Harms, University of Freiburg, Germany; Anna Zörlein, University of Freiburg, Germany

When Instructional Media Matters: Benefits of Safety Training in Virtual Reality

Guido Makransky, University of Copenhagen, Denmark; Stefan Borre-Gude, University of Aarhus, Denmark; Richard E. Mayer, University of California Santa Barbara, United States

Session Q: 15

Time: 17:15-18:45

Location: Seminar Room - S14

SINGLE PAPER: TEACHER EFFECTIVENESS**Chair**

Viivi Virtanen, University of Helsinki, Finland

Stability and changes in students' motivational profiles: The role of teaching quality and feedback

Katharina Dreiling, Institute for Educational Science, University of Göttingen, Germany; Ariane S. Willems, Institute for Educational Science, University of Göttingen, Germany

Student characteristics and teacher expectations: A timely perspective

Christine Rubie-Davies, University of Auckland, New Zealand; Mohamed Alansari, University of Auckland, New Zealand; Penelope Watson, University of Auckland, New Zealand; Annaline Flint, University of Auckland, New Zealand; Lyn McDonald, University of Auckland, New Zealand

Teaching and learning in diverse schools: Attitudes, beliefs and practices

Denisse Gelber, Centro de Justicia Educacional, Pontificia Universidad Católica de Chile, Chile; Lorena Ortega, CIAE, Universidad de Chile, Chile; Alonso González, Center for Educational Justice, Chile; Ernesto Trevino, Pontificia Universidad Católica de Chile, Chile; Lucia Monteiro, Universidad de la República / ANII, Uruguay; Denise Courtoisie, Ministerio de Educacion, Uruguay

Development of a Construct-Informed Test to Screen Prospective Teachers

Robert Klassen, University of York, United Kingdom; Lisa Kim, University of York, United Kingdom

Session Q: 16

Time: 17:15-18:45

Location: Seminar Room - S06

SINGLE PAPER: SOCIAL ASPECTS OF LEARNING AND TEACHING**Chair**

Geerte M. Savenije, University of Amsterdam, Netherlands

Perezhivanie: children's accounts of shifting identities and emotional learning in place

Peter David Renshaw, The University of Queensland, Australia; Ron Tooth, Pullenvale Environmental Education Centre, Australia

An Indigenous student's emotive reading experiences and the evolvment of reader identities

Clarence Ng, Australian Catholic University, Australia

Children's emotional sense-making of their local forest in a Multiliteracies pedagogy program

Kristina Kumpulainen, University of Helsinki, Finland; Sara Sintonen, University of Helsinki, Finland; Alexandra Nordström, University of Helsinki, Finland; Jenni Vartiainen, University of Helsinki, Finland; Heidi Sairanen, University of Helsinki, Finland

Uses of "chronotope" to examine the space-time of learning: A systematic literature review

Giuseppe Ritella, University of Helsinki, Finland; Antti Rajala, University of Helsinki, Finland; Peter David Renshaw, The University of Queensland, Australia

Session Q: 17

Time: 17:15-18:45

Location: Seminar Room - S03

SINGLE PAPER: PSYCHOMETRICS, ASSESSMENT AND EVALUATION**Chair**

Oddny Judith Solheim, The Norwegian Reading Centre, Norway

Assessment of Communication Competences of Medical Students in Two Cohorts: A Multi-Method Study

Kristina Schick, Technical University Munich, Germany; Pascal Berberat, Technical University Munich, Germany; Martina Kadmon, University Augsburg, Germany; Sigrid Harendza, University Hospital Hamburg-Eppendorf, Germany; Martin Gartmeier, Technical University of Munich (TUM), Germany

Quantitative Semiotic Analysis of Test Items: Conceptual and Methodological Foundation

Guillermo Solano-Flores, Stanford University, United States

Creative self-beliefs of children and adolescents: A construct validation study

Paul Ginns, The University of Sydney, Australia; Kelly Freebody, The University of Sydney, Australia; Michael Anderson, The University of Sydney, Australia

Exploring Assessment profiles of HE Academics: A Combination Between Conceptions & Practices

Percy Pena, Universidad Católica del Norte, Chile

Session Q: 18

Time: 17:15-18:45

Location: Seminar Room - S09

SINGLE PAPER: MIXED-METHOD RESEARCH AND EDUCATIONAL TECHNOLOGY**Chair**

Helen Margaritou-Andrianessi, Professor of Applied Philosophy (collaboration: Institute of Education Policy, Model school and University of Athens), Greece

Unpacking academic and social adjustment of internationalisation at a distance in Southern Africa

Bart Rienties, Open University, United Kingdom; Jenna Mittelmeier, University of Manchester, United Kingdom; Jo Jordan, Open University, United Kingdom; Jekaterina Rogaten, Open University, United Kingdom; Ashley Gunter, UNIVERSITY OF SOUTH AFRICA, South Africa; Parvati Raghuram, Open University, United Kingdom

Online Peer Assessment on Enhancing College Language Learners' Intercultural Pragmatic Competence

Mei-Hui Liu, Tunghai University, Taiwan

Individual attitudes of educators to digital media education and possible explanatory models

Jasmin Zimmer, Alanus Hochschule, Germany

Improving Knowledge Integration Using WISE

Beste Ulus, Boğaziçi University, Faculty of Education, Turkey; Diler Oner, Bogazici University, Turkey

Session Q: 19

Time: 17:15-18:45

Location: Seminar Room - S11

SINGLE PAPER: TEACHER EDUCATION AND SOCIAL INTERACTION**Chair**

Mordechai Miron, Tel Aviv University, Israel

Formative seminars to explore teachers' conceptualization of grammar teaching for learning to write

Xavier Fontich, Autonomous University of Barcelona, Spain

The influence of mentoring roles in student teachers' professional knowledge acquisition

Paul Hennissen, Zuyd University of Applied Sciences, Netherlands; Juan-José Mena Marcos, University of Salamanca, Spain

Comparative study of new pathways into teaching in Malta and Scotland

Rachel Shanks, University of Aberdeen, United Kingdom; Michelle Attard Tonna, University of Malta, Malta

Teacher-Student-Interactions in Situations with Primary School Children's Anxiety

Juliane Schlesier, University of Oldenburg, Germany; Uta Wagener, University of Oldenburg, Germany; Barbara Moschner, University of Oldenburg, Germany

Session Q: 20

Time: 17:15-18:45

Location: Lecture Hall - H09

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Guido Nottbusch, University of Potsdam, Germany

Evidence-Based Feedback Analysis through Video-Annotation in a Swiss Teacher Training Program

Alessia Evi-Colombo, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Elena Boldrini, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland; Alberto Cattaneo, Swiss Federal Institute for Vocational Education and Training, Switzerland

Is the competent perception of a lesson a necessary condition of a competent teaching performance?

Sarah-Larissa Hecker, Universität Bielefeld, Germany; Stephanie Klein, Universität Bielefeld, Germany; Svenja Lemmrich, Leuphana Universität Lüneburg, Germany; Timo Ehmke, Leuphana Universität Lüneburg, Germany; Barbara Koch-Priewe, Universität Bielefeld, Germany

Feedback Coaching: Collaborative professional learning to build effective feedback processes

Rochelle Burton, The University of Queensland, Australia; Annemaree Carroll, The University of Queensland, Australia; Cam Brooks, The University of Queensland, Australia; John Hattie, The University of Melbourne, Australia

Listening to teachers, reaching the goals in video-based PD: A case study on facilitator expertise

Susanne Prediger, TU Dortmund University, Germany; Birte Pöhler, TU Dortmund University, Germany

Session R: 1

Time: 08:30-10:00

Location: Seminar Room - S15

SIG INVITED SYMPOSIUM: ARGUMENTATION, DIALOGUE, AND REASONING IN EDUCATION: AREAS OF RESEARCH AND PRACTICE**Chair**

Armin Weinberger, Saarland University, Germany

Organiser

Armin Weinberger, Saarland University, Germany

Discussant

Robin Stark, Saarland University, Germany

Argumentation in Science Education as an Epistemic Performance

Maria Pilar Jimenez-Aleixandre, Universidade de Santiago de Compostela, Spain; Clark Chinn, Rutgers Graduate School of Education, United States; Pablo Brocos, University of Santiago de Compostela, Spain

Analysis and Facilitation of Transactive Argumentative Knowledge Construction Online

Freydis Vogel, University of Nottingham, United Kingdom; Armin Weinberger, Saarland University, Germany

Research on Dialogic Education

Rupert Wegerif, University of Cambridge, England, United Kingdom; Sara Hennessy, University of Cambridge, United Kingdom

Teacher Education for Scaffolding Argumentation, Dialogue and Reasoning in the Classroom

Anat Yarden The Weizmann Institute of Science, Weizmann Institute of Science, Israel; Baruch Schwarz, Hebrew University of Jerusalem, Israel; Boris Koichu, Weizmann Institute of Science, Rehovot, ISRAEL, Israel; Michal Tabach, Tel Aviv University, Israel; Einat Heyd-Metzuyanim, Technion - Israel Institute of Technology, Israel; Benzi Slakmon, The Hebrew University of Jerusalem, Israel

Session R: 2

Time: 08:30-10:00

Location: Lecture Hall - H10

SYMPOSIUM: TEACHERS' PROFESSIONAL VISION: HOW TEACHERS LOOK AT THEIR STUDENTS**Chair**

Doris Holzberger, Technical University of Munich (TUM), Germany

Organisers

Katharina Schnitzler, Technical University of Munich (TUM), Germany; Christian Kosel, TUM School of Education, Germany

Discussant

Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Professional vision in and on action: Two sides of the same coin?

Zuzana Baricova Smidekova, Masaryk University, Faculty of Arts, Czech Republic; Miroslav Janik, Masaryk University, Czech Republic; Eva Minarikova, Masaryk University, Czech Republic

Developing a coding scheme for verbalizations on professional vision during own classroom management

Sharisse van Driel, Open University, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands; Frank Crasborn, Fontys University of Applied Sciences, Netherlands; Charlotte Wolff, University of Iceland, Iceland; Saskia Brand-Gruwel, Welten Institute - Open University of the Netherlands, Netherlands

How does student behavior attract preservice teachers' attention while instruction?

Patricia Goldberg, Hector Research Institute for Education Science, University of Tübingen, Germany; Kathleen Stürmer, University of Tübingen, Germany; Tina Seidel, Technische Universität München (TUM), Germany

Pre-service teachers' professional vision and their judgment accuracy of student profiles

Katharina Schnitzler, Technical University of Munich (TUM), Germany; Christian Kosel, TUM School of Education, Germany; Doris Holzberger, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Session R: 3

Time: 08:30-10:00

Location: Seminar Room - S11

SINGLE PAPER: EXPERIMENTAL STUDIES IN INSTRUCTIONAL DESIGN**Chair**

Peter Edelsbrunner, ETH Zurich, Switzerland

How can we improve learning from texts? Combining effects of signaling and disfluency on learning

Maik Beege, Chemnitz University of Technology, Germany; Steve Nebel, Chemnitz University of Technology, Germany; Sascha Schneider, Chemnitz University of Technology, Germany; Günter Daniel Rey, Chemnitz University of Technology, Germany

Preparatory Effects of Problem Solving versus Studying Examples Prior to Instruction

Christian Hartmann, Ruhr University Bochum, Germany; Tamara Van Gog, Utrecht University, Netherlands; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Effects of different learning environments on students' decision-making competence

Maria Tsapali, University of Cambridge, United Kingdom; Michelle R. Ellefson, University of Cambridge, United Kingdom

Effective and Efficient Example-based Learning: Videos, Texts, or Graphic Novels?

Markus H. Hefter, Bielefeld University, Germany; Inga ten Hagen, Bielefeld University, Germany; Claudia Krense, University of Freiburg, Germany; Kirsten Berthold, University of Bielefeld, Germany; Alexander Renkl, University of Freiburg, Germany

Session R: 4

Time: 08:30-10:00

Location: Seminar Room - S13

SINGLE PAPER: DOCTORAL AND RESEARCHER EDUCATION**Chair**

Frans Andersen, Educational psychology, Denmark

PhD students' mental health and how mental health problems affect their success

Els van Rooij, University of Groningen, Netherlands; Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Ellen Jansen, University of Groningen, Netherlands

A latent profile analysis of PhD supervision styles and types of support

Els van Rooij, University of Groningen, Netherlands; Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Ellen Jansen, University of Groningen, Netherlands

Key considerations in interpreting PhD examiner feedback

Allyson Holbrook, SORTI, The University of Newcastle, Australia; Kerry Dally, SORTI, The University of Newcastle., Australia; Mitch OToole, SORTI, The University of Newcastle, Australia; Sue Starfield, Education, University of New South Wales, Australia; Hedy Fairbairn, SORTI, The University of Newcastle, Australia; Terence Lovat, The University of Newcastle, Australia

Career insecurity and self-management during PhD training: A longitudinal study

Aida Alisic, Institute of Psychology, RWTH Aachen University, Germany; Christian L. Burk, RWTH Aachen University, Germany; Bettina S. Wiese, RWTH Aachen University, Germany

Session R: 5

Time: 08:30-10:00

Location: Seminar Room - S06

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS**Chair**

Caj Niclas Sandström, University of Helsinki, Finland

The Impact of Learning Strategies on Problem-solving Performance: A Cross-national Comparison Study

Hao Wu, Doctoral School of Education, University of Szeged, Hungary; Gyongyver Molnar, University of Szeged, Hungary

Assessment practices for tomorrow doctoral programs: a systematic review of empirical researches

Liliana Silva, Department of Education Studies "Giovanni Maria Bertin" - Alma Mater Studiorum - University of Bologna, Italy; Massimo Marcuccio, Department of Education Studies "Giovanni Maria Bertin" - Alma Mater Studiorum - University of Bologna, Italy

Adaptation of Culture in the Civic Online Reasoning Assessment Using Explicit Functional Equivalence

Dimitri Molerov, Humboldt-University Berlin, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Susanne Schmidt2, Johannes Gutenberg-Universität Mainz, Germany; Marie-Theres Nagel, Johannes Gutenberg University Mainz, Germany; Jana Jurisch, Johannes Gutenberg-Universität Mainz, Germany

STUDENTS' ATTITUDES TOWARDS MODES OF EVALUATION

Mordechai Miron, Tel Aviv University, Israel

Session R: 6

Time: 08:30-10:00

Location: Lecture Hall - H08

SINGLE PAPER: CASE STUDIES AND INTEGRATED LEARNING IN HIGHER EDUCATION**Chair**

Allison Littlejohn, Open University, United Kingdom

Interdisciplinary study programs: The importance of program incorporation for study success

Anna M. Claus, RWTH Aachen University, Germany; Bettina S. Wiese, RWTH Aachen University, Germany

A Quantitative and Qualitative Assessment of Students' Development in One Interdisciplinary Course

Merel van Goch, Institute for Cultural Inquiry, Utrecht University, Netherlands

Acquisition of Hardware Reverse Engineering Competency in IT Security – An Explorative Field Study

Carina Wiesen, Ruhr-Universität Bochum, Germany; Steffen Becker, Ruhr-University Bochum, Germany; Christof Paar, Ruhr-University Bochum, Germany; Nikol Rummel, Ruhr University Bochum, Institute of Educational Research, Germany

Reframing Research Skills for Professional Performance: A case study.

Miriam Losse, Saxion University of Applied Sciences, Netherlands; Mirjam Trapman, Saxion University of Applied Sciences, Netherlands

Session R: 7

Time: 08:30-10:00

Location: Seminar Room - S12

SINGLE PAPER: SOCIAL ASPECTS OF LEARNING AND TEACHING**Chair**

Andreas Rausch, University of Mannheim, Germany

The relation between sick leave, staff stability, turnover and quality in Norwegian ECEC provisions

Thomas Moser, Educational Science, Norway; Rasmus Kleppe, Oslo Metropolitan University, Norway; Erik Eliassen, Oslo Metropolitan University, Norway; Elisabeth Bjørnstad, Oslo Metropolitan University, Norway

Psychosocial factors of victimization and bullying: individual and classroom characteristics

Katja Košir, Faculty of Arts, University of Maribor, Slovenia

Teachers' judgments and halo effect: a new measure of halo and an analysis of certainty bias

Camille SANREY, Université Grenoble Alpes, France; Pascal Bressoux, Université Grenoble Alpes, France; Laurent Lima, Université Grenoble Alpes, France; Pascal Pansu, Université Grenoble Alpes, France

A multilevel analysis of classroom talk: Does collaborative instruction matter?

