# EARLI SIG 27 – Online Measures of Learning Processes
29.11. – 1.12.2016

## Conference Program

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<tr>
<td>9:00</td>
<td>Registration</td>
<td>PARALLEL SESSION: No-or-not-perfect-data sessions</td>
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<td>9:30</td>
<td>(continue until 14:30) Snellmania hall</td>
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<td>10:00</td>
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<td>15:00</td>
<td>PARALLEL SESSIONS: Flipping the papers L2</td>
<td>PARALLEL SESSION: Posters L2</td>
<td>SIG 27 business meeting L2</td>
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<td>Conference dinner Restaurant Nallikari</td>
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<td>19:00</td>
<td>Pub Quiz City centre</td>
<td>Welcome reception Oulu City Hall</td>
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Tuesday 29.11.

9:00-14:30 Registration
10:00-11:00 Opening ceremony
11:00-12:30 PARALLEL SESSION: No-or-not-perfect-data sessions/SYMPOSIUM

Learning strategies:
Amélie Rogiers and Hilde Van Keer:
Measuring secondary school students’ text-learning strategies: Comparing task-specific self-reports to think-aloud protocols
Leen Catryse, David Gijbels and Vincent Donche:
How students process expository texts: triangulating results from general self-report questionnaires with task-specific eye tracking data, cued recalls and self-report questionnaires
Johanna Pöysä-Tarhonen, Pia Näykki, Päivi Häkkinen, Sanna Järvelä and Jari Laru:
Acquiring a better understanding of individual students’ collaborative problem solving processes combining objective and subjective process tracing data
Michelle Nugteren, Halszka Jarodzka, Liesbeth Kester and Jeroen van Merrienboer:
Self-regulation of secondary school students: Self-assessments and learning-task selection

SRL and motivation:
Sofie Heirweg, Mona De Smul, Sabrina Vandevelde, Emmelien Merchie, Geert Devos and Hilde Van Keer:
Do measures matter? Differences between think-aloud protocols and task-specific self-report questionnaires in investigating self-regulated learning of primary school children
Marijn Wijga and Maaike Endeldoek:
Using Process Mining to Develop a Dynamic Model of Self- and Social Regulation in Relation to Team Performance at the Workplace
Matthias Boehm and Jutta Maegdefrau:
Using Eye Tracking Data to Verify Common Measurements of Situational Interest During the Perception of Learning Material
Anja Schiepe-Tiska and Ingrid Gast:
Assessing Flow Experience using Eye-Tracking Indicators as a Nondeclarative Method of Measurement

Symposium: What you look at, you integrate? Using online measures to investigate critical processing of information from multiple sources
Christian Scharinger, Yvonne Kammerer and Peter Gerjets:
Fixation-related EEG frequency band power analysis: A promising neuro-cognitive methodology to study integration processes during reading of web search results?
Johan L.H. van Strien and Halszka Jarodzka:
Keep your cool! Critical thinking when processing emotion-laden information in information-rich environments
Anette Andresen and Øistein Anmarkrud:
Digital natives with reading difficulties: A study of dyslectic adolescents’ integration of conflicting information across Internet sites and presentation formats
Ladislao Salmerón, Laura Gil, Alicia Carrión and Ivar Bråten:
Is eye-tracking useful to assess sourcing in multiple documents?

12:30-13:30 Lunch
13:30-14:30 KEYNOTE: Ass. Prof. Guoying Zhao: Towards reading hidden emotions: micro-expression analysis and heart rate estimation
14:30-15:00 Coffee
15:00-17:00 PARALLEL SESSION: Flipping the papers

Individual processes:
Fien De Smedt, Emmelien Merchie, Nele Mortaigne and Hilde Van Keer:
How do novice writers write texts? Using digital pen technology to explore the development and application of cognitive writing processes
Anselm Strohmaier and Kristina Reiss:
Electrodermal activity as an indicator for context effects in mathematical learning and achievement situations
Markus Hörmann and Maria Bannert:
Recording, visualizing and pre-processing mouse and keyboard data for process analyses in web based learning: presenting the ScreenAlytics software framework
Tomás Martínez, Eduardo Vidal-Abarca, Arantxa García, Ignacio Mañez and María-Ángeles Serrano: eTextBook template (eT-t): An application based on Read&Learn technology for the analysis of learning processes on electronic textbooks

