



# EARLI SIG 27 2022, Southampton



## Conference Programme



Tuesday, 30 <sup>th</sup> August 2022				
09:00 – 10:00	Registration with coffee Room 4013 (Level 4)			
10:00 – 10:20	Conference opening Lecture Theatre B (Level 4)			
10:30 – 12:00	Parallel session 1			
	<table border="1"> <tr> <td> <p><b>Paper session</b> <i>Process data in digital learning environments</i> Lecture Theatre B (Level 4)</p> <p>Chair: Tine van Daal</p> <ol style="list-style-type: none"> <li>1. Commonalities and uniqueness in different types of learning data (Presenter: Dirk Tempelaar *)</li> <li>2. Predictive modelling in digital learning environments with sequentially unordered learner data (Presenter: Uwe Maie)</li> <li>3. Time on Task and Learning to Learn Competencies in Online Tests: An IRT Modelling Based Approach (Presenter: Reito Visajaani Salonen)</li> <li>4. A systematic review of problem solving in open-ended learning environments using eye tracking (Presenter: Chris Mayer *)</li> </ol> </td> <td> <p><b>NoNSPD roundtable</b> <i>Reading</i> Room 8011 (Level 8)</p> <p>Chair: Leen Catrysse</p> <ol style="list-style-type: none"> <li>1. ID-READ Part 1 - Can teachers use gaze displays to provide adaptive reading comprehension instruction? (Presenter: Carolien Knoop-van Campen)</li> <li>2. ID-READ Part 2 - Using webcam-based eye-tracking to uncover reading strategies (Presenter: Ellen Kok)</li> <li>3. Squeezing lemons: Emotions in impersonal non-fiction texts. Emotional analyses of students' texts (Presenter: Egon Werlen)</li> </ol> </td> <td> <p><b>NoNSPD roundtable</b> <i>Mathematics</i> Room 8013 (Level 8)</p> <p>Chair: Tiina Törmänen</p> <ol style="list-style-type: none"> <li>1. Disadvantaged students who beat the odds: Examining academic resilience in mathematics and science (Presenter: Nani Teig *)</li> <li>2. Student Attention and Engagement During University Math Demos: A Multi-Person Eye-Tracking Study (Presenter: Miitta Järvinen *)</li> <li>3. Physiological data to measure math anxiety: A validation study (Presenter: Febe Demedts *)</li> </ol> </td> </tr> </table>	<p><b>Paper session</b> <i>Process data in digital learning environments</i> Lecture Theatre B (Level 4)</p> <p>Chair: Tine van Daal</p> <ol style="list-style-type: none"> <li>1. Commonalities and uniqueness in different types of learning data (Presenter: Dirk Tempelaar *)</li> <li>2. Predictive modelling in digital learning environments with sequentially unordered learner data (Presenter: Uwe Maie)</li> <li>3. Time on Task and Learning to Learn Competencies in Online Tests: An IRT Modelling Based Approach (Presenter: Reito Visajaani Salonen)</li> <li>4. A systematic review of problem solving in open-ended learning environments using eye tracking (Presenter: Chris Mayer *)</li> </ol>	<p><b>NoNSPD roundtable</b> <i>Reading</i> Room 8011 (Level 8)</p> <p>Chair: Leen Catrysse</p> <ol style="list-style-type: none"> <li>1. ID-READ Part 1 - Can teachers use gaze displays to provide adaptive reading comprehension instruction? (Presenter: Carolien Knoop-van Campen)</li> <li>2. ID-READ Part 2 - Using webcam-based eye-tracking to uncover reading strategies (Presenter: Ellen Kok)</li> <li>3. Squeezing lemons: Emotions in impersonal non-fiction texts. Emotional analyses of students' texts (Presenter: Egon Werlen)</li> </ol>	<p><b>NoNSPD roundtable</b> <i>Mathematics</i> Room 8013 (Level 8)</p> <p>Chair: Tiina Törmänen</p> <ol style="list-style-type: none"> <li>1. Disadvantaged students who beat the odds: Examining academic resilience in mathematics and science (Presenter: Nani Teig *)</li> <li>2. Student Attention and Engagement During University Math Demos: A Multi-Person Eye-Tracking Study (Presenter: Miitta Järvinen *)</li> <li>3. Physiological data to measure math anxiety: A validation study (Presenter: Febe Demedts *)</li> </ol>
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12:00 – 13:00	Lunch Room 4013 (Level 4)			
13:00 – 14:00	<p><b>Keynote 1</b> <i>Kshitij Sharma</i> Lecture Theatre B (Level 4)</p> <p>Chair: Halszka Jarodzka</p> <p>Event briefing: Poster with drinks reception</p>			