Melvin Chan, National Institute of Education, Singapore

Session R: 8

Time: 08:30-10:00

Location: Seminar Room - S09

SINGLE PAPER: SELF-EFFICACY AND MOTIVATION AND EMOTION**Chair**

Stephanie Pieschl, Technical University of Darmstadt, Germany

A multi-level investigation of teacher-student relationships, self-efficacy, and outcomes in science

Emma Burns, University of New South Wales, Australia; Andrew Martin, University of New South Wales, Australia; Rebecca Collie, University of New South Wales, Australia

An Investigation of Achievement Emotions, Self-Efficacy, and Learning Strategy Use in Mathematics

Yesim Capa Aydin, Middle East Technical University, Turkey; Basak Calik, Istanbul Medeniyet University, Turkey

Teacher self-efficacy and collective teacher efficacy: Relations with school context and engagement

Einar Skaalvik, NTNU Social Research, Norway; Sidsel Skaalvik, NTNU - Norwegian University of Science and Technology, Norway

Is it still worth it? Predicting temporal change in dropout intention by change in study motivation

Theresa Schnettler, University of Bielefeld, Germany; Julia Bobe, University of Bielefeld, Germany; Anne Scheunemann, University of Bielefeld, Germany; Stefan Fries, University of Bielefeld, Germany; Carola Grunschel, Westfälische Wilhelms-Universität Münster, Germany

Session R: 9

Time: 08:30-10:00

Location: Seminar Room - S01

SINGLE PAPER: PROBLEM SOLVING IN MATHEMATICS**Chair**

Monica Gonzalez-Marquez, RWTH Aachen University, Germany

Joint attention at teacher gestures during problem solving scaffolding interaction

Markku Hannula, University of Helsinki, Finland; Eeva Haataja, University of Helsinki, Finland; Anniina Koskinen-Salmia, University of Helsinki, Finland; Miika Toivanen, University of Helsinki, Finland

Components and levels of mathematical modelling in lower secondary education.

Sevinç Göksen-Zayim, University of Amsterdam, Netherlands; Derk Pik, University of Amsterdam, Netherlands; Rijkje Dekker, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands

Micro Productive Failure Occasions in Mathematics Learning

Esther Ziegler, ETH Zurich, Switzerland

Influence of the task representation on problem solving success of primary school children

Nina Sturm, University of Education Ludwigsburg, Germany

Session R: 10

Time: 08:30-10:00

Location: Lecture Hall - H06 -
Amazon Hörsaal

SINGLE PAPER: EDUCATIONAL PSYCHOLOGY

Chair

Susan Yoon, University of Pennsylvania, United States

Immediate and delayed effects of a modelling example on the application of good feedback principles

Floris van Blankenstein, Leiden University Medical Center, Netherlands; Roeland M. Van der Rijst, ICLON-Leiden University Graduate School of Teaching, Netherlands; Nadira Saab, Leiden University, Netherlands

Meta-Analyses on Relative Metacomprehension Accuracy and Interventions to Improve it

Anja Prinz, University of Freiburg, Germany; Stefanie Golke, University of Freiburg, Germany; Joerg Wittwer, University of Freiburg, Germany

Engaging authenticity: A framework for encountering complex historical sources

Lisa Henke, University of Tübingen, Germany; Allison Weller, Teachers College, Columbia University, United States; Christine Baron, Teachers College, Columbia University, United States; Christiane Bertram, University of Konstanz, Germany

Can pupils' self-evaluation biases influence teachers' judgments?

Anne-Laure de Place, Université Grenoble Alpes, France; Ludivine Jamain, Université Grenoble Alpes, France; Therese Bouffard, Université du Québec à Montréal, Canada; Pascal Pansu, Université Grenoble Alpes, France

Session R: 11

Time: 08:30-10:00

Location: Lecture Hall - H05

SINGLE PAPER: TEACHING AND INSTRUCTION

Chair

Attila Pásztor, MTA-SZTE Research Group on the Development of Competencies, Hungary

Validation of a model of place value concepts

Moritz Herzog, University of Duisburg-Essen, Germany; Annemarie Fritz-Stratmann, University of Duisburg-Essen, Germany

The Impact of Mindset-Priming on Student Teachers' Written and Oral Explanations in Mathematics

Matthias Nückles, University of Freiburg, Germany; Mona Weinhuber, University of Freiburg, Germany; Andreas Lachner, University of Tübingen, Germany

How science outreach contributes to students' science capital- Teachers' perspectives.

Roberts Zivtins, Imperial College London, United Kingdom; Tim Jay, Sheffield Hallam University, United Kingdom; Robert Winston, Imperial College London, United Kingdom

Associations between pace of letter instruction, teaching practices and children's literacy skills

Kristin Sunde, University of Stavanger, Norway; Kjersti Lundet, University of Stavanger, Norway

Session R: 12

Time: 08:30-10:00

Location: Seminar Room - S10

SINGLE PAPER: SYNERGIES BETWEEN LEARNING AND TEACHING

Chair

Erkko Sointu, University of Eastern Finland, Finland

Student involvement in the design of learning and teaching: Disentangling the terminology

Samantha Martens, Maastricht University, Netherlands; Stephanie Meeuwissen, Maastricht University, Netherlands; Diana Dolmans, Maastricht University, Netherlands; Karen Könings, Maastricht University, Netherlands

An ecological framework for studying interdisciplinary learning: linking culture, activity and mind

Monika Nerland, University of Oslo, Norway; Lina Markauskaite, University of Sydney, Australia

Team-based curriculum design in higher education: A qualitative study of design conversations

Inken Gast, Maastricht University, Netherlands; Jan Van der Veen, Twente University, Netherlands; Susan McKenney, University of Twente, Netherlands; Kim Schildkamp, University of Twente, Unknown

University teachers' and doctoral students' visual processing of teaching-learning situations

Erkki Anto, University of Turku, Finland; Henna Vilppu, University of Turku, Finland; Mari Murtonen, University of Turku, Finland; Neea Heinonen, University of Turku, Finland

Session R: 13

Time: 08:30-10:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SINGLE PAPER: TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION**Chair**

Piia Naykki, University of Oulu, Finland

Digital Home Learning Environment and its relationship to children's ICT self-efficacy

Sabrina Bonanati, Paderborn University, Germany; Heike M. Buhl, Paderborn University, Germany

Explorations of Adolescents' Socio-digital Participation, Networks and Excessive ICT Engagement

Milla Kruskopf, The Unit of Educational Psychology, University of Helsinki, Finland; Kai Hakkarainen, University of Helsinki, Finland; Shupin Li, University of Turku, Finland; Kirsti Lonka, University of Helsinki, Finland

Relationship between early computer use and ICT competence: Evidence from OECD Countries

Libor Juhaňák, Masaryk University, Czech Republic; Jiří Zounek, Masaryk University, Czech Republic; Klára Záleská, Masaryk University, Czech Republic; Ondřej Bárta, Masaryk University, Czech Republic

How choice options can help to improve learning with digital media by an increase of autonomy

Sascha Schneider, Chemnitz University of Technology, Germany; Steve Nebel, Chemnitz University of Technology, Germany; Maik Beege, Chemnitz University of Technology, Germany; Günter Daniel Rey, Chemnitz University of Technology, Germany

Session R: 14

Time: 08:30-10:00

Location: Seminar Room - S04

SINGLE PAPER: STUDENTS' VALUE BELIEFS IN STEM: EVIDENCE FROM CHILDHOOD THROUGH ADOLESCENCE**Chair**

Tim Surma, Open University of the Netherlands, Netherlands

Subjective task values and STEM aspirations across middle school

Janica Vinni-Laakso, University of Helsinki, Finland; Jiesi Guo, Australian Catholic University, Australia; Jari Lavonen, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland

Primary school students' value beliefs in mathematics: Factorial structure and gender differences

Iris Dinkelmann, Thurgau University of Teacher Education, Switzerland

Teachers' self-efficacy, student-perceived support and students' interest in math

Elisa Oppermann, Freie Universität Berlin, Germany; Rebecca Lazarides, University of Potsdam, Germany

The transmission of motivation from teachers to students: Different mechanisms for different values?

Cora Parrisius, Hector Research Institute of Education Sciences and Psychology, University of Tübingen, Germany; Hanna Gaspard, University of Tübingen, Germany; Heide Piesch, University of Tübingen, Germany; Eike Wille, University of Tübingen, Germany; Ulrich Trautwein, University of Tübingen, Germany; Benjamin Nagengast, Eberhard Karls Universität Tübingen, Germany

Session R: 15

Time: 08:30-10:00

Location: Lecture Hall - H11

SINGLE PAPER: EARLY CHILDHOOD EDUCATION**Chair**

Rosanna Cofone, University of Roma Tre, Italy

Influences of child sex and family background on self-regulation in elementary students

Catherine Gunzenhauser, Leipzig University, Germany; Henrik Saalbach, University of Leipzig, Germany; Antje von Suchodoletz, New York University Abu Dhabi, United Arab Emirates

What is important for children to have learned when starting school?

Liv Ingrid Aske Håberg, Volda University College, Norway

Compassion in Children's Peer Interaction

Jaakko Hilppö, University of Helsinki, Finland; Antti Rajala, University of Helsinki, Finland; Lasse Lipponen, University of Helsinki, Finland

Leading the team of day care centres towards high quality language education

Elisabeth Resa, Free University Berlin, Germany; Itala Ballaschk, Freie Universität Berlin, Germany; Yvonne Anders, Freie Universität Berlin, Germany

Session R: 16

Time: 08:30-10:00

Location: Seminar Room - S16

SINGLE PAPER: ACHIEVEMENT**Chair**

Kristiina Kumpulainen, University of Helsinki, Finland

"What is my next step?" Student perceptions of feedback helpfulness

Cam Brooks, The University of Queensland, Australia; Rochelle Burton, The University of Queensland, Australia; Yangtao Huang, The University of Queensland, Australia; Annemaree Carroll, The University of Queensland, Australia; John Hattie, The University of Melbourne, Australia

Phonic Difficulties in Early Education: Implications for Future Reading Performance

Joshua McGrane, University of Oxford, United Kingdom; Kit Double, University of Oxford, United Kingdom; Jamie Stiff, University of Oxford, United Kingdom; Therese N. Hopfenbeck, University of Oxford, United Kingdom

Assessment policies and academic performance: the role of motivation and self-regulation

Rob Kickert, Erasmus University Rotterdam, Netherlands; Marieke Meeuwisse, Erasmus University Rotterdam, Netherlands; Karen Stegers-Jager, Erasmus MC, Institute of Medical Education Research Rotterdam, Netherlands; Gabriela Koppenol-Gonzalez, Erasmus University Rotterdam, Netherlands; Lidia Arends, Erasmus University Rotterdam, Netherlands; Peter Prinzie, Erasmus University Rotterdam, Netherlands

It takes two hands to clap: Combining grit and educational-goal commitment to predict achievement

Xin Tang, University of Helsinki, Finland; Jiesi Guo, Australian Catholic University, Australia; Allan Wigfield, University of Maryland, United States; Katariina Salmela-Aro, Helsinki University, Finland

Session R: 17

Time: 08:30-10:00

Location: Seminar Room - S03

SINGLE PAPER: WRITING AND LITERACY IN HIGHER EDUCATION**Chair**

Andreas Lachner, University of Tübingen, Germany

Effects of a writing fluency training on lower and higher level writing skills

Sabine Stephany, University of Cologne, Germany; Evghenia Goltsev, Universität zu Köln/ University of Cologne, Germany; Valerie Lemke, Mercator Institute for Literacy and Language Education, Germany; Marion Krause-Wolters, University of Cologne, Germany; Pia Claes, University of Cologne, Germany; Hilde Haider, Lehrstuhl für Allgemeine Psychologie I, Germany; Hans-Joachim Roth, University of Cologne, Germany; Michael Becker-Mrotzek, University of Cologne, Germany

Validation of the Writing Process Questionnaire in the Estonian context

Djuddah Leijen, University of Tartu, Estonia; Anni Jürine, University of Tartu, Estonia; Gerli Silm, University of Tartu, Estonia; Adriano Augusto, University of Tartu, Estonia

A cognitive load perspective on the effectiveness of collaborative writing

Elke Van Steendam, KU Leuven, Belgium; Elise Drijbooms, KU Leuven, Netherlands; Huub Van den Bergh, Universiteit Utrecht, Netherlands; Gert Rijlaarsdam, University of Amsterdam, Netherlands

Improving university students' written argumentation via recursive reading: An intervention study

Christian Tarchi, University of Florence, Italy; Ruth Villalon, University of Cantabria, Spain

Session R: 18

Time: 08:30-10:00

Location: Seminar Room - S07

SINGLE PAPER: EDUCATIONAL PSYCHOLOGY, MOTIVATION AND EMOTION**Chair**

Barbara Beege, Ludwig-Maximilians-Universität (LMU), Germany

Trajectories of Social Media Use Across Adolescence and their relation to academic well-being

Erika Maksniemi, University of Helsinki, Finland; Lauri Hietajärvi, University of Helsinki, Finland; Kirsti Lonka, University of Helsinki, Finland; Katariina Salmela-Aro, Helsinki University, Finland

Attention bias in test anxiety: The moderating effect of approach-avoidance temperament

Wendy Symes, University of Birmingham, United Kingdom; Dave Putwain, Liverpool John Moores University, United Kingdom

The role of temperament in secondary students' mathematics interest, strain, and effort

Anna Rawlings, University of Helsinki, Finland; Anna Tapola, University of Helsinki, Finland; Markku Niemivirta, University of Oslo, Norway

The role of mental health in adaptive regulation of learning and student success

Sarah Davis, University of Victoria, Canada; Allyson Hadwin, University of Victoria, Canada; Rebecca Edwards, University of Victoria, Canada; Todd Milford, University of Victoria, Canada

Session R: 19

Time: 08:30-10:00

Location: Seminar Room - S14

SINGLE PAPER: PARENTAL INVOLVEMENT AND COMPETENCIES**Chair**

Matias Rojas, Pontificia Universidad Católica de Chile, Chile

Non scholae sed vitae!? Parents' educational values, future prospects, and parenting behaviour

Kerstin Helker, RWTH Aachen University, Germany

Students' well-being and competencies after school transition

Michaela Glaeser-Zikuda, University of Erlangen-Nuremberg, Germany; Ramona Obermeier, Institute for Educational Science, University of Erlangen-Nuremberg, Germany

Parental involvement and homework quality and control on children's homework motivation and behavior

Claudia Kastens, Bergische University Wuppertal, Germany

Development of the comprehension of clause connectors of German primary school children

Anna Volodina, University of Bamberg, Germany; Sabine Weinert, University of Bamberg, Germany; Birgit Heppt, Humboldt-Universität zu Berlin, Germany

Session R: 20

Time: 08:30-10:00

Location: Lecture Hall - H09

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS IN HIGHER EDUCATION**Chair**

Rocio Garcia-Carrion, University of Lleida, Spain

The origins of feedback and its strange metaphorical use in education

David Boud, University of Technology Sydney/ Deakin University, Australia; Joanna Tai, Deakin University, Australia

A comparison of summative and formative use of self-assessment in higher education

Juuso Henrik Nieminen, University of Helsinki, Finland; Henna Asikainen, University of Helsinki, Finland; Johanna Rämö, University of Helsinki, Finland

Towards a more embedded view on situations in educational research

Carla Bohndick, University of Hamburg, Germany; Gabriela Blum, University of Koblenz-Landau, Germany

Effects of feedback and increased autonomy in computer-based assessment: A large-scale experiment

Mari-Paullina Vainikainen, Tampere University, Finland; Sanna Oinas, University of Helsinki, Finland; Mikko Asikainen, University of Helsinki, Finland; Helena Thuneberg, University of Helsinki, Finland

Session R: 21

Time: 08:30-10:00

Location: Seminar Room - S02

SINGLE PAPER: STUDENT LEARNING IN HIGHER EDUCATION**Chair**

Edith Braun, Justus-Liebig-Universität Giessen, Germany

Interprofessional education - development of university students' concept-level learning

Erika Österholm, University of Turku, Finland; Mari Murtonen, University of Turku, Department of Teacher Education, Finland; Tuike Iiskala, University of Turku, Department of Teacher Education, Finland; Outi Kortekangas-Savolainen, University of Turku, Finland

Self-regulated learning among international students: An analysis of learning strategy profiles

Hüseyin Hilmi Yildirim, FernUniversität in Hagen, Germany; Julia Zimmermann, FernUniversität in Hagen, Germany; Kathrin Jonkmann, FernUniversität in Hagen, Germany

Exploring approaches to learning in the PhD context

Telle Hailikari, University of Helsinki, Finland; Anna Parpala, University of Helsinki, Finland; Liisa Postareff, University of Turku, Finland

Validation of a scale to measure informal learning among students

Julian Decius, University of Paderborn, Germany; Niclas Schaper, University of Paderborn, Germany

Session R: 22

Time: 08:30-10:00

Location: Lecture Hall - H07

SINGLE PAPER: EDUCATIONAL POLICY**Chair**

Jasperina Brouwer, University of Groningen, Netherlands

Impact of tracking on school experience, attitudes and learning progress of upper secondary students

Jana Strakova, Faculty of Education, Charels University in Prague, Czech Republic; Jaroslava Simonova, Institute for Research and Development of Education, Faculty of Education, Charles University in Prague, Czech Republic

Impact of preschool and early childhood provision on children's development in Rio de Janeiro

Mariane Campelo Koslinski, Federal University of Rio de Janeiro, Brazil; TIAGO BARTHOLO, Federal University of Rio de Janeiro, Brazil

Teacher perceptions of English learner students and the moderating role of bilingual education

Hanna Dumont, DIPF | Leibniz Institute for Research and Information in Education, Germany; Ilana Umansky, University of Oregon, United States

Improving school administration through information technology?

