



LEAD

Graduate School & Research Network

LEAD Retreat

Program

October 18-20, 2023
Herrenberg, Germany

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN





Wednesday, October 18th, 2023

Day 1

Time	Topic		Place	
	Public Transport to Herrenberg			
08:15am – 09:00am	Arrival at the Retreat Venue & Coffee and Pretzels		<i>Gartensaal, hallway</i>	
09:00am – 09:30am	Welcome and Introduction <i>by LEAD Co-Directors</i>		<i>Gartensaal</i>	
09:30am – 10:15am	<u>New Members' Presentations</u>		<i>Gartensaal</i>	
10:15am – 10:30am	Organizational Information about the Retreat <i>by LEAD Scientific Coordination</i>		<i>Gartensaal</i>	
10:45am – 11:45am	<u>Developmental Insights from Temporal Patterns of Impacts of Educational Interventions</u> <i>Keynote by Drew Bailey</i>		<i>Gartensaal</i>	
12:00pm – 01:00pm	Lunch		<i>Dining Area</i>	
01:00pm – 02:00pm	Group Picture and Social Walk <i>Benedikt Gottschlich</i>		<i>Meeting Point Reception</i>	
02:15pm – 03:15pm	<u>PhD and Postdoc Talks</u>		<i>Cf. Appendix</i>	
03:15pm – 04:15pm	<u>Poster Fair</u> with Coffee		<i>Gartensaal, hallway</i>	
04:30pm – 05:45pm	<u>So What is Situated About Situated Expectancy-Value Theory?</u> <i>Keynote by Jacquelynne Eccles & Allan Wigfield</i>		<i>Gartensaal</i>	
06:00pm – 07:00pm	Dinner (Randomised Seating Order)		<i>Dining Area</i>	
07:00pm – 08:00pm	PhD Assembly	Postdoc Assembly	<i>Gartensaal</i>	<i>Steingart</i>
08:15pm – O.E.	Social Event <i>PhD Representatives & New PhD Candidates</i>		<i>tba</i>	

Thursday, October 19th, 2023

Day 2

Time	Topic	Place
07:00am – 07:30am	Morning Run <i>Wy Ming Lin</i>	<i>Reception</i>
07:00am – 08:45am	Breakfast	<i>Dining Area</i>
09:00am – 10:00am	<u>Elusive Inclusion: Towards AI Based Interventions to Promote Inclusivity in Digitally Mediated Team Environments</u> <i>Keynote by Nia Nixon</i>	<i>Gartensaal</i>
10:00am – 11:00am	<u>Poster Fair</u> with Coffee	<i>Gartensaal, hallway</i>
11:00am – 12:00pm	<u>LEAD Association Research Talks</u> <i>New Members Research Presentations*</i>	<i>s. Appendix</i>
12:00pm – 01:00pm	Lunch (<i>Randomised Seating Order</i>)	<i>Dining Area</i>
01:00pm – 02:00pm	Social Walk <i>Benedikt Gottschlich</i>	<i>Meeting Point: Reception</i>
02:00pm – 03:00pm	<u>Promotion of Spontaneous Learning and Reasoning Strategies</u> <i>Keynote by Emmanuel Manalo</i>	<i>Gartensaal</i>
03:00pm – 04:30pm	<u>Special Interest Groups</u> with Coffee	<i>s. Appendix</i>
04:30pm – 06:00pm	<u>PhD and Postdoc Talks</u>	<i>s. Appendix</i>
06:00pm – 07:00pm	Dinner	<i>Dining Area</i>
08:00pm – O.E.	Social Gathering <i>PhD Representatives & New PhD Candidates</i>	<i>tba</i>

*Newly associated LEAD members give a maximum 8-minute presentation on their research.