Social effects:
Maaike Endedijk, Stijn de Laat and Elze Ufkes:
Opening the black box: experiencing the use of sensor technology to continuously monitor social interaction at the workplace as a proxy for informal social learning

Thomas Jaarsma, Els Boshuizen, Halszka Jarodzka and Jeroen van Merriënboer:
To uncover learning at the workplace: the effect of increased participation in work tasks

Manuel Oliva, Diedierick C Niehorster, Annika Wallin, Christian Balkenius, Kenneth Holmqvist and Halszka Jarodzka:
The social brain goes to school: Eye movements, instructional design and the classroom effect

Tarja-Riitta Hurme, Marjaana Puurtinen and Hans Gruber:
When activities matter: Depicting regulation in collaborative music-making

Wednesday 30.11.

9:00-10:30 PARALLEL SESSION: Papers/SIG 27 SYMPOSIUM LeaForum & V-lab

Affect and emotions:
Carolin Schultz, Marold Wosnitza and Igor Mayer:
Spotting, analysing and understanding emotions in collaborative online learning settings.

Nicholas Mudrick, Roger Azevedo, Michelle Taub and Joseph Grafsgaard:
How Do Time and Multimedia Discrepancies Influence Students’ Learner-Centered Emotions?

Markus Hörmann and Bannert Maria:
Observing keystrokes in the learning process: do they correspond with learners’ cognitive, affective and motivational states and task performance?

Sara Scrimin, Elisabetta Patron, Gianmarco Altoè, Erulis Ruli, Martina Ferrante and Lucia Mason:
Engagement at Physiological Level: Heart Rate Variations during Reading and Assessment in Different Reading Conditions

SRL and e-Learning:
Michelle Taub, Roger Azevedo, Jonathan Rowe and James Lester:
Time vs. Meaningful Time: How do duration and fixation duration differentially impact using a monitoring tool during SRL and gameplay with a game-based learning environment?

Jonna Malmberg:
Going beyond what is visible –What physiological measures can reveal about regulated learning in the context of collaborative learning

Gayane Sedrakyan, Sanna Järvelä and Paul Kirschner:
Conceptual Framework for Feedback Automation and Personalization for Designing Learning Analytics Dashboards

Lena Engelhardt, Frank Goldhammer, Johannes Naumann and Katja Hartig:
Can Different Instructions Influence Smart Behavior in ICT Environments?

SIG 27 Symposium: Processes of Learning: Why they matter and how they might be investigated
Organizers: Halszka Jarodzka, Laszló Salmerón and Ellen Kok

Introduction: Prof. P. A. Kirschner, Open University of the Netherlands & University of Oulu, Finland

Discussion: Prof. H. Gruber, University in Regensburg, Germany and visiting professor at the University of Turku, Finland

Laszló Salmerón:
Online measures of digital reading

Halszka Jarodzka:
Eye tracking in Educational Science: Case studies and research agenda
Ellen Kok:
Developing visual expertise. From shades of grey to diagnostic reasoning in radiology

10:30-11:00 Coffee

11:00-12:30 PARALLEL SESSION: No-or-not-perfect-data sessions/SYMPOSIUM
LeaForum & V-lab

Reading and writing:
Yasemin Tuerktorun, Gerald Weiher, Mark Ullrich, Katja Knuth-Herzig and Holger Horz:
Do prior beliefs and prior knowledge affect how we read? Reading texts on controversially discussed topics - An eye tracking study
Carolin Hahnel, Ulf Kröhne, Frank Goldhammer, Cordelia Schoor, Cordula Arhtelt, Daniel Reimann, Kathrin Lockl and Hans-Günther Roßbach:
Using process data from log files to explain measures of multiple documents literacy (MDL)
Fabian Lang, Yvonne Kammerer, Peter Gerjets and Kerstin Oschatz:
Epistemic beliefs in action: Integrating online and offline measures when students evaluate scientific controversies
Roy Clariana, Kyung Kim and Fan Zhang:
Graphical Interface of Structural Knowledge (GISK)