Eveline Wittmann, TUM School of Education, Germany; Markus Dormann, Otto-Friedrich-Universität Bamberg, Germany

Session R: 23

Time: 08:30-10:00

Location: Seminar Room - S05

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Mikko Aro, University of Jyväskylä, Finland

Preservice Teachers' Professional Vision for and Capacity to Teach SRL: Effects of Scaffolding Level

Tova Michalsky, Bar-Ilan University, Israel

Reflective practice and role concepts of mentors in Hungarian initial teacher education

Kinga Kaplar-Kodacsy, Eötvös Loránd University, Hungary; Helga Dörner, Central European University, Hungary

Potentials and Challenges of International PhD-Programs in Teacher Education

Christian Kraler, Teacher Education and School Research, Austria; Vasileios Symeonidis, University of Innsbruck, Austria; Irma Eloff, University of Pretoria, South Africa

Video-based competence assessment in the vocational training course in metal technology (ViKobEL MT)

Felix Walker, Technical University of Kaiserslautern, Germany; Andrea Faath-Becker, Technical University of Kaiserslautern, Germany

Session S: 1

Time: 10:15-11:45

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SIG INVITED SYMPOSIUM: WHO BENEFITS MOST? DIFFERENTIAL EFFECTS OF EARLY CHILDHOOD EDUCATION AND CARE ON CHILD OUTCOMES**Chair**

Lars Burghardt, University of Bamberg, Germany

Organiser

Lars Burghardt, University of Bamberg, Germany

Discussant

Wilfried Smidt, University of Innsbruck, Austria

Universal ECEC as a protective mean for children from disadvantaged families in Norway?

Thomas Moser, Educational Science, Norway; Henrik Daae Zachrisson, Department of Special Needs Education, Norway

Compensation or Matthew-Effect? Relations of Child Care, Family and Child Development

Anja Linberg, German Youth Institute, Germany; Lars Burghardt, University of Bamberg, Germany; Yvonne Anders, Freie Universität Berlin, Germany; Hans Guenther Rossbach, University of Bamberg, Germany

Lasting preschool quality effects and the moderating role of potential risk factors

Simone Lehrl, University of Bamberg, Germany; Hans Guenther Rossbach, University of Bamberg, Germany; Sabine Weinert, University of Bamberg, Germany

The Longitudinal Effect of the Quality of Early Teacher-Child Interactions on Child Outcomes

Jenni Salminen, University of Jyväskylä, Finland; Marja-Kristina Lerkkanen, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland

Session S: 2

Time: 10:15-11:45

Location: Lecture Hall - H10

SYMPOSIUM: DIFFERENTIATED INSTRUCTION FROM THE PRESENT TO THE FUTURE**Chair**

Katrien Struyven, Hasselt University and Vrije Universiteit Brussel, Belgium

Organisers

Júlia Grifol Freixenet, Vrije Universiteit Brussel, Belgium; Katrien Struyven, Hasselt University and Vrije Universiteit Brussel, Belgium

Discussants

Liesbeth Kester, Utrecht University, Netherlands; Katrien Struyven, Hasselt University and Vrije Universiteit Brussel, Belgium

Capturing the Complexity of Differentiated Instruction

Trynke Keuning, University of Twente, Netherlands; Marieke van Geel, University of Twente, Netherlands

Measuring pre-service teachers' perceptions and actions of differentiated instruction

Júlia Grifol Freixenet, Vrije Universiteit Brussel, Belgium; Wendelien Vantieghem, Vrije Universiteit Brussel, Belgium; Katrien Struyven, Hasselt University and Vrije Universiteit Brussel, Belgium

What factors can influence teachers' use of differentiated instruction?

Marcela Gerardina Pozas Guajardo, Universität Trier, Germany; Christoph Schneider, University of Trier, Germany

Differentiated instruction in primary and secondary schools: From noticing to adapting teaching

Katrien Struyven, Hasselt University and Vrije Universiteit Brussel, Belgium; Esther Gheysens, Vrije Universiteit Brussel, Belgium; Els Consuegra, Vrije Universiteit Brussel, Belgium; Nadine Engels, Vrije Universiteit Brussel (VUB), Belgium

Session S: 3

Time: 10:15-11:45

Location: Lecture Hall - H09

SYMPOSIUM: DIMENSIONAL COMPARISONS THROUGH THE LENS OF THE GENERALIZED I/E MODEL: RECENT DEVELOPMENTS**Chair**

Christoph Niepel, University of Luxembourg, Luxembourg

Organiser

Christoph Niepel, University of Luxembourg, Luxembourg

Discussant

Anna-Katharina Praetorius, Institut für Erziehungswissenschaft, Switzerland

Assimilation and Contrast Effects of Dimensional Comparisons in Self-Concepts, Interests & Anxieties

Lindie van der Westhuizen, University of Luxembourg, Luxembourg; Katrin Arens, German Institute for International Educational Research / DIPF, Germany; Samuel Greiff, University of Luxembourg, Luxembourg; Antoine Fischbach, University of Luxembourg, Luxembourg; Christoph Niepel, University of Luxembourg, Luxembourg

Dimensional Comparison Effects on Facets of Subject-Specific Anxieties: A Nested Modelling Approach

Irma Talic, University of Luxembourg, Luxembourg; Jörn Sparfeldt, Saarland University, Germany; Jens Möller, University of Kiel, Germany; Samuel Greiff, University of Luxembourg, Luxembourg; Christoph Niepel, University of Luxembourg, Luxembourg

Testing the Effect of Subject Similarity on Dimensional Comparison Effects in the 2I/E Model

Fabian Wolff, Institute for Psychology of Learning and Instruction, Germany; Jens Möller, University of Kiel, Germany

The Role of Domain Similarity in the Longitudinal Interplay Among Achievement and Self-Concept

Fabio Sticca, Marie Meierhofer Children's Institute, Switzerland; Thomas Goetz, Department of Empirical Educational Research, Germany; Richard Shavelson, Stanford University, United States; Franz Eberle, University of Zurich, Switzerland; Jens Möller, University of Kiel, Germany

Session S: 4

Time: 10:15-11:45

Location: Seminar Room - S10

SYMPOSIUM: ASSESSING TEACHERS' KNOWLEDGE, BELIEFS, AND SELF-EFFICACY ABOUT PROMOTING SRL**Chair**

Charlotte Dignath, Goethe-University Frankfurt, Germany

Discussant

Anat Zohar, Hebrew University, Israel

Pre-service Teachers' Belief Systems with Respect to the Self-Regulation of Learning

Stella Vosniadou, Flinders University, Australia; Michael Lawson, Flinders University, Australia; Mirella Wyr, Flinders University, Australia; Penny Van Deur, Flinders University of South Australia, Australia; David Jeffries, College of Education, Psychology and Social Work, Flinders University, Australia

Teachers' diagnostic and coaching skills in self-regulated learning Do beliefs and knowledge matter?

Yves Karlen, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland; Carmen Hirt, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Switzerland; Silke Hertel, Ruprecht-Karls-Universität Heidelberg, Germany

Development and validation of the teacher self-efficacy scale to implement self-regulated learning

Hilde Van Keer, Ghent University, Belgium; Mona De Smul, University of Ghent, Belgium; Sofie Heirweg, Ghent University, Belgium; Geert Devos, Ghent University, Belgium; Sabrina Vandeveld, Ghent University, Belgium

Assessing teachers' knowledge about self-regulation during learning

Charlotte Dignath, Goethe-University Frankfurt, Germany; Max Seidel, Goethe-University Frankfurt, Institute of Psychology, Germany; Mareike Kunter, Goethe-Universität Frankfurt, Germany

Session S: 5

Time: 10:15-11:45

Location: Lecture Hall - H08

SYMPOSIUM: FUNCTIONS OF RELATIONAL QUALITY FOR LEARNING, TEACHING, AND LEARNING TO TEACH**Chair**

Paul Swan, Monash University, Australia

Organisers

Charlott Rubach, University of Potsdam, Germany; Paul Swan, Monash University, Australia; Ji Hong, University of Oklahoma, United States; Gerda Hagenauer, University of Salzburg, Austria

Discussant

Diana Raufelder, University Greifswald, Germany

The significance of parents' and teachers' social support for students' depression and deviance

Denise Kücholl, Schulpädagogik Universität Potsdam, Germany; Charlott Rubach, University of Potsdam, Germany; Anna-Lena Dicke, University of California, United States; Rebecca Lazarides, University of Potsdam, Germany; Sandra Simpkins, University of California, United States; Jacquelynne Eccles, University of California, United States

Teacher relational quality and manifestations of empathy in Australian primary classrooms

Paul Swan, Monash University, Australia

Various Dispositions of Teacher Empathy in Culturally Diverse Classrooms

Ji Hong, University of Oklahoma, United States; Dionne Cross Francis, Indiana University, United States; Crystal Neill, The University of Oklahoma, United States; Laura Lewis, The University of Oklahoma, United States; Alexandra Parsons, The University of Oklahoma, United States; Qian Wang, The University of Oklahoma, United States

Developing relational quality for student teachers and mentors in the pedagogical internship

Gerda Hagenauer, University of Salzburg, Austria; Jennifer Waber, University of Bern, Switzerland; Lea de Zordo, University of Teacher Education Bern, Switzerland

Session S: 6

Time: 10:15-11:45

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: APPLICATIONS OF EFFECTIVE LEARNING STRATEGIES IN EDUCATIONAL PRACTICE**Chair**

Gino Camp, Welten Institute - Open University of the Netherlands, Netherlands

Organiser

Gino Camp, Welten Institute - Open University of the Netherlands, Netherlands

Discussant

Desirée Joosten-ten Brinke, Open University of the Netherlands, Netherlands

Supporting Students' Application of Learning Strategies

Tino Endres, University of Freiburg, Germany; Cornelius Böttger, Justus-Liebig-Universität Giessen, Germany; Alexander Renkl, University of Freiburg, Germany

Guidelines for Effective Use of Formative Tests in the Classroom

Kim Dirkx, Open University, Netherlands; Gino Camp, Welten Institute - Open University of the Netherlands, Netherlands; Desirée Joosten-ten Brinke, Open University of the Netherlands, Netherlands

The Role of Material Complexity and Learner Ability on Determining the Optimal Learning Schedule

Carolina Kuepper-Tetzel, University of Dundee, United Kingdom

Comparing Formative and Summative Cumulative Compensatory Assessment in an Engineering Course

Peter Verkoeijen, Erasmus University Rotterdam, Netherlands

Session S: 7

Time: 10:15-11:45

Location: Lecture Hall - H05

SYMPOSIUM: INHIBITORY ABILITIES AND ACADEMIC PERFORMANCE: NEW MEASUREMENT AND ANALYTICAL APPROACHES**Chair**

Kerry Lee, The Education University of Hong Kong, Hong Kong

Discussant

Grégoire Borst, Université de Paris - CNRS, France

Kindergarteners' error monitoring in the context of a classical inhibition task

Claudia Roebers, University of Bern, Switzerland

Inhibitory abilities in overcoming intuitive interference

Reuven Babai, Tel Aviv University, Israel; Nahed Younis, Tel Aviv University, Israel; Ruth Stavy, Tel Aviv University, Israel

Is inhibitory control related to individual differences in arithmetic?

Bert De Smedt, KU Leuven - University of Leuven, Belgium; Elien Bellon, KU Leuven, Belgium; Wim Fias, University of Ghent, Belgium

A comparison of longitudinal approaches to the analysis of data on inhibition and math performance

Kerry Lee, The Education University of Hong Kong, Hong Kong

Session S: 8

Time: 10:15-11:45

Location: Lecture Hall - H07

SYMPOSIUM: THE NAMING OF CLASSROOM PHENOMENA - INTERNATIONAL PERSPECTIVES ON TEACHERS' PROFESSIONAL VOCABULARY

Chair

Marita Eva Friesen, Ludwigsburg University of Education, Germany

Organiser

Siri-Malen Høyenes, Norwegian University of Science and Technology (NTNU), Norway

Discussant

Synnøve Matre, Norwegian University of Science and Technology, Norway

A Comparison of Australian Preservice and In-service Teachers' Professional Vocabulary

Carmel Mesiti, University of Melbourne, Australia; David Clarke, The University of Melbourne, Australia

Preservice Teachers' Professional Vocabulary: Reflections on International Practicum Experiences

Karla Culligan, University of New Brunswick, Canada

Professional vocabulary used in mentoring conversations with preservice mathematics teachers

Siri-Malen Høyenes, Norwegian University of Science and Technology (NTNU), Norway

Preservice teachers' professional vocabulary changes when they learn to analyse classroom situations

Marita Eva Friesen, Ludwigsburg University of Education, Germany; Carmel Mesiti, University of Melbourne, Australia; Sebastian Kuntze, Ludwigsburg University of Education, Germany

Session S: 9

Time: 10:15-11:45

Location: Lecture Hall - H11

SYMPOSIUM: FACTORS INFLUENCING SOURCE PREFERENCE AND EVALUATION WHEN DEALING WITH EXPERT KNOWLEDGE

Chair

Eva Thomm, University of Erfurt, Germany

Organisers

Eva Thomm, University of Erfurt, Germany; Friederike Hendriks, University of Münster, Germany

Discussant

Marc Stadler, University of Bochum, Germany

Supporting Comprehension of Multiple Texts Through Engagement in Dialogic Argumentation

Kalypto Iordanou, University of Central Lancashire, Cyprus

The Impact of Topic Familiarity and Disagreement Explanation on Source Evaluation

Sarit Barzilai, University of Haifa, Israel; Talia Shlomi-Elooz, University of Haifa, Israel; Eva Thomm, University of Erfurt, Germany

Do Insights Into Research Methods Affect Trust in Scientists and Deference to Experts?