Friday, October 20th, 2023

Day 3

Time	Topic	Place
7:00am	Yoga <i>Salome Flegr & Salome Wagner</i>	<i>Gartensaal</i>
07:00am – 08:45am	Breakfast & Check-Out	<i>Dining Area Reception</i>
09:00am – 10:00am	<u>Individual Agency and Societal Structuring of Life Course and Social Mobility</u> <i>Keynote by Jutta Heckhausen</i>	<i>Gartensaal</i>
10:00am – 11:00pm	<u>Poster Fair</u> with Coffee	<i>Gartensaal, hallway</i>
11:00am – 12:00pm	<u>PhD and Postdoc Talks</u>	<i>s. Appendix</i>
12:15pm – 12:30pm	Wrap-Up	<i>Gartensaal</i>
12:30pm – 13:30pm	Lunch	<i>Dining Area</i>
	Public Transport to Return Home	

Organisational Notes

Venue

Tagungshotel am Schlossberg
Hildrizhauser Straße 29
71083 Herrenberg

LEAD Info Point

During the event, our **LEAD Info Point** located in the foyer will be open to answer any question and make your stay as comfortable as possible.

Rooms

Please check-in at the reception. **Check-in** time for the bedrooms is usually from **02:00 pm**. You are welcome to ask at reception if your room is ready earlier. **Check-out** time is before **09:00 am** at the hotel reception. You can leave your **luggage in the entrance area or foyer**, which will be our luggage room on Wednesday and Friday.

Wifi

Free Wifi is available in the entire building and with the ID: "Tagungshotel" and the password "Diakonie".

Seating Order

To provide an opportunity for you to get more familiar with all LEAD members, there will be a randomised seating order for the **dinner on Wednesday** and the **lunch on Thursday**. Please look for the place card with your name and enjoy an inspiring meal with your colleagues.

Beverages

Mineral water will be provided throughout the retreat. Coffee, tea and snacks will be provided during coffee breaks. We ask that you pay for all other drinks (especially during evening sessions) at the reception before you leave.

Travel Reimbursement

We kindly ask for your understanding that LEAD cannot pay a daily allowance (Tagegeld). Public transportation is the primary mode of transport. LEAD will reimburse your travel expenses (2nd class/economy). If your office is located in Tübingen, LEAD will not reimburse travel costs for other transportation (car, taxi etc.), except in justifiable cases. After the event you will receive more information including documents for the reimbursement.

Program Notes

Poster Fairs

For the poster fair, the PhD candidates prepare posters and present their PhD projects in 2-5 minutes to small groups of other LEAD members and guests. Everyone is invited to ask questions or make comments.

Keynote Speech

Distinguished national and international guests are invited to give a talk about keynote topics. Everyone attending the retreat and especially our PhD candidates should make use of the opportunity to interact with the guests during coffee breaks and social activities.

Special Interest Groups

The so called “Special Interest Groups” (SIGs) give everyone the opportunity to discuss an individual topic with a smaller group of people to give or receive feedback (e.g. new research projects; new research idea; third party funding or any other proposals).

LEAD Association Research Talks

The so called “LEAD Association Research Talks” replace the “traditional LEAD interview” and take place during the LEAD Retreat. New members present their research or research plans briefly (max. 8 minutes, including Q&A); in parallel sessions to participants at the retreat.

Wednesday, October 18th, 2023

New Members' Presentations

Name	Status
Aenne Brielmann	Postdoc
Alexander Soemer	Postdoc
Alexandr Ten	Postdoc
Benjamin Goecke	Postdoc
Björn Rudzewitz	Postdoc
Blazej Baczkowski	Postdoc
Ida Malini Syvertsen	PhD Candidate
Ina Müller	Scientific Coordination
Jana Kemmler	PhD Candidate
Marei Beukman	PhD Candidate
Michel Walz	PhD Candidate
Mihwa Lee	PhD Candidate
Nele Theuer	PhD Candidate
Şeyma Gülen	Postdoc



Wednesday, October 18th, 2023

Speakers

10:45am – 11:45am

Developmental Insights from Temporal Patterns of Impacts of Educational Interventions
by Drew Bailey



Drew Bailey's research focuses on understanding the developmental processes underlying stability and change in children's academic achievement and on the medium- and long-term effects of educational interventions. His current work attempts to use psychological theories and methods to build models to improve the accuracy of predictions about the medium and long-term effects of educational interventions.