Teaching:
Jelten Peeters, Free De Backer, Karen Triquet, Shihua Li and Koen Lombaerts:
Online assessment of mobile teacher learning and students’ self-regulated learning
Halszka Jarodzka:
EyeTeach: Teachers’ professional vision and its effect on their classroom management
Enrique Garcia Moreno-Esteva and Markku S. Hannula:
Eye-tracking study in real classrooms: Exploring the variation in teacher presentation of a geometry problem and its effect on student visual attention
Anouschka van Leeuwen, Margot van Wermeskerken and Gijsbert Erkens:
Eye tracking and thinking aloud procedures to study how teachers use learning analytics

Symposium: Math garden
Han L. J. van der Maas:
Educational games as research tool: error analysis in Math Garden
Abe Hofman:
Developmental processes on time series of single items
Nienke Rujs, Alexander Savi, Han van der Maas and Gunter Maris:
Experimenting in online practicing systems
Alexander O. Savi, Joost Kruis, Timo Bechger, Han L. J. van der Maas and Gunter K. J. Maris:
Hacking a learner’s mind: Finding and fixing the bugs that impede learning in an adaptive practice system

12:30-14:00 Lunch
Restaurant Balance
The SMI Digital Classroom – an assessment framework for perceptual, cognitive and emotional processes underlying learning
LeaForum

14:00-15:00 KEYNOTE: Prof. Roger Azevedo: Using Multimodal Multichannel Process Data to Measure and Foster Self-Regulated Learning in Real-Time with Advanced Learning Technologies?

15:00-15:30 Coffee

15:30-16:30 POSTER SESSION
L2

Eye tracking and expertise:
Anna-Kaisa Ylitalo, Aila Särkkä, Marjaana Puurtinen and Erkki Huovinen:
Modeling eye movements during temporally controlled music reading
Marjaana Puurtinen, Erkki Huovinen and Anna-Kaisa Ylitalo:
Reading rhythms: Eye movements of amateur musicians and novices-in-training
Christian Harteis, David Gijbels and Robert Kluch:
Pattern recognition and Corporate Design: An explorative eye-tracking study on detection of errors
**Method and assessment:**

**Mirjam Neelen, Neil Peirce and Alec Serlie:**
*Supporting Career Development Through Transversal Competency Assessment*

**Tomas Martinez, Ignacio Manez and Eduardo Vidal-Abarca:**
*Automatic Scoring of Relevant and Non-relevant Text Information when Answering Questions from an Available Tekst. Testing Two Methods*

**Lenka Schnaubert, Sven Heimbuch and Daniel Bodemer:**
*Extracting selection strategies: comparing measures to analyze sequential data*

**SRL, social processes and eye tracking:**

**Johannes Hellenbrand, Maria Opfermann, Annett Schmeck and Detlev Leutner:**
*Using eye tracking to identify underlying processes of generative drawing as a self-regulated learning strategy*

**Stijn Van Laer and Jan Elen:**
*Uncovering the Relationship between Learners' Self-Regulatory Behaviour Profiles and Designs of Blended Learning Environments*

**Michelle L. Nugteren:**
*Measuring Socially Shared Regulation of Learning with a Mobile Eye Tracker*

**Tim van Marlen, Margot Van Wermeskerken, Halszka Jarodzka and Tamara van Gog:**
*The Role of Ambiguous Instructions in the Effectiveness of Eye Movement Modeling Examples*

**Sonia White, Joanne Wood, Alexander Black and Enrique Garcia Moreno-Esteva:**
*Using eye movements to understand how Year 3 children engage with a graph task*

**Eetu Haataja, Jonna Malmberg, Sanna Järvelä and Paul Kirschner:**
*What EDA can tell about SRL? Case study in the context of collaboration*

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**Thursday 1.12.**

**9:00-10:30** **PARALLEL SESSION: No-or-not-perfect-data sessions**

**E-learning:**

**Karen Triquet, Jeltsen Peeters and Koen Lombaerts:**
*Supporting Self-Regulated Learning within Technology-Enhanced Learning Environments: A Systematic Review for Primary Education*

**Marielle Dado and Daniel Bodemer:**
*Enhancing Group Awareness in Computer-Supported Collaborative Learning Using Social Network Analysis Visualizations*

**Ruth Boelens and Bram De Wever:**
*Identifying collaborative writing processes and shared regulation in CSCL environments*