Friederike Hendriks, University of Münster, Germany; Regina Jucks, WWU Münster, Germany

Examining Predictors of Source Preferences in Empirical Educational Research

Eva Thomm, University of Erfurt, Germany; Andreas Lederer, University of Erfurt, Germany; Johannes Bauer, University of Erfurt, Germany

Session S: 10

Time: 10:15-11:45

Location: Seminar Room - S16

SINGLE PAPER: LANGUAGE LEARNING AND TEACHING IN CULTURALLY DIVERSE SETTINGS

Chair

Yuri Uesaka, The University of Tokyo, Japan

Student Characteristics of French as a Second Language Programs in Canada

Erhan Sinay, Toronto District School Board, Canada; Diana Burchell, OISE/University of Toronto, Canada; Christopher Barron, OISE/University of Toronto, Canada

Stakeholder Perception of French Language Programs in the Toronto District School Board

Erhan Sinay, Toronto District School Board, Canada; Xi Chen, OISE/University of Toronto, Canada; Amie Presley, Toronto District School Board, Canada; David Cameron, Toronto District School Board, Canada; Thomas Ryan, Nipissing University, Canada

Intervention of pretend play on children's self-regulation and language skills

Tanya Paes, University of Cambridge, UK, United Kingdom; Michelle Ellefson, Cambridge University, United Kingdom

Language Skills of Bilingual and Trilingual Students in Canadian French Immersion

Diana Burchell, OISE, University of Toronto, Canada; Bonita Squires, Dalhousie University, Canada; Patricia Cleave, Dalhousie University, Canada; Janani Selvachandran, OISE/University of Toronto, Canada; Xi Chen, OISE/University of Toronto, Canada

Session S: 11

Time: 10:15-11:45

Location: Seminar Room - S07

SINGLE PAPER: METACOGNITION, SELF-REGULATION AND READING COMPREHENSION**Chair**

Jelena Radisic, University of Oslo, Norway

Screen or paper? The effect of reading medium on children's comprehension and meta-comprehension

Vered Halamish, Bar-Ilan University, Israel; Elissa Elbaz, Bar-Ilan University, Israel

Everything is Easy with the Internet! Conditions of Metacognitive Overestimation with Internet Use

Stephanie Pieschl, Technical University of Darmstadt, Germany; Janene Budd, University of Newcastle, Australia

The effect of metacognitive use of learning strategies on student test performance

Eriko Ota, University of Tokyo, Japan; Emmanuel Manalo, Kyoto University, Japan; Natalia Suárez Fernández, University of Oviedo, Spain

Using fNIRS in a Multitrait-multimethod Investigation of Strategic Processing during Reading

Daniel Dinsmore, University of North Florida, United States; Jesse Macyszko, University of North Florida, United States; Sabrina Greene, University of North Florida, United States; Katherine Hooper, University of North Florida, United States

Session S: 12

Time: 10:15-11:45

Location: Seminar Room - S05

SINGLE PAPER: ONLINE MEASURES OF LEARNING PROCESSES**Chair**

Michael Sailer, Ludwig-Maximilians-Universität (LMU), Germany

Integration Specificity: An Investigation of Objective and Open-Ended Assessments

Alexandra List, The Pennsylvania State University, United States

Navigation strategies in multimedia environments in dyslexia: a developmental perspective

Carolien A. N. Knoop-van Campen, Radboud University Nijmegen, Netherlands; Eliane Segers, Radboud University Nijmegen / University of Twente, Netherlands; Ludo Verhoeven, Radboud University Nijmegen, Netherlands

Eye Movements Reflect Musicians' Planning for Local Embellishments during Music Reading

Marjaana Puurtinen, University of Turku, Finland; Erkki Anto, University of Turku, Finland; Anna-Kaisa Ylitalo, Natural Resources Institute Finland, Finland; Erkki Huovinen, Royal College of Music in Stockholm, Sweden; Hans Gruber, University of Regensburg, Germany; Suvi Heinonen, University of Jyväskylä, Finland; Hanna Turta, University of Turku, Finland

Predicting tutorial viewing time from online cognitive states in learning to play a new video game

Julien Mercier, University of Quebec (Montreal), Canada; Ange-Adrienne Nyamen-Tato, Université du Québec à Montréal (UQAM), Canada; Matthieu Martin, Université du Québec à Montréal (UQAM), Canada; Daniel Rivas, Université du Québec à Montréal (UQAM), Canada

Session S: 13

Time: 10:15-11:45

Location: Seminar Room - S02

SINGLE PAPER: TEACHER EFFECTIVENESS**Chair**

Claudia Krille, Goethe University Frankfurt, Germany

Teachers' Theories of Intelligence and Pedagogical Practice in English Secondary Education

Chloe Cutler, Liverpool John Moores University, United Kingdom; Dave Putwain, Liverpool John Moores University, United Kingdom; Andrea Mallaburn, Liverpool John Moores University, United Kingdom; Angela Daly, Liverpool John Moores University, United Kingdom

School resources for teaching: How between-school variance in instructional quality can be explained

Doris Holzberger, Technical University of Munich (TUM), Germany

The Predictive Role of Teacher Emotions in Learner Autonomy Support

Canan Koc, Cumhuriyet Univ. Faculty of Education, Turkey

The Role of Self-Regulatory Preferences in Teachers' Willingness to Innovate

Emely Hoch, Leibniz-Institut für Wissensmedien, Germany; Steffen Schmidgall, Leibniz-Institut für Wissensmedien, Germany; Kai Sassenberg, Leibniz-Institut für Wissensmedien, Germany; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Session S: 14

Time: 10:15-11:45

Location: Seminar Room - S13

SINGLE PAPER: PRE-SERVICE TEACHER AND SCIENCE EDUCATION**Chair**

Lori Lockyer, University of Technology Sydney, Australia

Novice Teachers' Appropriation of Ambitious Teaching Practices for High-Level Student Thinking

Miray Tekkumru-Kisa, Florida State University, United States; Sebnem Atabas, Florida State University, United States; Ryan Coker, Florida State University, United States

Boundary Crossing: Impact of a University-STEM Industry Engagement on Secondary Students in Science

Carol Aldous, Flinders University, Australia

Making theory-practice-connection more visible by using videotaped role-playing in academic settings

Dagmar Festner, University of Paderborn, Germany; Bianca Steffen, University of Paderborn, Germany

Learning to evaluate instructional materials for inquiry-based education by comparing examples

Marco Longhitano, PH Schwyz, Switzerland; Judith Arnold, Schwyz University of Teacher Education, Switzerland; Rachel Schwager, Pädagogische Hochschule Schwyz, Switzerland; Lennart Schalk, PH Schwyz, Switzerland

Session S: 15

Time: 10:15-11:45

Location: Seminar Room - S09

SINGLE PAPER: CULTURAL DIVERSITY IN SCHOOLS**Chair**

Anna-Lena Rottweiler, Augsburg University, Germany

Teacher's perceptions about multilingualism and spontaneous translanguaging during a lesson

Tarja-Riitta Hurme, University of Turku, Finland; Jenni Alisaari, University of Turku, Department of Teacher Education, Finland; Sara Routarinne, University of Turku, Department of Teacher Education, Finland

Teaching in Multicultural Classes: (Prospective) Teachers' Attitudes and Self-Efficacy Beliefs

Andreas Ortenburger, DZHW - German Centre for Research on Higher Education and Science Studies, Germany; Claudia Menge, German Centre for Higher Education Research and Science Studies (DZHW), Germany; Hildegard Schaeper, DZHW - German Centre for Higher Education Research and Science Studies, Germany; Thorsten Euler, German Centre for Higher Education Research and Science Studies (DZHW), Germany

The Relevance of Parental, Peer, and Teacher Support for at-risk Students' School Engagement

Zuzanna M. Preusche, University of Duisburg-Essen, Germany; Kerstin Göbel, University of Duisburg-Essen, Germany

Inter-agency working for inclusive education: Facilitating factors, challenges and impacts

Catarina Leitão, University of Coimbra, Portugal; Joana Guerra, University of Coimbra, Portugal; Clara Barata, University of Coimbra, Portugal

Session S: 16

Time: 10:15-11:45

Location: Seminar Room - S06

SINGLE PAPER: PRIMARY EDUCATION**Chair**

Marwin Felix Löper, Paderborn University, Germany

The Role of Pronounced and Perceived Parental Feedback on Children's Reading Comprehension

Fabian Hoya, Paderborn University, Germany; Frank Hellmich, Paderborn University, Germany

Self-Perceptions and Engagement in Low Socioeconomic Status, Immigrant, and Anxious Students

Vanessa Kurdi, University of Reading, United Kingdom; Isabelle Archambault, Université de Montréal, Canada

Student- and Task-Related Predictors of Students' Perceptions of Cooperative Learning Activities

Jolien Mouw, Rijksuniversiteit Groningen, Dept of Education and GION, Netherlands; Nadira Saab, Leiden University, Netherlands; Ron Pat-El, Open University, Netherlands; Paul Van den Broek, Leiden University FSW, Netherlands

Inclusion: The Parent's view on special educational support in inclusive classrooms

Reto Luder, Zurich University of Teacher Education, Switzerland; Andre Kunz, Zurich University of Teacher Education, Switzerland; Ariane Paccaud, PH Zürich, Switzerland

Session S: 17

Time: 10:15-11:45

Location: Seminar Room - S03

SINGLE PAPER: INSTRUCTIONAL DESIGN IN MULTIMEDIA LEARNING**Chair**

Rosa Hettmannsperger, Goethe-University Frankfurt, Germany

Perceptual influences in graphics processing

Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France; Richard Lowe, Curtin University, Australia

Semantically congruent vision and audition: Impact on perception, long-term memory, and learning

Hauke S. Meyerhoff, Leibniz-Institut für Wissensmedien (IWM), Germany; Stephan Schwan, Leibniz-Institut für Wissensmedien, Germany

Empowering Learners: Teaching a Mental Integration Strategy Supports Learning From Text and Pictures

Björn de Koning, Erasmus University Rotterdam, Netherlands; Gertjan Rop, Erasmus University Rotterdam, Netherlands; Fred Paas, Erasmus University Rotterdam/University of Wollongong, Netherlands

Colour harmony in hypermedia: impact on visual attention and implicit memory

Julien Venni, University of Geneva, Switzerland; Mireille Betrancourt, University of Geneva, Switzerland

Session S: 18

Time: 10:15-11:45

Location: Seminar Room - S15

SINGLE PAPER: CULTURAL DIVERSITY IN SCHOOLS**Chair**

Lenka Schnaubert, University of Duisburg-Essen, Germany

Cultural diversity and Othering: Understanding the dynamics of teachers' discourses

Nikolett Szelei, Instituto de Educação da Universidade de Lisboa, Portugal

A Systematic Review of Chinese-as-an-additional-language Research in Hong Kong from 1997 to 2017

Chun Sum Samuel Tsang, University of Oxford, Hong Kong

The effect of child and parental acculturation on immigrant students' academic achievement

Nanine Lilla, Freie Universität Berlin, Germany; Sebastian Thüner, Freie Universität Berlin, Germany; Wim Nieuwenboom, University of Bamberg, Germany; Marianne Schuepbach, Freie Universität Berlin, Germany

Pre-service Teachers' Learning to Reflect Critically for Culturally Responsive Teaching

Duygu Umutlu, University of Georgia, United States; ChanMin Kim, Penn State University, United States

Session S: 19

Time: 10:15-11:45

Location: Seminar Room - S01

SINGLE PAPER: LIFELONG LEARNING**Chair**

Frank Hellmich, Paderborn University, Germany

Assessing opportunity recognition competence

Chiara Birk, Ludwig-Maximilians-Universität München (LMU), Germany; Susanne Weber, Ludwig-Maximilians-Universität (LMU), Germany; Christine Kreuzer, Ludwig-Maximilians-Universität (LMU), Germany; Yvette Baggen, Utrecht University, Netherlands

Learning through entrepreneurship: towards alignment in 'wide' entrepreneurship education programs

Thomas Lans, Wageningen University and Research Centre, Netherlands; Judith Gulikers, Wageningen University, Netherlands

Measuring task mental models of teams in different domains to capture opportunity recognition

Veronika Anselmann, University of Education Schwäbisch Gmünd, Germany; Andreas Widmann, University of Regensburg, Germany; Regina Mulder, University of Regensburg, Germany

The right measure? Linguistic development through the lifetime

Victoria Johansson, Lund University, Sweden

Session S: 20

Time: 10:15-11:45

Location: Seminar Room - S12

SINGLE PAPER: STUDIES ON MOTIVATION BEYOND PRIMARY EDUCATION**Chair**

Andreas Vorholzer, Justus Liebig University Giessen, Germany

Towards a refined insight in the shifts in adolescents' motivational profiles: A longitudinal study

Joachim Waterschoot, Ghent University, Belgium; Maarten Vansteenkiste, Ghent University, Belgium; Karine Verschueren, KU Leuven, Belgium; Bart Soenens, Ghent University, Belgium

Short-term changes in students' motivations in math-intensive courses and links to academic success

Daria Katharina Benden, TU Dortmund University, Germany; Fani Lauermann, University of Bonn, Germany

Short-term changes in preservice teachers' intrinsic motivation in an educational psychology lecture

Eva Seifried, Heidelberg University, Germany; Eva Bosch, Institute of Psychology - Heidelberg University, Germany; Birgit Spinath, Heidelberg University, Germany

Contextual influences on beginning teachers' professional engagement and satisfaction

Paul Richardson, Monash University, Australia; Helen Watt, The University of Sydney, Australia

Session S: 21

Time: 10:15-11:45

Location: Seminar Room - S14

SINGLE PAPER: EDUCATIONAL PSYCHOLOGY**Chair**

Eva Lindgren, Umeå University, Sweden

Gender Self-concept, Stress, Life Satisfaction, and School Success for New Zealand Adolescents

Penelope Watson, University of Auckland, New Zealand; Valerie Sotardi, University of Canterbury, NZ, New Zealand

Parental control as a protective factor for cyber-victimisation in Secondary Education

Trinidad García, University of Oviedo, Spain; David Álvarez-García, Oviedo University, Spain; Zara Suárez-García, University of Oviedo, Spain; Marisol Cueli, Universidad de Oviedo, Spain

Psychometric Validation of the Grit Questionnaire in a Sample of Adult Distance Education Students

Kate Xu, Welten Institute - Open University of the Netherlands, Netherlands; Celeste Meijs, Open University, Netherlands; Joyce Neroni, Open University of the Netherlands, Netherlands; Jérôme Gijssels, Welten Institute Open University of the Netherlands, Netherlands; Renate de Groot, Open University of the Netherlands, Netherlands

The relationship between problematic smartphone use and students' cognitive lesson avoidance

Arvid Nagel, University of Teacher Education St.Gallen, Switzerland; Horst Biedermann, University of Teacher Education St.Gallen, Switzerland

Session T: 1

Time: 12:00-13:30

Location: Lecture Hall - H11

SIG INVITED SYMPOSIUM: INTRAPERSONAL, INTERPERSONAL, AND SITUATIONAL FACTORS IN FEEDBACK PROCESSING**Chair**

Jan-Willem Stribos, University of Groningen, Netherlands

Organisers

Frans Prins, Utrecht University, Netherlands; Jan-Willem Stribos, University of Groningen, Netherlands

Discussant

Frans Prins, Utrecht University, Netherlands

A preliminary feedback provision and processing model

Jochem Aben, GION (Groningen Institute Research/Education), Netherlands; Filitsa Dingyloudi, University of Groningen, Netherlands; Anneke Timmermans, University of Groningen, Netherlands; Jan-Willem Stribos, University of Groningen, Netherlands

Studying productive feedback through a sociocultural lens

Rachelle Esterhazy, University of Oslo, Norway

Social dimensions of feedback processing: Memory for 'stern' and 'supportive' performance feedback

Naomi Winstone, University of Surrey, United Kingdom

Connecting feedback to self-efficacy: Differences between pre-service and expert teachers

Christopher Neil Prilop, Leuphana University Lueneburg, Germany; Kira Elena Weber, Leuphana University Lueneburg, Germany; Anna Altmann, University of Freiburg, Germany; Matthias Nückles, University of Freiburg, Germany; Marc Kleinknecht, Leuphana University Lueneburg, Germany

Session T: 2

Time: 12:00-13:30

Location: Lecture Hall - H05

SIG INVITED SYMPOSIUM: EMOTIONS IN EDUCATION: STATE OF THE ART, CHALLENGES, AND NEW DIRECTIONS

Chair

Hanke Korpershoek, University of Groningen, Netherlands

Organisers

Hanke Korpershoek, University of Groningen, Netherlands;
Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU),
Germany; Fani Lauermann, University of Bonn, Germany;
Kristina Loderer, Ludwig-Maximilians-Universität (LMU),
Germany

Discussant

Reinhard Pekrun, Ludwig-Maximilians-Universität (LMU),
Germany

Which intra-individual methods reveal, or obfuscate, mixed emotions?