04:30pm – 05:45pm

So What is Situated About Situated Expectancy-Value Theory? by Jacquelynne Eccles & Allan Wigfield



Jacquelynne S. Eccles is the Distinguished Professor of Education at the University of California, Irvine and formerly the McKeachie/Pintrich Distinguished University Professor of Psychology and Education at the University of Michigan, as well as Senior Research Scientist and Director of the Gender and Achievement Research Program at the Institute for Social Research at the University of Michigan. Over the past 30 years, Professor Eccles has conducted research on a wide variety of topics including gender-role socialization, teacher expectancies, classroom influences on student motivation, and social development in the family and school context. One of the leading developmental scientists of her generation, she has made seminal contributions to the study of achievement-related decisions and development. Most notably, her expectancy-value theory of motivation and her concept of stage-environment have served as perhaps the most dominant models of achievement during the school years, contributing to extensive research and reform efforts to improve the nature of secondary school transitions. Professor Eccles also has been a major figure in the study of after-school activities, authoring a seminal National Research Council report that outlined the most effective ways for such activities to meet the developmental needs of adolescents.



Allan Wigfield is Professor Emeritus and Distinguished-Scholar Teacher at the University of Maryland and an Honorary Professor of Psychology at the University of Heidelberg, Germany. He also is a Distinguished International Guest Professor at the University of Tübingen. His research focuses on the development of children's achievement motivation and the development of intervention programs to enhance different-aged students' motivation. He has authored more than 180 journal articles and book chapters on children's motivation and other topics and won numerous awards for his research, including most recently the prestigious 2019 Sylvia Scribner Award from Division C of the American Educational Research Association. Dr. Wigfield's work has been cited over 93,000 times.

Wednesday, October 18th, 2023

Poster Fair
03:15pm – 4:15pm

Name	Title of Poster
Heike Russ	Fostering Inquiry Learning by Explaining and Drawing
Fabienne Kremer	Implementing a Spatial Thinking Intervention into Practice: Do the Effects Persist?
Anne Eppinger	ExFunKi: Physical Activity and Executive Functions in Preschoolers
Tosca Daltoè	What Is the Rating Based on? Gaze Behavior and Open Reflections on Teaching Quality of Preservice Teachers in Different Video Environments
Leona Colling	Reconciling Adaptivity and Task Orientation in the Student Dashboard of an Intelligent Language Tutoring System
Wy Ming Lin	Setting Higher Goals: Project Proposal
Darina Izhboldina	Effects of pedagogical agents on learning outcomes
Katrin Kunz	Developing, Validating, and Implementing a Mental Model Test for Primary School Students
Amedeo Viccari	Developing and testing a videogame for history classes - Limes
Hannah Deininger	Using Behavioral Trace Data and Explainable AI to Better Understand the Link Between Personal Traits and Academic Performance via Learning Behavior
Siling Guo	Examining the Effectiveness of Playful Math Games on Adding Fractions

Wednesday, October 18th, 2023

PhD & Postdoc Talks
02:15pm – 03:15pm

Name	Title of Talk	Place
Gabe Avakian Orona	(Self-)Reporting for Duty: Validity Issues of Self-Report Scales Across Measurement Paradigms	Gartensaal
Julia Lange	Fostering Elementary Students' Scientific Reasoning and Motivation to Engage in Science: Conceptualization and Evaluation of a Face-to-Face and Online Citizen Science Intervention	Room Steingart
Benedikt Gottschlich	Does Using Real-World Contexts Improve Learning? Final Results of Field Study	Room Ehbühl
Benjamin Goecke	Measuring Cognitive Ability From Young Age: Development and Validation of a New Working Memory Capacity Test Battery for Children	Room Bromberg

Please view the next page for further information about the talks.