<b>14:00 - 14:30</b>	<i>Coffee break</i> Room 4013 (Level 4)		
<b>14:30 - 16:00</b>	<b>Symposium session 1</b>		
	<p><b>Invited EFG symposium</b> <i>Inside the black box of feedback: Approaches to capturing the cognitive processing of feedback information</i> Lecture Theatre B (Level 4)</p> <p>Organiser: Naomi Winstone Chair: Naomi Winstone Discussant: Naomi Winstone</p> <ol style="list-style-type: none"> <li>1. Dealing with errors while providing and processing peer-feedback on writing: A mixed-method approach (Presenter: Jochem E. J. Aben)</li> <li>2. Medical education students' processing and use of (discrepant) peer feedback (Presenter: Florence van Meenen)</li> <li>3. Feedback in the brain: the challenging case of the feedback-related negativity (Presenter: Bertram Opitz)</li> </ol>	<p><b>Invited SIG symposium</b> <i>SIG8 goes SIG27: Research on motivation and emotions in learning from a process-oriented perspective</i> Room 8011 (Level 8)</p> <p>Organiser: Hanna Järvenoja Chair: Tiina Törmänen Discussant: Roger Azevedo</p> <ol style="list-style-type: none"> <li>1. Identifying and Addressing Gaps in Emotion Measurement: The Role of Theory and Multimodal Process Data (Presenter: Jason Harley *)</li> <li>2. Utilizing multimodal process data to track students' affect and regulation in collaborative learning (Presenter: Tiina Törmänen)</li> <li>3. Data Granularity and Time Frame in Motivational Processes: Connecting Methods and Theories (Presenter: Thomas Martens *)</li> </ol>	<p><b>Symposium</b> <i>Advancing SRL Research with Artificial Intelligence (AI)</i> Room 8013 (Level 8)</p> <p>Organiser: Andy Nguyen Chair: Inge Molenaar Discussant: Kshitij Sharma</p> <ol style="list-style-type: none"> <li>1. Clustering students' learning behaviour to measure Self-Regulated Learning (Presenter: Rick Dijkstra)</li> <li>2. Exploring facial emotions synchrony within collaborative groups at dyadic and whole-group levels (Presenter: Muhterem Dindar)</li> <li>3. Exploring regulatory activities for socially shared regulation with AI machine learning (Presenter: Sanna Järvelä)</li> </ol>
<b>16:00 - 17:30</b>	<p>Buses departing from campus 'Highfield Interchange' to 'Civic Centre' for SeaCity Museum (aka. Titanic Museum) Journey duration: 20 mins</p> <p>Option 1, via Portswood, U1C: Dep every 20 mins approx. at 16:29, 16:41, 16:53, 17:05, 17:17 Option 2 (Scenic), via The Avenue, U2C: Dep every 30 mins approx. at 16:26, 16:56 See bus stand for later times</p>		
<b>17:30 - 19:30</b>	<p><b>Interactive poster session with drinks reception</b> Grand Hall, Titanic Museum</p>		