Julia Moeller, Universität Leipzig, Chad

Role, function and temporal manifestation of emotion regulation in collaborative learning

Hanna Jarvenoja, University of Oulu, Finland; Tiina Törmänen, University of Oulu, Finland, Finland; Sanna Järvelä, University
of Oulu, Finland

Emotions, Self-Regulated Learning, and Advanced Learning Technologies

Michelle Taub, University of Central Florida, United States; Roger Azevedo, University of Central Florida, United States

Teacher Emotions: Some new evidence from a quantitative research program

Anne Christiane Frenzel, University of Munich, Germany

Session T: 3

Time: 12:00-13:30

Location: Lecture Hall - H10

SYMPOSIUM: SYSTEMATIC CLASSROOM OBSERVATIONS

Chair

Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Organiser

Tuomo Virtanen, University of Stavanger, Norway, Norway

Discussant

Lars-Erik Malmberg, University of Oxford, United Kingdom

The quality of interactions in arts-related activities

Joana Cadima, University of Porto, Portugal; Mafalda Alvim, University of Porto - Portugal, Portugal; Teresa Aguiar, Faculty of
Psychology and Educational Sciences, University of Porto, Porto, Portugal, Portugal; Carolina Guedes, University of Porto,
Portugal; Cecília Aguiar, ISCTE - Instituto Universitário de Lisboa, Portugal; Clara Barata, University of Coimbra, Portugal

The quality of teacher-child interactions in relation to task-focused behaviors

Eija Pakarinen, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland; Antje von
Suchodoletz, New York University Abu Dhabi, United Arab Emirates

Observed and teacher perceived classroom interactions

Sigrun K. Ertesvåg, University of Stavanger, Norway; Grete Sørensen Vaaland, University of Stavanger, Norway

Observation manuals as lenses into classroom teaching and learning

Kirsti Klette, University of Oslo, Norway; Marte Blikstad-Balas, University of Oslo, Norway; Astrid Roe, University of Oslo,
Faculty of Education, Norway

Session T: 4

Time: 12:00-13:30

Location: Lecture Hall - H06 -
Amazon Hörsaal

SYMPOSIUM: 21ST CENTURY TECHNOLOGY-BASED FORMATIVE AND SUMMATIVE ASSESSMENTS IN HIGHER EDUCATION

Chairs

Sonja Franziska Christina Wenzel, Goethe-Universität
Frankfurt, Germany; Christian Spoden, German Institute for
Adult Education - Leibniz Centre for Lifelong Learning,
Germany

Discussant

Detlev Leutner, University of Duisburg-Essen, Germany

Relationship between students' matriculation examination results and problem-solving competencies

Gyongyver Molnar, University of Szeged, Hungary; Benő Csapó, University of Szeged, Hungary

Development of a formative adaptive assessment and implications for its use in teacher education

Claudia Krille, Goethe University Frankfurt, Germany; Sonja Franziska Christina Wenzel, Goethe-Universität Frankfurt,
Germany; Daniel Bengs, German Institute for International Educational Research (DIPF), Germany; Ulf Kroehne, DIPF,
Germany; Sabine Fabriz, Goethe-Universität Frankfurt, Germany; Paul Libbrecht, German Institute for International
Educational Research (DIPF), Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in
Education, Centre for International Student Assessment (ZIB), Germany; Holger Horz, Goethe-University Frankfurt, Institute of
Psychology, Germany

Online assessment of collaborative problem solving in pairs: Skill levels and quality of interaction

Johanna Pöysä-Tarhonen, University of Jyväskylä, Finland; Päivi Häkkinen, University of Jyväskylä, Finland; Piia Naykki,
University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland

Testing an explanatory model for the intention to use e-exams by the university teaching staff

Aron Fink, Goethe University Frankfurt; Institute of Psychology, Germany; Christian Spoden, German Institute for Adult
Education - Leibniz Centre for Lifelong Learning, Germany; Sebastian Born, Friedrich-Schiller-University Jena, Germany;
Andreas Frey, Goethe-University Frankfurt, Institute of Psychology, Germany; Hanna Köhler, Friedrich-Schiller-University
Jena, Germany

Session T: 5

Time: 12:00-13:30

Location: Lecture Hall - H07

SYMPOSIUM: HOW TO OPTIMIZE RETRIEVAL-BASED LEARNING?

Chair

Julian Roelle, Ruhr-University Bochum, Germany

Organiser

Julian Roelle, Ruhr-University Bochum, Germany

Discussant

Elsbeth Stern, ETH Zurich, Switzerland

Adaptive Testing Increases the Testing Effect

Svenja Heitmann, Ruhr-Universität Bochum, Germany; Axel Grund, University of Bielefeld, Germany; Kirsten Berthold, University of Bielefeld, Germany; Stefan Fries, University of Bielefeld, Germany; Julian Roelle, Ruhr-University Bochum, Germany

Examining the Role of Students' Individual Differences in Retrieval-Based Learning

Christine Bae, Virginia Commonwealth University, United States; Jenni Redifer, Western Kentucky University, United States; Christopher Rivera, Virginia Commonwealth University, United States

The Effects of Generating Test Items with Closed-Book or Open-Book on Retention

Vincent Hoogerheide, Utrecht University, Netherlands; Tino Endres, University of Freiburg, Germany; Ellen Van Dijk, University Utrecht, Netherlands; Alexander Renkl, University of Freiburg, Germany; Tamara Van Gog, Utrecht University, Netherlands

Do Learners Know More About Learning Than we Think? Metacognitive Studies on the Testing Effect

Sophia Weissgerber, Institut für Psychologie, Germany; Ralf Rummer, University of Kassel, Germany

Session T: 6

Time: 12:00-13:30

Location: Lecture Hall - H09

SYMPOSIUM: LEARNING IN INTERNSHIPS AND LEARNING THROUGH PRACTICE – CRUCIAL ASPECTS OF PROFESSIONAL DEVELOPMENT

Chair

Christian Harteis, University of Paderborn, Germany

Discussant

Hans Gruber, University of Regensburg, Germany

Ready to learn in the workplace? Workplace learning readiness in the context of dual learning

Piet Van den Bossche, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium; Eva Kyndt, KU Leuven (BE), Belgium; Bart Wille, Ghent University, Belgium; Jetje deGroof, Antwerp University, Belgium

Internships in dual higher education – learning and working tasks at the workplace

Alexander Brodsky, University of Mannheim, Germany; Juergen Seifried, University of Mannheim, Germany; Gerald Sailmann, Hochschule der Bundesagentur für Arbeit, Germany

Enriching learning through practicums: post-practicum interventions in higher education

Stephen Billett, Griffith University, Australia

Cognitive Styles and Person-Environment Fit in the Context of Work-Based Learning Experiences

Petri Nokelainen, Tampere University, Finland; Heta Rintala, Tampere University of Technology, Finland; Laura Pylväs, University of Tampere, Finland

Session T: 7

Time: 12:00-13:30

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: SUPPORTING TEACHERS' EVIDENCE-BASED PRACTICE: PREREQUISITES, INSTRUCTIONAL APPROACHES AND EDUCATORS

Chair

Katharina Kiemer, Universität Augsburg, Germany

Organiser

Katharina Kiemer, Universität Augsburg, Germany

Discussant

Karen Könings, Maastricht University, Netherlands

An investigation into early career teachers' core beliefs about teaching, knowledge and ability

Leila Ferguson, Kristiania University College, Norway

Pre-service teachers' evidence-based reasoning: appearance, benefits and ways of support

Katharina Kiemer, Universität Augsburg, Germany; Ingo Kollar, University of Augsburg, Germany

Teacher Educators As Brokers For Research Evidence: Attitudes, Current Practice, and Challenges

Annika Diery, Technical University of Munich (TUM), Germany; Anna Horrer, Technical University of Munich, TUM School of Education, Germany; Anne Wiesbeck, TUM School of Education, Germany; Andreas Hetmanek, Technical University of Munich (TUM), Germany; Maximilian Knogler, Technical University of Munich (TUM), Germany; Maria Bannert, Technical University of Munich (TUM), Germany; Tina Seidel, Technische Universität München (TUM), Germany

Effects of transactivity in teacher training: Qualitative analyses of collaborative learning

Robin Stark, Saarland University, Germany; kai wagner, Bildungswissenschaft, Germany; Victoria Egeke, Saarland University, Germany

Session T: 8

Time: 12:00-13:30

Location: Seminar Room - S04

SINGLE PAPER: COMPUTER-ASSISTED LEARNING AND GAMIFICATION**Chair**

Daniel Dinsmore, University of North Florida, United States

Developing Knowledge Building Using Reflective Assessment and Analytics Tools for Low-Achievers

Carol Chan, The University of Hong Kong, Hong Kong; Yubin Yang, Central China Normal University, China; Jan van Aalst, University of Hong Kong, Hong Kong

Epistemic Understanding of Discourse and Knowledge Advance in a Knowledge Building Environment

Yuyao Tong, The University of Hong Kong, China; Carol Chan, The University of Hong Kong, Hong Kong

The role of the Need for Cognitive Closure in technology-enhanced learning

Sven Heimbuch, University of Duisburg-Essen, Germany; Daniel Bodemer, University of Duisburg-Essen, Germany

Gamification of flipped classroom in higher education

Michael Sailer, Ludwig-Maximilians-Universität (LMU), Germany; Maximilian Sailer, University of Augsburg, Germany

Session T: 9

Time: 12:00-13:30

Location: Seminar Room - S12

SINGLE PAPER: ASSESSMENT METHODS AND TOOLS**Chair**

Nina Bonderup Dohn, University of Southern Denmark, Denmark

Student course evaluations: do they mirror students' self-perceived grade level?

Tine Nielsen, University of Copenhagen, Denmark

Designing Computer-Based Tests: Design guidelines from multimedia learning studied with eye tracking

Kim Dirkx, Open University, Netherlands; Claudia Manastirean-Zijlstra, ROC Flevoland, Netherlands; Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands

Simulation-Based Assessment: The Relationship Between Gaze-Tracking and Exam Performance

Andreas Gegenfurtner, University of Passau, Germany; Adam Szulewski, Queen's University, Canada; Rylan Egan, Queen's University, School of Medicine, Dept. of Biomedical and Molecular Science, Canada; Daniel Howes, Queen's University, Department of Emergency Medicine / Critical Care, Canada; Gerhard Dashi, Queen's University, School of Medicine, Canada; Nick McGraw, Queen's University, Canada; Andrew Hall, Queen's University, Department of Emergency Medicine, Canada; Damon Dagnone, School of Medicine, Dept. of Emergency Medicine, Canada; Jeroen Van Merriënboer, Maastricht University, Netherlands

How can modelling examples be used to promote peer feedback? The role of peer discussion

Floris van Blankenstein, Leiden University Medical Center, Netherlands; Paul Steendijk, Leiden University, LUMC Center for Research in Education, Netherlands; Nadira Saab, Leiden University, Netherlands

Session T: 10

Time: 12:00-13:30

Location: Seminar Room - S01

SINGLE PAPER: AT-RISK STUDENTS**Chair**

Reto Luder, Zurich University of Teacher Education, Switzerland

Socioeconomic status, migration background, special education needs and reading competency

Jeffrey DeVries, Technical University of Dortmund, Germany; Carsten Szardenings, Technische Universität Dortmund, Germany; Philipp Doebl, Technische Universität Dortmund, Germany; Markus Gebhardt, TU Dortmund, Germany

Early reading intervention – a promising way to reduce inequity in education?

Oddny Judith Solheim, The Norwegian Reading Centre, Norway; Jan Frijters, Brock University, Canada; Kjersti Lundetræ, Norwegian Reading Centre, University of Stavanger, Norway; Per Henning Uppstad, Norwegian Reading Center, Norway

The buffering effect of parent and teacher support on working memory after social rejection

Dieter Baeyens, KU Leuven, Belgium; Loren Vandenbroucke, KU Leuven, Belgium; Karine Verschueren, KU Leuven, Belgium; Jantine Spilt, KU Leuven, Belgium

Stimulating language learning through song-based interventions

Vera Busse, Universität Koblenz Landau, Germany; Jana Jungclaus, University of Oldenburg, Germany; Ingo Roden, Carl von Ossietzky University Oldenburg, Germany; Frank Russo, Ryerson University, Canada; Gunter Kreutz, University of Oldenburg, Germany

Session T: 11

Time: 12:00-13:30

Location: Seminar Room - S02

SINGLE PAPER: TEACHER EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Christian SEBASTIÁN, Pontificia Universidad Católica de Chile, Chile

Teaching financial literacy – investigating teachers' knowledge of context

Mattias Björklund, Stockholm University, Sweden

Structured Observational Feedback Instrument (SOFI) - An instrument to observe academic feedback

Vanessa Pieper, University of Vechta, Germany; Frederike Bartels, University of Vechta, Germany

TEACHERS' WORK-RELATED STRESS AND COPING STRATEGIES

Anna-Mari Aulén, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Thinking Tomorrow's Teacher Education: Professional Development for Culturally Responsive Teaching

Wai Ming Cheung, The University of Hong Kong, Hong Kong; Yanli Huang, The University of Hong Kong, Hong Kong

Session T: 12

Time: 12:00-13:30

Location: Seminar Room - S09

SINGLE PAPER: TOUCH AND COMPASSION IN EDUCATIONAL INTERACTIONS**Chair**

Robyn Gillies, The University of Queensland, Australia

Compassionate touch in responding to young children's distress in a Japanese preschool

Matthew Burdelski, Osaka University, Japan

Student-to-student touch as constructing togetherness in classroom interaction

Pilvi Heinonen, University of Helsinki, Finland; Liisa Tainio, University of Helsinki, Finland; Ulla Karvonen, University of Helsinki, Finland

Compassionate touch in adult-child interaction: Soothing responses to children's pain distress

Asta Cekaite, dept. of Child studies, Linköping university, Sweden; Annukka Pursi, University of Helsinki, Finland; Disa Bergnehr, University of Borås, Sweden

Educators' embodied management of children's distress in kindergarten social interaction

Antti Rajala, University of Helsinki, Finland; Jaakko Hilppö, University of Helsinki, Finland; Lasse Lipponen, University of Helsinki, Finland

Session T: 13

Time: 12:00-13:30

Location: Seminar Room - S15

SINGLE PAPER: LEARNING, TEACHING AND INSTRUCTION**Chair**

Ulrich Riegel, University of Siegen, Germany

Teachers' career entry motivations: A comparative study from India, Spain, Finland, and England

Sindu George, Monash University, Australia; Gloria Gratacos, C.U. Villanueva, Spain; Jaana Viljaranta, University of Eastern Finland, Finland; John Thornby, University of Warwick, United Kingdom; Ilpo Jappinen, University of Eastern Finland, Finland; Jingoo Kang, University of Eastern Finland, Finland; David Mendez, University of Villanueva, Spain; Graciela Salazar, University of Villanueva, Spain

The Development and Consistency of Cognitive and Non-Cognitive School Effectiveness Criteria

Luisa Grützmacher, DIPF | Leibniz Institute for Research and Information in Education, Germany; Johannes Hartig, German Institute for International Educational Research (DIPF), Germany; Svenja Vieluf, German Institute for International Educational Research (DIPF), Germany

Are high-IQ students more at risk of school failure?

Ava Guez, Ecole Normale Supérieure, France; Hugo Peyre, Robert Debré Hospital, AHP, France; Marion Le Cam, Direction de l'Evaluation, de la Prospective et de la Performance (DEPP), Ministère de l'Education Nationale, France; Nicolas Gauvrit, Ecole Pratique des Hautes Etudes, France; Franck Ramus, Ecole Normale Supérieure, France

Writing in the 21st century – global educational discourse about writing

Eva Lindgren, Umeå University, Sweden

Session T: 14

Time: 12:00-13:30

Location: Seminar Room - S14

SINGLE PAPER: TEACHING AND TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Kathryn Bartimote-Aufflick, The University of Sydney, Australia

Principals' supportive leadership for teachers' professional learning communities

Julia Isabella Warwas, University of Goettingen, Germany; Christoph Helm, Johannes Kepler University Linz, Austria; Christian Schadt, Georg-August-Universität Göttingen, Germany

Participatory action research as a way to innovate mathematics and science teaching

Shirley Miedijensky, Oranim Academic College of Education, Shamir Research Institute - University of Haifa, Israel; Irit Sasson, Tel-Hai College, Shamir Research Institute - University of Haifa, Israel

Validating video cases that support PD facilitators in noticing productive teacher learning

Bettina Roesken-Winter, Humboldt-Universität zu Berlin, Germany; Sven Schüler, Humboldt-Universität zu Berlin, Germany

Teachers' individual and collective innovative behaviour: a review study

Stefan Robbers, Open University Netherlands, Netherlands; Arnoud T. Evers, Open Universiteit, Netherlands; Marjan Vermeulen, Heerlen Open Universiteit, Netherlands

Session T: 15

Time: 12:00-13:30

Location: Seminar Room - S13

SINGLE PAPER: MOTIVATION AND EDUCATIONAL PSYCHOLOGY**Chair**

Guillermo Solano-Flores, Stanford University, United States

Does the provision of written grades and report cards reinforce the Big-fish-little-pond effect?