Wednesday, October 18th, 2023

PhD & Postdoc Talks
02:15pm-03:15pm

Gartensaal

(Self-)Reporting for Duty: Validity Issues of Self-Report Scales Across Measurement Paradigms *by Gabe Avakian Orona (Postdoc)*

Self-reports are commonly used to measure a slew of educational and psychological variables, many of which are employed to support theories and make real-world decisions. However, recent work has shown that the popular means of validating scores obtained from self-reports cannot be relied upon to make accurate inferences regarding measurement quality. The current paper further illuminates the self-report–validity tension by introducing two instruments—developed under two different measurement paradigms—both of which are intended to measure the same construct using self-report methods. A comparison ensues that juxtaposes the item generation process, response scales, psychometric indices, and predictive utility. We find that the two scales are largely independent of one another, both at the total scale score and item level. Furthermore, when compared across external criteria, stark differences were found across demographic groups, as well as affective, behavioral, and cognitive variables. Finally, we discuss how different philosophies of measurement might interpret the results, highlighting the promise of a pragmatic perspective, while providing some practical implications for future research utilizing these instruments.

Room Steingart

Fostering Elementary Students' Scientific Reasoning and Motivation to Engage in Science: Conceptualization and Evaluation of a Face-to-Face and Online Citizen Science Intervention *by Julia Lange (PhD)*

This PhD project is about the conceptualization and evaluation of a face-to-face and an online citizen science intervention for elementary school students taking part in an enrichment program for talented and gifted students in southwest Germany (Hector Children's Academy Program). Citizen science projects engage students in real scientific research projects and as such, might provide authentic learning opportunities to foster their scientific reasoning and motivation to engage in science. In this talk, I present (1) our theoretical change model and the results of two randomized controlled field trials that investigated the efficacy (2) of a face-to-face citizen science intervention and (3) an asynchronous online course, in which citizen science participation was varied between the intervention and control group.

Wednesday, October 18th, 2023

**PhD & Postdoc Talks
02:15pm – 03:15pm**

Room Ehbühl

Does Using Real-World Contexts Improve Learning? Final Results of Field Study *by Benedikt Gottschlich (PhD)*

Learners tend to perceive electric circuits as abstract and uninteresting, and often fail to achieve a basic conceptual understanding. Therefore, we have developed a teaching concept for simple circuits with real-world contexts which is based on findings from research on students' interests and includes contexts that appeal to different interest types. In the talk, the differences between the conventionally taught group ($n = 27$ classes) and the context-based taught group ($n = 20$ classes) in terms of conceptual understanding and affective variables will be presented. In addition, qualitative data will be considered to draw further implications for both classroom practice and theory.

Room Bromberg

Measuring Cognitive Ability From Young Age: Development and Validation of a New Working Memory Capacity Test Battery *by Benjamin Goecke (Postdoc)*

Extensive research has unveiled the fundamental mechanisms of working memory capacity (WMC) and has established WMC as the pivotal factor in individual differences in intelligence. Available instruments for measuring WMC in children are unsatisfying in terms of a) operational continuity with conventional measures for adolescents and adults, b) multivariate nature of measurement, and c) implementation of established paradigms. Across three studies ($N_{total} > 700$), we developed and validated a WMC test battery which uses established WMC paradigms that can be applied from preschool to adult age. Across two studies, we found strong evidence for good psychometric properties of the test battery for all assessed age groups. The tests bridge the gap between child-contextualized and conventional WMC tests, are an easy-to-use tool for assessing WMC from preschool to adulthood, are applicable for all ability levels, can easily be adapted in terms of difficulty, and can be freely used for research purposes.



Thursday, October 19th, 2023

Speakers

09:00am – 10:00am

Elusive Inclusion: Towards AI Based Interventions to Promote Inclusivity in Digitally Mediated Team Environments by *Nia Nixon*



Nia Nixon (née Dowell) is an Assistant Professor in Education at UC-Irvine, Vice President of the Society for Learning Analytics Research (SoLAR) and the Director of the Language and Learning Analytics Laboratory (LaLA-Lab). The LaLA Lab includes researchers with backgrounds in cognitive science, information, psychology, and statistics. The LaLA-Lab takes a multi-disciplinary approach that builds on theories and methods in the cognitive sciences, human-computer interaction, and computational social sciences. Dr. Nixon and her team conduct research on socio-cognitive and affective processes across a range of educational technology interaction contexts and develop computational models of these processes and their relationship to learner outcomes. Their research uses a range of artificial intelligence (AI) techniques such as computational linguistics and machine

learning. Current projects focus on i) understanding differences in students' socio-cognitive engagement patterns across gender and racial lines, ii) identifying interpersonal dynamics that characterize varying levels of creativity/innovation and sense of belonging during collaborative interactions, and ii) developing AI based interventions to promote inclusivity in digitally mediated team problem-solving environments.