**Shihua Li, Koen Lombaerts, Jeltsen Peeters and Chang Zhu:**
*How did students learn in a MOOC?*

**Eye tracking data:**

**Markus Nivala, Christian Harteis and Hans Gruber:**
*Using eye-tracking to examine chess expertise and chunking*

**Diederick C Niehorster, Tim Cornelissen, Halszka Jarodzka and Kenneth Holmqvist:**
*Whole-classroom eye tracking*

**Tristan Haselhuhn, Klaus-Peter Wild and Sebastian Schmid:**
*Measurement errors on a technical and conceptual level: The psychometric quality of fixations in eye-tracking experiments with naturalistic texts*

**Margot van Wermeskerken and Tamara van Gog:**
*Eye See What You Are Doing: Inferring Task Performance from Eye Movement Data*
Physiological data:
Nicholas Mudrick and Roger Azevedo:
The Theoretical, Methodological, and Analytical Challenges of Facial Expressions of Emotions During Multimedia Learning
Ellen Kok, Anique de Bruin, Ide Heyligers, Andreas Gegenfurtner, Simon Robben, Koos van Geel, Bettina Sorger, Diana Dolmans and Jeroen van Merriënboer:
*fMRI as a process measure of visual and motor expertise in medicine*
Thomas Martens, Oliver Schneider and Moritz Niemann:
*Identifying Sensor Measures of Motivation for Personal Learning*
Hector Piñeira Diaz:
*Capturing the invisible expressiveness of the body in a learning process*

10:30-11:00  Coffee
11:00-12:30  PARALLEL SESSION: Papers/E-Cir invited symposium
Engagement and motivation:
Sanni Pöysä, Kati Vasalampi, Joona Muotka, Marja-Kristiina Lerkkkan, Anna-Maija Poikkeus and Jari-Erik Nurmi:
*Quality of teacher-student interaction contributes to students’ situational engagement*
Johannes Naumann:
*Use of large scale data for the analysis of task engagement processes: Issues of replicability and open science*
Jaana Isohätälä, Hanna Järvenoja and Sanna Järvelä:
*Participation in cognitive-oriented and socio-emotionally oriented interaction during collaborative learning*

Learning processes:
Leen Catrysse, David Gibels, Vincent Donche, Pim Pullens and Paul M. Parizel:
*Deep and surface processing: what do we learn from fMRI studies?*
Liesje De Backer, Hilde Van Keer and Martin Valcke:
*A process-oriented analysis of collaborative learners’ metacognitive regulation behavior*
Eduardo Vidal-Abarca, Ignacio Manez, Tomas Martinez and Joseph Magliano:
*Are verbal and behavioral online data harmonious in tracing individual differences in task-oriented reading situations?*
Johanna Kaakinen, Ugo Ballenghein, Geoffrey Tissier and Thierry Baccino:
*Embodied attention during reading: Evidence from concurrent recordings of eye movements and head motion*

Symposium: E-Cir invited symposium: Understanding the added-value of multimodal data to maximize students self-regulated learning
Organizer & Chair: Sanna Järvelä, University of Oulu, Finland
Discussant: Paul A. Kirschner, Open University of the Netherlands & University of Oulu, Finland

Roger Azevedo, Nicholas Mudrick, Michelle Taub, Seth A. Martin, Joseph Grafsgaard Measuring, Garrett Millar, and Megan Price:
*Measuring, Analyzing, and Infering Self-Regulatory Processes from Multimodal Data*
Maria Bannert and Janina Limbrock:
*I spy with my little eye: Investigation of Student’s Self-Created Prompts*
Sanna Järvelä, Jonna Malmberg, Marta Sobocinski, Eetu Haataja, Hector Piñeira Diaz and Paul A. Kirschner:
*What Multimodal Data Can Tell Us about the Self-Regulated Learning Process*
Cindy Klompmaker-Paans, Eliane Segers and Ludo Verhoeven:
*Multimodal online measurement of young learners SRL in hypermedia*
Jelena Jovanović, Dragan Gašević, Abelardo Pardo and Shane Dawson:
*Using learning analytics to uncover online learning strategies in flipped classrooms*

12:30-13:30  Lunch  Restaurant Balance
13:30-14:30  Panel Discussion & Closing Ceremony  KTK122
18:00  Nordic walk