Moritz Fleischmann, University of Tübingen, Germany; Nicolas Hübner, University of Tübingen, Germany; Herb Marsh, Australian Catholic University, Australia; Ulrich Trautwein, University of Tübingen, Germany; Benjamin Nagengast, Eberhard Karls Universität Tübingen, Germany

Linking Inter- and Intrapersonal Attribution Theory to Explain Teachers' Response to Student Failure

Michael Evers, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany; Fani Lauermann, University of Bonn, Germany

Analyzing activating instructional arrangements with the Unified Model of Task-specific Motivation

Cornelis de Brabander, Leiden University, Netherlands; Folke Glastra, Leiden University, Netherlands; Kim Stroet, Leiden University, Netherlands

Motivational Development of Ability-Grouped Gifted Students: A 9-year Longitudinal Study

Franz Preckel, University of Trier, Germany; Isabelle Schmidt, University of Trier, Germany

Session T: 16

Time: 12:00-13:30

Location: Seminar Room - S03

SINGLE PAPER: EXPERIMENTAL STUDIES IN MULTIMEDIA LEARNING**Chair**

Bas Kollöffel, University of Twente, Netherlands

Verbal Cueing: Enhancing Attention on and the Learning of Low-Salient Pictorial Elements

Manuel Knoos, Leibniz-Institut für Wissensmedien, Germany; Manuela Glaser, Leibniz-Institut für Wissensmedien, Germany; Stephan Schwan, Leibniz-Institut für Wissensmedien, Germany

Gaze Replays and Retrospective Protocols to Uncover Cognitive Processes During Multimedia Learning

Irene Skuballa, Open University of the Netherlands, Netherlands; Simon Büttner, University of Tübingen, Germany

Prior Knowledge predicts effects of Graphics and Signals when learning with Multiple Representations

Melina Klepsch, Ulm University, Germany; Tina Seufert, Ulm University, Germany

Learning the Specifics of Changes: When Animations are Superior to Static Pictures

Sandra Berney, University of Geneva, Switzerland; Rolf Ploetzner, Institute of Psychology, Germany; Mireille Betrancourt, University of Geneva, Switzerland

Session T: 17

Time: 12:00-13:30

Location: Seminar Room - S05

SINGLE PAPER: WRITING IN PRIMARY EDUCATION**Chair**

Margarida Romero, Laboratoire d'Innovation et Numérique pour l'Education, France

Effects of gender and beliefs on leisure writing activities in children

Lisa Birnbaum, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; Elisabeth M. Schüller, Leibniz Institute for Educational Trajectories (LIfBi) Bamberg, Germany; Stephan Kroener, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany

Correlates of handwriting automaticity at school entry

Camilla Lausund Fitjar, University of Stavanger, Norway; Guido Nottbusch, University of Potsdam, Germany; Mark Torrance, Nottingham Trent University, United Kingdom; Vibeke Rønneberg, University of Stavanger, Norway

Writing texts because you 'want' or because you 'must'? A self-determination theory perspective

Fien De Smedt, Ghent University, Belgium; Steve Graham, Arizona State University, United States; Hilde Van Keer, Ghent University, Belgium

Writing and reading in Year 1: The role of handwriting automaticity and writing instruction

Deborah Pino-Pasternak, University of Canberra, Australia; Anabela Malpique, Murdoch University, Australia, Australia

Session T: 18

Time: 12:00-13:30

Location: Seminar Room - S07

SINGLE PAPER: EDUCATIONAL TECHNOLOGY AND TECHNOLOGY-ENHANCED LEARNING AND INSTRUCTION**Chair**

Salam Kodsí, Alqasemi College, Israel

Vicarious learning with agent-based models: When is it effective?

Ilana Dubovi, Ben-Gurion University of the Negev, Israel; Victor Lee, Utah State University, United States

Effectiveness of the Flipped Classroom in K-12 Education: A Meta-Analysis

Marlene Wagner, University of Passau, Germany; Andreas Gegenfurtner, University of Passau, Germany; Detlef Urhahne, University of Passau, Germany

Uniting Two Dissimilar Siblings: Introducing Fuzziness to PISA's Machine-Supported Coding System

Fabian Zehner, DIPF | Leibniz Institute for Research and Information in Education, Germany; Frank Goldhammer, DIPF | Leibniz Institute for Research and Information in Education, Centre for International Student Assessment (ZIB), Germany; Kentaro Yamamoto, Educational Testing Service, United States

Metacognitive scaffolds in collaborative video annotation and analytics for deep and social learning

Elizabeth Koh, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Jennifer Pei-Ling Tan, National Institute of Education/Nanyang Technological University, Singapore, Singapore; Christin Jonathan, National Institute of Education/Nanyang Technological University, Singapore, Singapore

Session T: 19

Time: 12:00-13:30

Location: Lecture Hall - H08

SINGLE PAPER: TEACHING AND INSTRUCTION IN HIGHER EDUCATION**Chair**

Roger Säljö, University of Gothenburg, Sweden

University-Business Cooperation and Work-Related Learning in Higher Education: students' perspectives

Daniela Frison, University of Florence, Italy; Concetta Tino, University of Padua, Italy; Monica Fedeli, University of Padova, Italy

Analyzing conditions of successful private tutoring with longitudinal data from Germany

Karin Guill, Leibniz Institute for Science and Mathematics Education, Germany; Melike Oemerogullari, Leibniz Institute for Science and Mathematics Education, Germany; Olaf Koeller, Leibniz Institute for Science and Mathematics Education, Germany

Learning to Teach in Higher Education: Supporting Transfer through Authentic Activities?

Barbara Beege, Ludwig-Maximilians-Universität (LMU), Germany; Julia Murböck, Ludwig-Maximilians-Universität (LMU), Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

What's the Use of Lectures? A Meta-Analysis

Maja Flaig, University of Trier, Germany; Tobias Heltemes, University of Trier, Germany; Michael Schneider, University of Trier, Germany

Keynotes - PART 3: 1

Time: 13:45-15:15

Location: Lecture Hall - H02 -
Trivago Hörsaal**EARLI KEYNOTE SESSION: MOTIVATION AND SELF-REGULATED LEARNING: INTRODUCING STRATEGY MOTIVATION AND INFORMATION REGULATION****Chair**

Marold Wosnitza, RWTH Aachen University, Germany

Motivation and Self-Regulated Learning: Introducing Strategy Motivation and Information Regulation

Stuart Karabenick, University of Michigan, United States

Keynotes - PART 3: 2

Time: 13:45-15:15

Location: Lecture Hall - H01

EARLI KEYNOTE SESSION: PRODUCTS, PROCESSES, PSYCHOLOGY, & TECHNOLOGY: QUO VADIS EDUCATIONAL ASSESSMENT?**Chair**

Patricia A. Alexander, University of Maryland, United States

Products, Processes, Psychology, & Technology: Quo Vadis Educational Assessment?

Gavin Brown, University of Auckland, New Zealand

Keynotes - PART 3: 3

Time: 13:45-15:15

Location: Lecture Hall - H03 - Otto
Fuchs Hörsaal**EARLI KEYNOTE SESSION: THE ROLE OF WRITING IN EDUCATION****Chair**

Debra Myhill, University of Exeter, United Kingdom

The Role of Writing in Education

Synnøve Matre, Norwegian University of Science and Technology, Norway

Session U: 1

Time: 15:30-17:00

Location: Seminar Room - S16

SIG INVITED SYMPOSIUM: NON-COGNITIVE EFFECTS OF INSTRUCTIONAL INTERVENTIONS IN APPLIED DOMAINS.**Chair**

Martin Merkt, Deutsches Institut für Erwachsenenbildung (DIE), Germany

Organisers

Martin Merkt, Deutsches Institut für Erwachsenenbildung (DIE), Germany; Jean-Michel Boucheix, University of Dijon, LEAD-CNRS, France

Discussant

Erno Lehtinen, University of Turku, Finland

Learning from an applied online learning platform: Insights into Tuebingen's Sectio Chirurgica

Johannes Großer, Leibniz Institut für Wissensmedien, Germany; Martina Bientzle, Leibniz-Institut für Wissensmedien, Germany; Thomas Shiozawa, University of Tuebingen, Germany; Bernhard Hirt, University of Tuebingen, Germany; Joachim Kimmerle, Leibniz-Institut für Wissensmedien, Germany

Dynamic vs. static tutorials for learning to operate software: both work!

Mireille Betrancourt, University of Geneva, Switzerland; Kristina Pankov, University of Geneva, Switzerland

The development of self-efficacy for negotiating during a four-day simulation of decision-making.

Sofie Vermeiren, University Antwerp, Belgium; Dorothy Duchatelet, University of Antwerp, Belgium; David Gijbels, University of Antwerp, Belgium

The Effects of Problem-Based, Project-Based, and Case-Based Learning on Motivation: A Meta-Analysis.

Lisette Wijnia, HZ University of Applied Sciences & Erasmus University Rotterdam, Netherlands; Gera Noordzij, Erasmus School of Social and Behavioural Sciences, Erasmus University Rotterdam, Netherlands; Lidia Arends, Erasmus School of Social and Behavioural Sciences, Erasmus University Rotterdam, Netherlands; Remy Rikers, Utrecht University, Netherlands; Sofie Loyens, University College Roosevelt, Netherlands

Session U: 2

Time: 15:30-17:00

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: FINDING PURPOSE IN EDUCATION – A PERSPECTIVE OF PROFESSIONALS**Chair**

Alexander Unser, TU Dortmund University, Germany

Organiser

Elina Kuusisto, University of Humanistic Studies, Netherlands

Discussant

Doret de Ruyter, University of Humanistic Studies, Netherlands

How do Finnish teachers' life goals actualize in their profession?

Elina Kuusisto, University of Humanistic Studies, Netherlands; Kirsi Tirri, University of Helsinki, Finland

Critical or positive effects of a religious calling to teach? A study among evangelical teachers

Sebastian Röhl, University of Education Freiburg, Germany; Manfred L. Pirner, University of Erlangen-Nuremberg, Germany

Finnish Social Services Students' Perceptions of Purpose and Helping

Niina Manninen, University of Helsinki, Finland; Elina Kuusisto, University of Humanistic Studies, Netherlands; Kirsi Tirri, University of Helsinki, Finland

Purposeful visions for the future - School leaders formulating aims for education

Jorien Copier, Radboud University, Netherlands

Session U: 3

Time: 15:30-17:00

Location: Lecture Hall - H10

SYMPOSIUM: RELIGIOUS AND SECULAR PLURALITY AND RE CLASSROOM INTERACTION IN FINLAND, GERMANY AND SWEDEN**Chair**

Martin Ubani, University of Eastern Finland, Finland

Discussant

Ina ter Avest, VU University Amsterdam/Inholland University of Applied Sciences Amsterdam, Netherlands

Is it a question of religion at all? Finnish students experiences of integrated RE classrooms.

Martin Ubani, University of Eastern Finland, Finland

Addressing Religion and Secularity in German Catholic Education. An Analysis on Videotaped Lessons

Ulrich Riegel, University of Siegen, Germany; Sarah Dellling, University Siegen, Germany

RE classroom research and hidden curricula in Sweden

Christina Osbeck, University of Gothenburg, Sweden

Divergent opinions and controversial issues in the Religious Education classroom practice

Karin K Flensner, University West, Sweden

Session U: 4

Time: 15:30-17:00

Location: Lecture Hall - H07

SYMPOSIUM: BEYOND SFON: EXPANDING EXAMINATIONS OF SPONTANEOUS MATHEMATICAL FOCUSING TENDENCIES**Chair**

Jake McMullen, University of Turku, Finland

Organisers

Lieven Verschaffel, KU Leuven, Belgium; Jake McMullen, University of Turku, Finland

Discussant

Matthew Inglis, Loughborough University, United Kingdom

Four-year olds' Spontaneous Focusing On Patterns

Lieven Verschaffel, KU Leuven, Belgium; Nore Wijns, KU Leuven, Belgium; Bert De Smedt, KU Leuven - University of Leuven, Belgium; Joke Torbeyns, KU Leuven, Belgium

The effects of perceptual salience on attention to number

Michele Mazzocco, University of Minnesota, United States; Jenny Chan, University of Minnesota, United States

Interrelations among Relational Reasoning, Spontaneous Focus on Math Properties and Math Performance

Patricia A. Alexander, University of Maryland, United States; Zhao Hongyang, University of Maryland, United States; Yuting Sun, University of Maryland, United States

The effects of first school years on mathematical skill profiles

Minna M Hannula-Sormunen, University of Turku, Finland; Cristina Nanu, University of Turku, Finland; Eero Laakkonen, University of Turku, Finland

Session U: 5

Time: 15:30-17:00

Location: Lecture Hall - H09

SYMPOSIUM: PERSON-ENVIRONMENT CONGRUENCE AND RELATED CONSTRUCTS AS PREDICTORS OF CAREER CHOICES AND BEHAVIOR**Chair**

Manuela Paechter, University of Graz, Austria

Organiser

Silke Luttenberger, University of Teacher Education Styria, Austria

Discussant

Elena Makarova, University of Basel, Switzerland

Measures for evaluating congruency of students' interests and their vocational aspirations

Bernhard Ertl, Universität der Bundeswehr München, Germany

Congruence and differentiation as predictors of changes in career choices among adolescents

Silke Luttenberger, University of Teacher Education Styria, Austria; Gernot Dreisiebner, University of Graz, Austria; Michaela Stock, School of Business Economics and Social Sciences, Austria; Georg Tafner, University of Teacher Education Styria, Austria; Manuela Paechter, University of Graz, Austria

Early stages of careers: Using vocational interests to predict person-environment fit at university

Jakob Bergmann, Johannes Kepler University Linz, Linz School of Education, Austria; Smirna Malkoč, Johannes Kepler University Linz, Austria

Are children a sum of mom and dad? Evaluating intergenerational interest patterns

Florian G. Hartmann, University of the Bundeswehr Munich, Germany; Jutta von Maurice, Leibniz Institute for Educational Trajectories (LIfBi), Germany

Session U: 6

Time: 15:30-17:00

Location: Lecture Hall - H08

SYMPOSIUM: PERSPECTIVES FOR UNDERSTANDING - AND DESIGNING FOR - TRANSFER**Chair**

Nina Bonderup Dohn, University of Southern Denmark, Denmark

Organisers

Nina Bonderup Dohn, University of Southern Denmark, Denmark; Michael Jacobson, The University of Sydney, Australia

Discussant

Peter Reimann, University of Sydney, Australia

Analyzing Knowledge Transfer across Contexts as Situated Attunement to Contextual Possibilities

Nina Bonderup Dohn, University of Southern Denmark, Denmark

Designing for Transfer as Situated Readiness

Roland Hachmann, University Southern Denmark, Denmark; Nina Bonderup Dohn, University of Southern Denmark, Denmark

Going digital at the age of two -Transfer, cognitive socialization and the hybrid mind

Roger Säljö, University of Gothenburg, Sweden

Transfer as an Emergent Phenomenon: A Complexity Perspective

Stig Børsen Hansen, University of Southern Denmark, Denmark; Michael Jacobson, The University of Sydney, Australia

Session U: 7

Time: 15:30-17:00

Location: Lecture Hall - H06 -
Amazon Hörsaal**SYMPOSIUM: THE HIDDEN CURRICULUM IN DOCTORAL EDUCATION****Chair**

Søren Bengtsen, Aarhus University, Denmark

Organiser

Søren Bengtsen, Aarhus University, Denmark

Discussant

Kirsi Pyhältö, University of Oulu / University of Helsinki, Finland

Exposing the hidden curriculum in international doctoral contexts

Dely Elliot, University of Glasgow, United Kingdom

Balancing peer-support and early career workload: reasonable boundaries of peer-mentoring

Sofie Kobayashi, University of Copenhagen, Denmark; Kay Guccione, University of Sheffield, United Kingdom

The treasure is hidden among peers

Camilla Østerberg Rump, University of Copenhagen, Denmark; Sofie Kobayashi, University of Copenhagen, Denmark; Olga Trolle, University of Copenhagen, Denmark

The hidden curriculum in doctoral education – Beyond academia and into society

Søren Bengtsen, Aarhus University, Denmark; Cally Guerin, University of Adelaide, Australia

Session U: 8

Time: 15:30-17:00

Location: Lecture Hall - H11

SYMPOSIUM: CLASSROOM TALK THAT PROMOTES STUDENT LEARNING, PARTICIPATION, AND COMMUNICATION**Chairs**

Chiel vander Veen, VU University Amsterdam, Netherlands;
Anke Wischgoll, University of Fribourg (CH), Switzerland

Discussant

Christa Asterhan, Hebrew University of Jerusalem, Israel

What forms of teacher-student dialogue and active student participation are productive for learning?