02:00pm – 03:00pm

Promotion of Spontaneous Learning and Reasoning Strategies by *Emmanuel Manalo*



Emmanuel Manalo is a New Zealander. He completed his Bachelors and Masters degrees at the University of Auckland, and his PhD (in psychology) at Massey University in New Zealand. He worked as an Associate Professor and Director of the Student Learning Center at the University of Auckland before moving to take up a professorship at the Center for English Language Education in Science and Engineering (CELESE) at Waseda University in Tokyo, Japan in 2010. In 2014, he moved to Kyoto University to take up the first international professorship (in

educational psychology) at the Graduate School of Education, and he has been there since. Over the years, Emmanuel has received a number of honors and awards including his induction as a Life Member of the Association of Tertiary Learning Advisors of Aotearoa New Zealand (ATLAANZ) in 2014, the Best Paper Award at the 8th International Conference on the Theory and Application of Diagrams (also in 2014), and the Outstanding Academic Integrity Resource Award at the 3rd Asia-Pacific Conference on Educational Integrity in 2007. Since 2021, he has been the Co-Editor in Chief of the journal, *Thinking Skills and Creativity*.

Thursday, October 19th, 2023

**Research Association Talks
11:00am – 12:00pm**

Room Steingart

Name	Title of Talk
Nele Theuer	The Influence of Vocational Schools and Training Firms on Occupational Development
Aenne Brielmann	How Can Sensory Experiences Motivate Behavior?
Ignatios Charalampidis	Sentence Readability and Content Selection in the Computer-Assisted Language Learning (CALL) Environment
Sabine Oligschläger	Optimized Spatial Continuity of Cortical Functions in Intellectual Giftedness?
Ida Malini Syvertsen	Individual Characteristics of School Leaders

Thursday, October 19th, 2023

**Research Association Talks
11:00am – 12:00pm**

Room Ehbühl

Name	Title of Talk
Mihwa Lee	Investigating Learning Processes From Behavioural Patterns in the Computer-Assisted Language Learning (CALL) Environment
Sarah Löber	Automating Language Assessment: Development of an Intelligent Language Assessment Platform
Alexander Soemer	Spontaneous Thoughts During Learning and Daily Life
Hanqi Zhou	Predictive, Scalable and Interpretable Knowledge Tracing on Structured Domains

Thursday, October 19th, 2023

**Research Association Talks
11:00am – 12:00pm**

Room Bromberg

Name	Title of Talk
Benjamin Goecke	Assessment of Cognitive Potential in Children: Learning From Research of Individual Differences in Cognitive Abilities
Nelly Sagirov	Automatic Extraction of Grammatical Constructs from English Texts
Victoria Vochatzer	Developing Economic Ethics Competencies Through Research-Based Learning
Björn Rudzewitz	Professionalizing the Software Development at HIB

Thursday, October 19th, 2023

**Poster Fair
10:00am – 11:00am**

Name	Title of Poster
Xenia Stein	Can Mathematical Proving Be Fun? Piloting Results of an Asynchronous Online Intervention for Gifted Children
Elizabeth Bear	A Task-Based Conversational Agent for Second Language Learning in the German School Context: Piloting Results
Patrizia Bieber	Parents' Beliefs and Their Children's Achievement in Instrumental Lessons
Philipp Stark	Computational Modeling in Education Research
Aki Schumacher	The Interplay Between Intellectual Curiosity, Interest, Information Seeking and Knowledge Attainment – Evidence from Two Studies
Ines Loll	Regional Disparities in Skill Requirements for Renewable Energy Occupations
Lucy Haag	The Gender Gap in Financial and Economic Literacy – A Systematic Review
Salome Wagner	Computer-Based Feedback to Foster Students' Learning
Babette Bühler	Temporal Dynamics of Meta-Awareness of Mind Wandering during Lecture Viewing: Implications for Learning and Automated Assessment using Machine Learning
Yiwen Lin	STEMing from Team Experience: Contextualizing Women's Belonging and Persistence in Collaborative Online Courses
Enming Zhang	Learning from Errors Is a Booster for Cognitive Outcomes When Embedded Into Existing Instructional Models: A Meta-Analysis