Sara Hennessy, University of Cambridge, United Kingdom; Neil Mercer, University of Cambridge, United Kingdom; Elisa Calcagni, University of Cambridge, United Kingdom; Alvin Leung, University of Cambridge, United Kingdom; Joyce Lim, University of Cambridge, United Kingdom

The Respectful Talk model: critical thinking through dialogue – effects on pupils at risk

Chiel vander Veen, VU University Amsterdam, Netherlands; Marjee J. Davies, The University of Auckland, New Zealand; Katharina Kiemer, Universität Augsburg, Germany

Prompting for accountability – how to foster students to contribute to math classroom discussions

Anke Wischgoll, University of Fribourg (CH), Switzerland; Miriam Schmid, University of Freiburg, Switzerland; Miriam Moser, University of Fribourg, Switzerland; Matthias Zimmermann, University of Fribourg, Switzerland; Kurt Reusser, University of Zurich, Switzerland; Christine Pauli, University of Fribourg, Switzerland

Dialogic classroom talk in early childhood education: Effects on communication and social skills

Chiel vander Veen, VU University Amsterdam, Netherlands; Femke van der Wilt, VU Amsterdam, Netherlands

Session U: 9

Time: 15:30-17:00

Location: Lecture Hall - H05

SYMPOSIUM: FROM KNOWLEDGE TO ACTING: APTITUDE AND QUALIFICATION IN DIAGNOSING AND PROMOTING TEACHING COMPETENCY**Chair**

Matthias Baer, University of Education Zurich / University of Zurich, Switzerland

Organiser

Matthias Baer, University of Education Zurich / University of Zurich, Switzerland

Discussant

Judith Gulikers, Wageningen University, Netherlands

Structuring in Lesson Planning As a Prerequisite for Classroom Management

Matthias Krepf, Universität zu Köln/ University of Cologne, Germany; Johannes König, University of Cologne, Germany

Potentials of Cognitive Activation in Classrooms – Findings of a Video Study in Switzerland

Doreen Holtsch, University of Teacher Education St.Gallen, Switzerland; Juergen Seifried, University of Mannheim, Germany

Teachers' Formative Assessment in Videographed Lessons in Relation to Their Knowledge and Beliefs

Merle Ruelmann, University of Teacher Education of Lucerne, Switzerland; Sandra Zulliger, Institute for Diversity in Education, Switzerland; Buholzer Alois, Institute for Diversity in Education, Switzerland; Matthias Baer, University of Education Zurich / University of Zurich, Switzerland; Andrea Häfliger, University of Teacher Education of Lucerne, Switzerland; Hanni Lötscher, PH Luzern, Switzerland; Loredana Torchetti, University of Teacher Education of Lucerne, Switzerland

Teachers' Personality Aspects and Their Impact on Developing Competences for High Quality Teaching

Mirjam Kocher, University of Education Zurich, Switzerland; Anna Locher, FHNW / University of Cologne, Switzerland; Matthias Baer, University of Education Zurich / University of Zurich, Switzerland

Session U: 10

Time: 15:30-17:00

Location: Seminar Room - S11

WORKSHOP: EXPLORING HOW TO GUIDE EFFECTIVE STUDENT QUESTIONING**Chair**

Christopher Osterhaus, Ludwig-Maximilians-Universität (LMU), Germany

Exploring How to Guide Effective Student Questioning

Harry Stokhof, HAN University of Applied Sciences (UAS), Netherlands

Session U: 11

Time: 15:30-17:00

Location: Seminar Room - S06

WORKSHOP: SHARING OUR EXPERIENCES OF PUTTING INTERDISCIPLINARY THEORY INTO (HANDS-ON) EDUCATIONAL PRACTICE**Chair**

Kerstin Baeuerlein, University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

Sharing our experiences of putting interdisciplinary theory into (hands-on) educational practice

Katrine Lindvig, University of Copenhagen, Denmark; Merel van Goch, Institute for Cultural Inquiry, Utrecht University, Netherlands; Michael BURKE, Utrecht University, Netherlands

Session U: 12

Time: 15:30-17:00

Location: Seminar Room - S15

WORKSHOP: GET INSPIRATION FOR SCALABLE DESIGN IN OPEN ONLINE EDUCATION**Chair**

Tarja-Riitta Hurme, University of Turku, Finland

Get Inspiration for Scalable Design in Open Online Education

Julia Kasch, Welten Institute - Open University of the Netherlands, Netherlands; Peter van Rosmalen, Maastricht University, Netherlands; Marco Kalz, Heidelberg University of Education Institute for Arts, Music and Media, Germany

Session U: 13

Time: 15:30-17:00

Location: Seminar Room - S14

WORKSHOP: EMBEDDING EMPLOYABILITY DEVELOPMENT ACROSS HIGHER EDUCATION**Chair**

Julien Mercier, University of Quebec (Montreal), Canada

Embedding employABILITY development across higher education

Dawn Bennett, Curtin University, Australia

Session U: 14

Time: 15:30-17:00

Location: Seminar Room - S01

WORKSHOP: SOCIO-EMOTIONAL AND MATERIAL LEARNING (SEMLA) ACTIVITY-BASED WORKSHOP FOR EARLY CHILDHOOD EDUCATION**Chair**

Xavier Fontich, Autonomous University of Barcelona, Spain

Socio-Emotional and Material Learning (SEMLA) Activity-based workshop for early childhood education

Anna Palmer, Stockholm University, Sweden; Teresa Elkin Postila, Stockholm University, Sweden

Session U: 15

Time: 15:30-17:00

Location: Seminar Room - S02

WORKSHOP: ENHANCING A MASTERY-GOAL ORIENTATION IN TEACHER EDUCATION.**Chair**

Andrea Ximena Castano, National University of Education, Ecuador

Enhancing a mastery-goal orientation in teacher education.

Marjon Fokkens-Bruinsma, University of Groningen, Netherlands; Els van Rooij, University of Groningen, Netherlands; Esther Canrinus, University of Agder, Norway

Session U: 16

Time: 15:30-17:00

Location: Seminar Room - S10

WORKSHOP: SOCIAL NETWORK ANALYSIS IN EDUCATIONAL RESEARCH: WHEN, WHY AND HOW?**Chair**

Detlef Urhahne, University of Passau, Germany

Social network analysis in educational research: when, why and how?

Jasperina Brouwer, University of Groningen, Netherlands; Dominik Froehlich, University of Vienna, Austria

ANNOTATIONS:

PARTICIPANTS ARE REQUESTED TO BRING THEIR OWN LAPTOP WHEN ATTENDING THIS SESSION.

Session U: 17

Time: 15:30-17:00

Location: Seminar Room - S12

WORKSHOP: RESEARCH SKILLS IN HIGHER EDUCATION. A TOOL FOR ITERATIVE RESEARCH IN PROFESSIONAL PRACTICES.**Chair**

Mathias Mejeh, University of Bern, Switzerland

Research Skills in Higher Education. A tool for iterative research in professional practices.

Miriam Losse, Saxion University of Applied Sciences, Netherlands; Koen Van Turnhout, Hogeschool van Arnhem en Nijmegen/HAN University, Netherlands

Session U: 18

Time: 15:30-17:00

Location: Seminar Room - S03

ICT DEMONSTRATION: CONCEPTUALIZING AND DESIGNING A FLIPPED CLASSROOM IN A HIGER EDUCATION LARGE STATISTICS LECTURE.**Chair**

Ina Blau, Open University of Israel, Israel

Conceptualizing and Designing a Flipped Classroom in a Higer Education Large Statistics Lecture.

Andreas Maur, Johannes Gutenberg-Universitaet Mainz, Germany; Kirsten Winkel, University of Mainz, Germany; Manuel Förster, Johannes Gutenberg University Mainz, Germany; Florian Heiss, Heinrich-Heine-University of Düsseldorf, Germany; Sigbert Klink, Humboldt-University Berlin, Germany; Constantin Weiser, Johannes Gutenberg-Universitaet, Germany

ANNOTATIONS:

PARTICIPANTS ARE REQUESTED TO BRING THEIR OWN LAPTOP WHEN ATTENDING THIS SESSION.

Session U: 19

Time: 15:30-17:00

Location: Seminar Room - S05

SYMPOSIUM: INVESTIGATING AND FOSTERING HISTORICAL LEARNING ACTIVITIES AT LOWER/UPPER SECONDARY SCHOOL LEVELS**Chair**

Jannet van Drie, University of Amsterdam, Netherlands

Organisers

Martin Nitsche, Civic Education and History Education, Switzerland; Monika Waldis, University of Applied Sciences Northwestern Switzerland, Switzerland

Discussant

Holger Thünemann, University of Cologne, Historical Institute, Germany

Fostering students' skills to formulate authentic historical research questions

Nicola Brauch, University of Bochum, Germany; Lena Beherendt, University of Bochum, Germany

Fostering visual literacy in secondary school: Critical reasoning about historical images

Kevin van Loon, PH FHNW, Switzerland; Monika Waldis, University of Applied Sciences Northwestern Switzerland, Switzerland

Writing about Historical Significance: Differences between Novices and Experts

Johan van Driel, University of Amsterdam, Netherlands; Jannet van Drie, University of Amsterdam, Netherlands; Carla Van Boxtel, University of Amsterdam, Netherlands

Fostering historical writing in upper secondary schools: Results of an intervention study

Martin Nitsche, Civic Education and History Education, Switzerland; Monika Waldis, University of Applied Sciences Northwestern Switzerland, Switzerland; Kristine Gollin, University of Applied Sciences Northwestern Switzerland, Switzerland

Session V: 1

Time: 17:15-18:45

Location: Lecture Hall - H11

SIG INVITED SYMPOSIUM: NEW APPROACHES TO OLD ISSUES – NEW METHODOLOGIES CAST NEW LIGHT UPON WELL-KNOWN EDUCATIONAL CONCEPTS**Chair**

Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands

Organiser

Halszka Maria Jarodzka, Open University of the Netherlands, Netherlands

Discussant

Ellen Kok, Utrecht University, Netherlands

Using eye tracking to assist teaching reading in schools

Howell Istance, University of Tampere, Finland; Oleg Spakov, Tampere University, Finland; Harri Siirtola, University of Tampere, Finland; Kari-Jouko Räihä, University of Tampere, Finland; Hanna-Maija Sinkkonen, University of Turku, Finland; Anne Hällfors, Sibelius Academy of the University of Arts Helsinki, Finland

Multiple person mobile eye tracking in natural environments: Heatmaps and gaze synchrony graphs

Markku Hannula, University of Helsinki, Finland

Predicting knowledge gain during multimodal Web search by means of query and navigation logs

Yvonne Kammerer, Knowledge Media Research Center, Germany

Cognitive Load Eye Tracked. Microsaccadic and Pupillary Responses to Task Difficulty

Krzysztof Krejtz, SWPS University of Social Sciences and Humanities, Poland; Andrew T. Duchowski, Clemson University, United States; Izabela Krejtz, SWPS University of Social Sciences and Humanities, Poland; Justyna Żurawska, SWPS University of Social Sciences and Humanities, Poland; Anna Niedzielska, SWPS University of Social Sciences and Humanities, Poland; Cezary Biele, Information Processing Institute, Poland; Donald House, Clemson University, United States

Session V: 2

Time: 17:15-18:45

Location: Lecture Hall - H10

SYMPOSIUM: MODELS OF TEACHER PROFESSIONAL DEVELOPMENT TO SUPPORT CLASSROOM DIALOGUE: STRUGGLES AND SUCCESSES**Chair**

Sara Hennessy, University of Cambridge, United Kingdom

Organiser

Sara Hennessy, University of Cambridge, United Kingdom

Discussant

Jonathan Osborne, Stanford University, United States

T-SEDA: A flexible research-informed PD approach to teacher inquiry into dialogue

Ruth Kershner, University of Cambridge Faculty of Education, United Kingdom; Sara Hennessy, University of Cambridge, United Kingdom; Jane Tilson, University of Otago, New Zealand; Benzi Slakmon, Hebrew University, Israel; Elisa Calcagni, University of Cambridge, United Kingdom; Laura Kerslake, University of Cambridge, UK, United Kingdom; Farah Ahmed, University of Cambridge, England, United Kingdom; Helen Trevethan, University of Otago, New Zealand; Susan Sandretto, University of Otago, New Zealand; Sarah Seleznyov, Southwark Teaching Schools Alliance, United Kingdom

Sustainability of scaffolding student argumentation: a follow-up study of an in-service program

Baruch Schwarz, Hebrew University of Jerusalem, Israel; Irit Cohen, The Hebrew University of Jerusalem, Israel

Issues arising from the multi-site implementation of a school-run dialogic pedagogy program

Sara Hennessy, University of Cambridge, United Kingdom; Elisa Calcagni, University of Cambridge, United Kingdom

Designing a model of professional development to support teachers' facilitation of argumentation

Ian A.G. Wilkinson, University of Auckland, New Zealand; Alina Reznitskaya, Montclair State University, United States

Session V: 3

Time: 17:15-18:45

Location: Lecture Hall - H06 - Amazon Hörsaal

SYMPOSIUM: CONCEPTUALIZING, ASSESSING, EXPLAINING AND FOSTERING SCIENTIFIC REASONING SKILLS**Chair**

Jan Elen, KU Leuven, Belgium

Organiser

Louise Maddens, KU Leuven, Belgium

Discussant

Tina Seufert, Ulm University, Germany

Scientific Reasoning and Argumentation as Engagement in Epistemic Activities

Christopher Osterhaus, Ludwig-Maximilians-Universität (LMU), Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Evaluating the Leuven Research Skills Test

Louise Maddens, KU Leuven, Belgium; Fien Depaepe, KU Leuven, Belgium; Rianne Janssen, KU LEUVEN, Belgium; Annelies Raes, imec-ITEC-KU Leuven Centre for Instructional Psychology and -Technology, Belgium; Jan Elen, KU Leuven, Belgium

Unraveling scientific reasoning: explaining children's performance in constituent skills.

Erika Schlatter, Radboud University, Netherlands; Ard Lazonder, Radboud University, Netherlands; Inge Molenaar, Radboud University, Netherlands; Noortje Janssen, Radboud University, Netherlands

Reading scientific articles: facilitating evaluation of structured briefs of scientific literature

Katharina Engelmann, Technical University of Munich (TUM), Germany; Andreas Hetmanek, Technical University of Munich (TUM), Germany; Birgit J. Neuhaus, LMU Munich, Germany; Frank Fischer, Ludwig-Maximilians-Universität (LMU), Germany

Session V: 4

Time: 17:15-18:45

Location: Lecture Hall - H07

SYMPOSIUM: DESIGN RESEARCH FOR TEACHING THE ABILITY TO ANALYSE IN SOCIAL SCIENCE EDUCATION**Chair**

Malin Tväråna, Stockholm University, Sweden

Organiser

Cecilia Lundholm, Stockholm University, Sweden

Discussant

Alexandra List, The Pennsylvania State University, United States

Authentic assessment of students' reasoning about social problems

Carla Van Boxtel, University of Amsterdam, Netherlands; Anne Hemker, Cito Arnhem, Netherlands; Thomas Klijnsma, University of Amsterdam, Netherlands; Gerard Ruijs, University of Amsterdam, Netherlands

Qualitative differences in the ability to analyse – the example of the Mediterranean refugee crisis

Ann-Sofie Jägerskog, Stockholm University, Sweden; Malin Tväråna, Stockholm University, Sweden; Max Strandberg, Stockholm University, Sweden; Mattias Björklund, Stockholm University, Sweden; Bodil Kåks, City of Stockholm, Sweden; Anita Dalman, Värmdö municipality, Sweden

What's the value of water? Developing the ability to analyse economic issues in social studies

Mattias Björklund, Stockholm University, Sweden; Malin Tväråna, Stockholm University, Sweden; Ann-Sofie Jägerskog, Stockholm University, Sweden; Max Strandberg, Stockholm University, Sweden; Eva Malmqvist, City of Stockholm, Sweden; Jan Norevik, Ekerö municipality, Sweden; Lena Olin, Ekerö municipality, Sweden; Linda Karlander, Ekerö municipality, Sweden

Theories of justice in primary school: Developing students' critical analyses in social studies

Malin Tväråna, Stockholm University, Sweden

Session V: 5

Time: 17:15-18:45

Location: Lecture Hall - H05

SYMPOSIUM: EMOTION-ELICITING EVENTS IN TEACHER-STUDENT INTERACTIONS**Chairs**

Astrid Poorthuis, Utrecht University, Netherlands; Helma Koomen, Research Institute of Child Development and Education, Netherlands

Discussant

Anne Christiane Frenzel, University of Munich, Germany

The Role of Teacher-Student Interactions for Beginning Teachers' Emotions: Results of a Diary Study

Karen Aldrup, Leibniz Institute for Science and Mathematics Education, Germany; Uta Klusmann, Leibniz Institute for Science and Mathematics Education (IPN), Germany

Teachers' Emotions And Wellbeing: The Interpersonal Nature and Relevance of High Heart Rate Events

Monika Donker, Utrecht University, Netherlands; Mariska van den Hove, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands; Tim Mainhard, Utrecht University, Netherlands

Teachers' Appraisals and Emotions in Daily Events with Students Varying in Externalizing Behavior

Janneke de Ruiter, University of Amsterdam, Netherlands; Astrid Poorthuis, Utrecht University, Netherlands; Helma Koomen, Research Institute of Child Development and Education, Netherlands

Reflection on Specific Events: A Multiple Case Intervention Study With Teachers in Special Education

Tessa Weyns, KU Leuven, Belgium; Anne-Katrien Koenen, KU Leuven, Belgium; Annet de Vroey, KU LEUVEN, Belgium; Geert Kelchtermans, KU LEUVEN, Belgium; Jantine Spilt, KU Leuven, Belgium

Session V: 6

Time: 17:15-18:45

Location: Lecture Hall - H08

SYMPOSIUM: TEACHER-CHILD INTERACTION IN PRE-SCHOOL AND ITS EFFECTS ON CHILDREN'S LEARNING**Chair**

Andrea Wullschlegel, University of Zurich, Switzerland

Discussant

Kathrin Krammer, University of Teacher Education Lucerne, Switzerland

Effective Teaching Practices and Children's Learning Growth in Early Mathematics Education