Thursday, October 19th, 2023

**PhD & Postdoc Talks
04:30pm – 05:15pm**

Name	Title of Talk	Place
Valerii Dashuk	An Optimally Regularized Estimator of Multilevel Latent Variable Models with Improved MSE Performance	Gartensaal
Lisa Bäumle	Different Levels of Procrastination: A Comprehensive Procrastination Model	Room Steingart
Janina Eberhart	How Does Children's Metacognitive Monitoring in Prompted and Unprompted Situations Relate to One Another?	Room Ehbühl
Mingjing Zhu	Reconceptualization of Gifted Underachievement – Insights from Three Large-Scale Data Sets	Room Steingart

05:15pm – 6:00pm

Name	Title of Talk	Place
Anna Bareis	Predicting Effort: Generalization and Extension of the Conscientiousness x Interest Compensation (CONIC) Model	Gartensaal
Julia-Kim Walther	Dealing with Small Numbers of Groups in Multilevel Structural Equation Modeling via Covariance Regularization	Room Steingart
Xinru Yao	Do Two-Digit Arithmetic Effects Depend on the Paradigm?	Room Ehbühl
Claudia Neuendorf	Correlates of the Social Network Structure in Classrooms – What Can Machine Learning Tell Us about It?	Room Bromberg

Please view the next page for further information about the talks.

Thursday, October 19th, 2023

PhD & Postdoc Talks
04:30pm – 05:15pm

Gartensaal

An optimally regularized estimator of multilevel latent variable models with improved MSE performance by *Valerii Dashuk (Postdoc)*

Regularization methods offer several modeling advantages, including improved robustness to outliers. We introduce an optimally regularized estimator for between-group parameters, which exhibits better mean squared error (MSE) performance compared to classical maximum likelihood (ML) estimation, especially in small sample scenarios. Asymptotically, our estimator becomes unbiased and converges to the ML estimator. Results obtained from simulation studies indicate that our estimator outperforms the ML estimator in terms of MSE, particularly in situations involving small sample sizes.

Room Steingart

Different Levels of Procrastination: A Comprehensive Procrastination Model by *Lisa Bäumle (Postdoc)*

Procrastination - to voluntarily delay an intended action despite negative consequences - is a widespread phenomenon and has widely been conceptualized as a result of self-regulatory failure. Despite its high relevance, the research field is currently not consolidated, because dominating theoretical approaches work in parallel and because prior research has primarily focused either on situative, resp. state aspects of procrastination or on more stable interindividual differences. With the proposed Comprehensive Procrastination Model (CPM), we aim to move the field forward by integrating dominant approaches, considering different levels of procrastination, describing functional relations within and across levels and taking context factors as possible moderators into account. The CPM thus provides a comprehensive framework for procrastination research.

Room Ehbühl

How Does Children's Metacognitive Monitoring in Prompted and Unprompted Situations Relate to One Another? by *Janina Eberhart (Postdoc)*

Children's metacognitive monitoring skills, which is the checking of one's own thinking and personal progress, has been assessed with various measurement approaches such as confidence judgements, teacher or self-reports, and child observations. However, child observations are rarely used, and few studies have applied different measurement approaches with the same sample. Thus, little is known regarding how the different measurement approaches are associated with one another, and it is not clear if, for example, children's monitoring abilities when prompted to provide judgements correspond to their spontaneously occurring monitoring skills in everyday situations. In this study, we explored if children's monitoring skills are context dependent. That is, we examined if there was an association between children's metacognitive monitoring skills assessed within the same context (highly structured vs. quasi-naturalistic tasks) but with different tasks. We also explored whether children's types of monitoring are stable across different contexts (namely, prompted monitoring judgements and unprompted quasi-naturalistic observations).