Lara Pohle, Humboldt-Universität zu Berlin, Germany; Lars Jenßen, Freie Universität Berlin, Germany; Georg Hosoya, Freie Universität Berlin, Germany; Katja Eilerts, Humboldt-Universität zu Berlin, Germany; Sigrid Blömeke, University of Oslo, Norway

Pre-school teachers' learning support and its effects on children's numerical competence

Andrea Wullschlegel, University of Zurich, Switzerland; Susanne Kuratli Geeler, Pädagogische Hochschule St.Gallen, Switzerland; Anuschka Meier-Wyder, Hochschule für Heilpädagogik Zürich, Switzerland; Aiso Heinze, Leibniz Institute for Science and Mathematics Education (IPN), Germany; Miriam Leuchter, University of Koblenz - Landau, Germany; Anke Lindmeier, Leibniz Institute of Science and Mathematics Education (IPN), Germany; Franziska Vogt, University of Teacher Education St.Gallen, Switzerland; Elisabeth Moser Opitz, University of Zurich, Switzerland

Quantitative and qualitative aspects of educational dialogue: effects on early science learning

Anika Bürgermeister, University of Leipzig, Germany; Gerlind Grosse, Early Childhood Education Research, Germany; Ueli Studhalter, Pädagogische Hochschule Luzern, Switzerland; Miriam Leuchter, University of Koblenz - Landau, Germany; Henrik Saalbach, University of Leipzig, Germany

Development of pre-academic skills and motivation in preschool classroom quality profiles

Jenni Salminen, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Anna-Maija Poikkeus, Department of Teacher Education, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Session V: 7

Time: 17:15-18:45

Location: Lecture Hall - H09

SYMPOSIUM: FOSTERING STUDENTS' (META-)COGNITION IN DIGITAL LEARNING SCENARIOS**Chair**

Ines Deibl, University of Salzburg, Austria

Organisers

Ines Deibl, University of Salzburg, Austria; Stephanie Moser, Technical University of Munich, Germany

Discussant

Joerg Zumbach, University of Salzburg, Austria

Supporting digital Science Education with Pedagogical Agents

Ines Deibl, University of Salzburg, Austria; Joerg Zumbach, University of Salzburg, Austria

Self-Regulation in Flipped Classrooms – A Study on Learning Process, Outcomes and Experiences

Stephanie Moser, Technical University of Munich, Germany; Doris Lewalter, Technical University of Munich (TUM), Germany; Tanja Thurner, Technical University of Munich, Germany; Albin Muff, Bayerische Bereitschaftspolizei, Germany

Can External Artificial Agents Impact Learners' Self-Regulation During Complex Multimedia Learning?

Roger Azevedo, University of Central Florida, United States; Michelle Taub, University of Central Florida, United States; Megan J. Price, University of Central Florida, United States

Improving self-efficacy and self-concept with a serious game: the importance of in-game feedback

Susanne Narciss, TU Dresden, Germany; Felix Kapp, Technische Universität Berlin, Germany; Pia Spangenberg, Technische Universität Berlin, Germany

Session V: 8

Time: 17:15-18:45

Location: Lecture Hall - H04 - Knorr-Bremse Hörsaal

SYMPOSIUM: THE RELEVANCE OF STUDENT FEEDBACK IN TEACHER EDUCATION AND TEACHING PRACTICE**Chair**

Corinne Wyss, Zurich University of Teacher Education, Switzerland

Organiser

Kerstin Göbel, University of Duisburg-Essen, Germany

Discussant

Jonathan Schweig, RAND Corporation, United States

Using Students' Feedback to Improve Pre-Service Teachers' Aspects of Quality of Teaching

Georg Krammer, University College of Teacher Education Styria, Austria; Barbara Pflanzl, University College of Teacher Education Styria, Austria; Gerlinde Lenske, Universität Koblenz-Landau, Germany; Marlies Matischek, University College of Teacher Education Styria, Austria; Petra Hecht, Pädagogische Hochschule Vorarlberg, Austria; Elisabeth Seethaler, Salzburg University of Education Stefan Zweig, Austria; Johannes Mayr, Alpen Adria Universität Klagenfurt, Austria

Does Smartphone-Assisted Student Feedback Affect Teaching Quality?

Hannah Bijlsma, Fac. of Behavioural Sciences, University of Twente, Netherlands; Adrie Visscher, Univ. of Twente, Netherlands

The Perception of Student Feedback to Teachers: Perspectives of Pupils, Teachers and Peers

Corinne Wyss, Zurich University of Teacher Education, Switzerland; Meike Raaflaub, Pädagogische Hochschule Zürich, Switzerland

Attitudes of Pre-Service and In-Service Teachers Towards Student Feedback and Reflection

Kerstin Göbel, University of Duisburg-Essen, Germany; Katharina Neuber, University of Duisburg-Essen, Germany

Session V: 9

Time: 17:15-18:45

Location: Seminar Room - S03

SINGLE PAPER: METACOGNITION**Chair**

Erhan Sinay, Toronto District School Board, Canada

Metacognitive awareness among university and secondary school students

Marloes Nederhand, Erasmus University Rotterdam, Netherlands; Huib Tabbers, Erasmus University Rotterdam, Netherlands; Anique de Bruin, Maastricht University, Netherlands; Remigius (Remy) Rikers, UCR / Utrecht University, Netherlands

Learning Behavior Change: the Role of Narratives

Luotong Hui, Maastricht University, Faculty of Health, Medicine and Life Sciences, Netherlands; Anique de Bruin, Maastricht University, Netherlands; Jeroen Donkers, Maastricht University, Netherlands; Jeroen Van Merriënboer, Maastricht University, Netherlands

Assessing Metacognition in the Learning Process: Construction of the Inventory MILP

Inka Haehnlein, Martin Luther University Halle-Wittenberg, Germany; Pablo Pirnay-Dummer, Martin Luther University Halle-Wittenberg, Germany

The effect of structuring versus reflection-provoking support on students' shared regulation

Liesje De Backer, Ghent University, Belgium; Hilde Van Keer, Ghent University, Belgium; Martin Valcke, Ghent University, Belgium

Session V: 10

Time: 17:15-18:45

Location: Seminar Room - S01

SINGLE PAPER: PRE-SERVICE TEACHER EDUCATION AND PHENOMENOGRAPHY**Chair**

Natalia Albornoz, Pontificia Universidad Católica de Chile, Chile

Coherence in the context of organizational development – Teacher educators' perceptions

Katharina Hellmann, University of Education Freiburg, Germany; Stefanie Vigerske, University of Education Freiburg, Germany

Attitudes towards the applicability of scientific knowledge in educational practice

Lisa Stark, Saarland University, Germany; Robin Stark, Saarland University, Germany

Beginner Teachers' conceptions of a successful lesson: structure and implications

Guy Durden, University College London, United Kingdom

Pre-service teachers' learning of how to teach specific content in a learning study

Joakim Torång Magnusson, University of Gothenburg, Sweden; Angelika Kullberg, University of Gothenburg, Sweden

Session V: 11

Time: 17:15-18:45

Location: Seminar Room - S15

SINGLE PAPER: EDUCATIONAL PSYCHOLOGY**Chair**

Lillian Liu, The University of Hong Kong, Hong Kong

A Meta-Analysis on Goal Structures and Personal Achievement Goals

Lisa Bardach, University of York, Department of Education, United Kingdom; Marko Lüftenegger, University of Vienna, Austria; Sophie Oczlon, University of Vienna, Austria; Jakob Pietschnig, University of Vienna, Austria

Does congruency of an instructional video's setting with the test setting improve test performance?

Martin Merkt, Deutsches Institut für Erwachsenenbildung (DIE), Germany; Sabrina Lux, Leibniz-Institut für Wissensmedien, Germany; Vincent Hoogerheide, Utrecht University, Netherlands; Tamara Van Gog, Utrecht University, Netherlands; Stephan Schwan, Leibniz-Institut für Wissensmedien, Germany

Epistemic Principles to Evaluate Theories of Learning and Instruction

Clark Chinn, Rutgers University, United States; Mikko Kainulainen, University of Turku, Finland

Can eye see what you did? Effects of signaling on the interpretation of dynamic gaze displays

Margot van Wermeskerken, Erasmus Medical Center, Netherlands; Juliane Richter, Leibniz-Institut für Wissensmedien, Germany; Tamara Van Gog, Utrecht University, Netherlands; Katharina Scheiter, Leibniz-Institut für Wissensmedien, Germany

Session V: 12

Time: 17:15-18:45

Location: Seminar Room - S09

SINGLE PAPER: TEACHING AND TEACHER EDUCATION**Chair**

Judith Warren Little, University of California, Berkeley, United States

Does Quality of Mathematics Teaching Depend on the Applied Rating Instrument

Esther Brunner, Pädagogische Hochschule Thurgau, Switzerland

Benefits and Drawbacks of the Teacher Echo: Findings from a Video Study

Dettef Urhahne, University of Passau, Germany; Chunjie Zhu, University of Passau, Germany; Marlene Wagner, University of Passau, Germany

How students' reading skills associate with teachers' reading instruction in Grade 1 classrooms?

Jenni Ruotsalainen, University of Jyväskylä, Finland; Eija Pakarinen, University of Jyväskylä, Finland; Anna-Maija Poikkeus, University of Jyväskylä, Finland; Marja-Kristiina Lerkkanen, University of Jyväskylä, Finland

Measuring scaffolding-interaction in authentic classroom environments

Hanna Mach, Goethe-Universität Frankfurt, Germany; Rico Hermkes, Goethe-Universität Frankfurt, Germany; Gerhard Minnameier, Goethe-Universität Frankfurt, Germany

Session V: 13

Time: 17:15-18:45

Location: Seminar Room - S06

SINGLE PAPER: TEACHER PROFESSIONAL DEVELOPMENT**Chair**

Christian Tarchi, University of Florence, Italy

Understanding collaborative learning of mathematics through positioning theory

Sonia Felix, Institute of Education, University of Lisbon Portugal, Portugal

Potential Influencing Factors for Teachers' Self-Efficacy Beliefs concerning Inclusive Education

Frank Hellmich, Paderborn University, Germany; Marwin Felix Löper, Paderborn University, Germany; Margarita Knickenberg, University of Bielefeld, Germany

Ethical school leadership in Estonia and Finland: Multiple case studies of exemplar principals

Eve Eisenschmidt, Tallinn University, Estonia; Elina Kuusisto, University of Humanistic Studies, Netherlands; Katrin Poom-Valickis, Tallinn University, Estonia; Kirsii Tirri, University of Helsinki, Finland

Development profiles: How teachers' collaborative attitudes, knowledge and skills improve?

Niina Impiö, University of Oulu, Finland; Pirkko Siklander, University of Oulu, Finland; Sanna Järvelä, University of Oulu, Finland

Session V: 14

Time: 17:15-18:45

Location: Seminar Room - S04

SINGLE PAPER: FACILITATING PRODUCTIVE CLASSROOM CONVERSATIONS IN COMPUTER-SUPPORTED LEARNING ACTIVITIES**Chair**

Sarah Howard, University of Wollongong, Australia

Developing a model for teacher professional digital competence

Annika Lantz-Andersson, University of Gothenburg, Sweden; Mona Lundin, Göteborg university, Sweden; Ewa Skantz Åberg, University of Gothenburg, Sweden; Pia Williams, Göteborg university, Sweden

Teaching and learning in a technology-rich makerspace: The meaning of social objects

Kristiina Kumpulainen, University of Helsinki, Finland; Anu Kajamaa, University of Helsinki, Finland; Antti Rajala, University of Helsinki, Finland

Interactive whiteboard activities as means for facilitating productive whole-class conversations

Kenneth Silseth, University of Oslo, Faculty of Education, Norway; Anniken Furberg, University of Oslo, Norway

Facilitating participation in productive class dialogues with educational microblogging

Ingvill Rasmussen, University of Oslo, Norway; Ole Smørdal, Department of Education, Norway; Paul Warwick, University of Cambridge, United Kingdom; Jo Inge Johansen Frøyttlog, University of Oslo, Norway; Victoria Cook, University of Cambridge, UK, United Kingdom; Louis Major, University of Cambridge, United Kingdom

Session V: 15

Time: 17:15-18:45

Location: Seminar Room - S13

SINGLE PAPER: ANTECEDENTS OF STUDENTS' EMOTIONS**Chair**

Christine Rubie-Davies, University of Auckland, New Zealand

The impact of TBL on enhancing emotions and learning engagement of university students

Lan YANG, The Education University of Hong Kong, Hong Kong

Boredom and online multiple-text comprehension in primary school

Daniela Raccanello, University of Verona, Italy; Elena Florit, University of Padova, Italy; Margherita Brondino, University of Verona, Italy; Lucia Mason, University of Padova, Italy

Effects of learning environments on students' achievement emotions

Lara Forsblom, ISPA - Instituto Universitário de Ciências Psicológicas, Sociais e da Vida, Portugal; Francisco Peixoto, ISPA - Instituto Universitário / CIE - ISPA (Research Center in Education), Portugal

The effect of students' feedback beliefs on learning-related emotions: A control-value perspective

Kate Xu, Welten Institute - Open University of the Netherlands, Netherlands; Lan YANG, The Education University of Hong Kong, Hong Kong

Session V: 16

Time: 17:15-18:45

Location: Seminar Room - S05

SINGLE PAPER: APPROACHES FOR INTEGRATION OF REFUGEES IN EDUCATION IN HOST COUNTRIES**Chair**

Ron Pat-El, Open University, Netherlands

The role of social and cultural capital in the education of newcomer English learners

Rabia Hos, University of Rhode Island, United States

Free digital education for migrants and refugees in Europe: views from learners and stakeholders

Jonatan Castaño, European Commission - Joint Research Centre, Spain

Specific Factors for Refugees Dropping Out of an Online Study Program

Roland Happ, Johannes Gutenberg University Mainz, Germany; Franziska Reinhardt, Johannes Gutenberg-Universität Mainz, Germany; Olga Zlatkin-Troitschanskaia, Johannes Gutenberg-Universität Mainz, Germany; Sarah Nell-Mueller, Johannes Gutenberg-Universität, Germany

Student Support in the Context of MOOC-based Online Education for Refugees

Patricia Arnold, Munich University of Applied Sciences, Germany; Belma Halkic, Munich University of Applied Sciences, Germany

Session V: 17

Time: 17:15-18:45

Location: Seminar Room - S14

SINGLE PAPER: LEARNING ANALYTICS**Chair**

Koula Charitonos, The Open university UK, United Kingdom

Profiles of learning activity emotions: how boredom and enjoyment stand out

Dirk Tempelaar, Maastricht University, Netherlands

Learning analytics: The paradox of compassionate teaching

Marion Blumenstein, University of Auckland, New Zealand; Steve Leichtweis, The University of Auckland, New Zealand

Self-regulation in 429 Math exercises over seven weeks of learning; a cluster analysis

Bart Rienties, Open University, United Kingdom; Dirk Tempelaar, Maastricht University, Netherlands; Quan Nguyen, Open University, United Kingdom; Allison Littlejohn, Open University, United Kingdom

Logfile and protocol-based analysis of domain-specific problem-solving processes

Felix Walker, Technical University of Kaiserslautern, Germany; Andrea Faath-Becker, Technical University of Kaiserslautern, Germany

Session V: 18

Time: 17:15-18:45

Location: Seminar Room - S10

SINGLE PAPER: SELF-REGULATION**Chair**

Caroline Mansfield, University of Notre Dame Australia, Australia

How do students learn? Learning Strategies and Motivation

Anne Frieda Doris Kittel, Ulm University, Germany; Ulrike Nett, Augsburg University, Germany; Lisa Respondek, Ulm University, Germany; Tina Seufert, Ulm University, Germany

A transitional academic year to higher education: challenges, experiences and strategies at the FYUP

Javier Fernández, Universidad Autonoma de Madrid, Spain; Ernesto Panadero, Universidad Autónoma de Madrid, Spain; Daniel García, Universidad Europea de Madrid, Spain

Do Friends have Similar Levels of Academic Motivation at School? A Social Network Study.

Laura Burgess, University of Reading, United Kingdom; Carolyn McNabb, University of Reading, United Kingdom; Patricia Riddell, University of Reading, United Kingdom; Amy Fancourt, BrainCanDo Centre for Research, Queen Anne's School, United Kingdom; Kou Murayama, University of Reading, United Kingdom

Perceived autonomy support as multifaceted environmental antecedent of achievement emotions

Stefan Markus, University of Wuppertal, Germany