Room Bromberg

Reconceptualization of Gifted Underachievement: Insights from Three Large-Scale Data Sets by *Mingjing Zhu (Postdoc)*

While contemporary giftedness models advocate for a multidimensional view, considering creativity, motivation, personality traits, and psychosocial factors, empirical studies largely persist in using intelligence as the key determinant of giftedness in the research field of gifted underachievement. Consequently, the current study endeavors to discern the similarities and differences in identifying gifted underachieving students across different theoretical models. It centers on mathematics achievement across primary, middle, and high school stages, using various statistical methods to define gifted underachievement. By delving into these nuances, the study aims to reconcile theoretical frameworks with practical applications and potentially refine strategies to address gifted underachievement in educational settings.

Thursday, October 19th, 2023

**PhD & Postdoc Talks
05:15pm – 06:00pm**

Gartensaal

Predicting Effort: Generalization and Extension of the Conscientiousness x Interest Compensation (CONIC) Model by Anna Bareis (PhD)

The presented dissertation project includes four studies that aim to replicate, extend, and generalize the CONIC model. Each study investigates the relationship between conscientiousness and interest in predicting effort-related outcomes, differing in research characteristics such as samples, study designs, measures, and contexts. The findings are summarized and discussed in terms of their contribution to further consolidation and refinement of the CONIC model. Implications for the validity of the CONIC model and directions for future research are derived.

Room Steingart

Dealing with Small Numbers of Groups in Multilevel Structural Equation Modeling via Covariance Regularization by Julia-Kim Walther (PhD)

Multilevel Structural Equation Modelling, as all other multilevel modelling approaches, requires a large number of higher level units (e.g., groups) in order to converge and yield accurate between-group parameter estimates. Providing larger samples is costly, and solutions for small samples are limited. I will present preliminary research in regularizing the sample covariance matrix in multilevel SEM in order to improve convergence rate and accuracy of between-group parameters.

Room Ehbühl

Do Two-digit Arithmetic Effects Depend on the Paradigm? by Xinru Yao (PhD)

Researchers may choose different kinds paradigms in arithmetic studies. While most neuro studies adopt verification or choice reaction instead of production paradigms to ensure less noise for neural signals, which on the other hand will be less ecological. These raises the questions whether the arithmetic performance is influenced by different paradigms, and based on that, which paradigm we can choose for specific study. This preregistered study aimed at investigating mental arithmetic in six different paradigms, which are commonly used interchangeably in arithmetic research without further consideration of paradigm-specific effects. The mental arithmetic task includes three factors: (1) paradigm (verification, choice reaction, delayed choice reaction, computerized written production, verbal production with button press, and verbal production with voice key), (2) operation (addition and subtraction), and (3) difficulty (simple and complex). Our results showed: (1) Participants' performances in verification and choice reaction paradigms were better than in ecological paradigms. (2) Delayed choice reaction paradigm consists of both production and choice procedures. (3) Arithmetic effects for operation and difficulty were consistently found for all paradigms. (4) The two verbal production paradigms presented higher effect sizes in German-speaking context.



Room Bromberg

Correlates of the Social Network Structure in Classrooms – What Can Machine Learning Tell Us about It? *by Claudia Neuendorf (Postdoc)*

The classroom peer ecology is of great importance to student learning and development. So far, only a few studies have looked at a small number of classroom social network indicators and related them to isolated classroom-level outcome variables. In our study, we leverage the potential of a large data set with ca. 2.000 classrooms and use machine learning to explore relationships between more than 300 network indicators and a variety of 33 outcome variables. We found meaningful patterns which we would like to discuss with the audience.

Thursday, October 19th, 2023

**Special Interest Groups (SIGs)
3:00pm – 4:30pm**

Name	Title of SIG	Place
Jutta Heckhausen	Motivation and Self-Regulation	Room Steingart
Florian Berens	Learning Analytics: New Measurements of Learning!?	Room Ehbühl

Friday, October 20th, 2023

Speakers

09:00am – 10:00am and Place to be announced

Individual Agency and Societal Structuring of Life Course and Social Mobility by *Jutta Heckhausen*



Jutta Heckhausen is Distinguished Professor at the Department of Psychological Science, University of California Irvine. She earned her Ph.D. at the University of Strathclyde, Glasgow, with a dissertation on natural instruction in mother-infant dyads. Her habilitation at the Free University of Berlin addressed agency and developmental regulation in adulthood. From 1985 to 2000, she worked as a postdoc, senior researcher, and leader of a research group at the Max-Planck-Institute for Human Development in Berlin. She joined the faculty at UC Irvine in 2001. Her research addresses the role of individual agents and their motivation in life-span development, particularly in response to regulatory challenges during life-course transitions, radical societal change, or when

experiencing substantial losses or gains. A major topic of her work is the potential and limits of individual influence on social mobility under given institutional and social-structural constraints in different societies. Recently, she has focused on the motivational self-regulation in the context of the transition to adulthood, particularly in educational contexts and for groups differing in social and cultural access to mainstream higher education.

Friday, October 20th, 2023

**Poster Fair
10:00am – 11:00am**

Name	Title of Poster
Soroosh Akef	Using Criterial Features for Automatic Portuguese Readability Assessment
Nelly Sagirov	Automativ Extraction of Grammatical Constructs from English Texts
Ignatios Charalampidis	Sentence Readability and Controllable Content Selection
Nora Fröhlich	Effects of a Reading Strategy Training for Students – Insights into a Quasi-Experimental Intervention Study
Alexander Jonas Jung	Who Inspires Whom? Reciprocal Relationships Between Teachers' Enthusiasm and Students' Interest
Denise Löfflad	Linguistic Complexity in Language Learning
Lucas Stark	Implementing a Statistical Literacy Intervention into Practice: Do the Effects Persist?
Katharina Totter	Effects of Working With Oral History Interviews In-Person versus Video: A Cluster Randomized Controlled Intervention Study on History Lessons on Competencies, Knowledge and Motivation
Hanqi Zhou	Predictive, Scalable and Interpretable Knowledge Tracing on Structured Domains
Sarah Löber	Automated Language Assessment: Developing an Intelligent Language Assessment Platform
Mourhaf Kazzaz	(DLTPT) Digitalized Language Teaching and Proficiency Testing

Friday, October 20th, 2023

PhD & Postdoc Talks
11:00pm – 12:00pm

Name	Title of Talk	Place
Armin Fabian	A Cross-Sectional Study on the Relationship of TPACK Components Using Test-Based Instruments	Gartensaal
Fitore Morina	Pushing frontiers in teacher learning: Examining online teacher professional development – A mock defense	Room Steingart
Luisa Scherzinger	Teachers' Professional Competence for Bilingual (Economic) Education - A Rehearsal Defense	Room Bromberg

Please view next page for further information about the talks.

Friday, October 20th, 2023

**PhD & Postdoc Talks
11:00am-12:00am**

Gartensaal

A Cross-Sectional Study on the Relationship of TPACK Components Using Test-Based Instruments *by Armin Fabian (PhD)*

To integrate technologies in a meaningful way, teachers need to draw upon different knowledge components, which are commonly subsumed under the Technological Pedagogical and Content Knowledge (TPACK) framework. To date, however, little is known about how these different knowledge components are empirically related to each other, given that previous research in this field predominantly relied on the use of self-reports. Against this background, I will present findings from a cross-sectional online study in which we shed light on the inherent structure of TPACK by using performance-based instruments. Moreover, we investigated the relationship between self-reported and performance-based TPACK and explored whether the metacognitive accuracy of participants moderates this relationship

Room Steingart

Pushing frontiers in teacher learning: Examining online teacher professional development – A mock defense *by Fitore Morina (PhD)*

tba

Room Bromberg

Teachers' Professional Competence for Bilingual (Economic) Education - A Rehearsal Defense *by Luisa Scherzinger (PhD)*

Bilingual education is crucial for developing essential skills in the 21st century. However, it faces challenges such as limited availability of learning material, immense teacher training needs and the lack of a comprehensive understanding of the necessary competences for bilingual education teachers. This dissertation encompasses a systematic literature review, explores practitioners' insights and analyses the linguistic complexity of economics learning materials to address this research gap and enhance the quality of teacher training.