<p>Researching socially shared regulation: Experimental and control group multimodal data study</p> <p>A World of (Mis)Information Within a Mouse-Click's Reach: Comprehending Multiple Digital Texts</p> <p>Evidence-based design guidelines for multimedia in assessment</p> <p>How a combination of sensory data and process measures helps to understand (team) learning processes</p> <p>Capturing Children's' Metacognitive Thinking in Wicked Collaborative AI Task</p> <p>Self-regulated learning support in adaptive learning technologies</p> <p>Online reading behavior and readers' attention to source reliability in multiple digital texts</p> <p>How practice relates to performance in an online programming course</p>	<p><i>Presenter:</i></p> <p>Sanna Järvelä</p> <p>Anouk Bakker</p> <p>Andrienne Kerckhoffs</p> <p>Marcella Hoogeboom</p> <p>Jonna Malmberg</p> <p>Rianne Kooi</p> <p>Aurora Troncoso-Ruiz</p> <p>Halszka Jarodzka</p>
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Wednesday, 31 <sup>st</sup> August 2022			
9:00 - 10:30	<b>Parallel session 2</b>		
	<p><b>Paper session</b></p> <p>Eye-tracking in the classroom</p> <p>Lecture Theatre B (Level 4)</p> <p>Chair: Nora McIntyre</p> <ol style="list-style-type: none"> <li>I see you: Expertise differences in the perception of classroom disruptions via mobile eye-tracking (Presenter: Mandy Klatt)</li> <li>Teacher-student relationship quality associates with teachers' visual focus of attention in Grade 1 (Presenter: Saswati Chaudhuri)</li> <li>Reflections on research methods and ethics of mobile eye-tracking (Presenter: Markku Hannula)</li> </ol>	<p><b>NoNSPD roundtable</b></p> <p>Process data in digital learning tasks</p> <p>Room 8011 (Level 8)</p> <p>Chair: Eetu Haataja</p> <ol style="list-style-type: none"> <li>Everything at once? – Orchestration of mono- &amp; polytelic behavior while controlling complex problems (Presenter: Christin Lotz)</li> <li>The relationship between writing processes and the development of understanding (Presenter: David Galbraith)</li> <li>Development and Validation of an Instrument for Measuring ICT Skills for Personalized Learning (Presenter: Kevin Ackermans)</li> <li>Using digital process data from a computerized CBM maze reading task (Presenter: Jochanan Veerbeek)</li> </ol>	<p><b>NoNSPD roundtable</b></p> <p>Learning Analytics</p> <p>Room 8013 (Level 8)</p> <p>Chair: José Janssens</p> <ol style="list-style-type: none"> <li>Identifying learning analytics dashboards preferences in higher education (Presenter: Olaf Spittaels)</li> <li>Designing relevant, user-friendly &amp; qualitative feedback dashboards via educational design research (Presenter: Amber Hoefkens)</li> <li>Smart and Ethical Learning Analytics Using Eye Movement Data for Assessing Reading Comprehension (Presenter: Konstantinos Georgiadis *)</li> </ol>

<b>10:30 - 11:00</b>	<i>Coffee break</i> Room 4013 (Level 4)		
<b>11:00 - 12:30</b>	<b>Symposium session 2</b>		
	<p><b>Invited SIG symposium</b> <i>Methodological and ethical challenges in writing process research with keystroke logging</i> Lecture Theatre B (Level 4)</p> <p>Organiser: Nina Vandermeulen Chair: David Galbraith Discussant: David Galbraith</p> <ol style="list-style-type: none"> <li>1. Striking a balance between measurement generalizability and participant wellbeing (Presenter: Catherine Meulemans)</li> <li>2. Mixtures, not means: modelling the mental cascade into keystrokes (Presenter: Jens Roeser)</li> <li>3. Benefits (and pitfalls) of using data-driven approaches for annotating keystroke data (Presenter: Rianne Conijn)</li> </ol>	<p><b>Symposium</b> <i>Measurement of SRL with Multiple Trace Data to improve Advanced Learning Technologies</i> Room 8011 (Level 8)</p> <p>Organiser: Inge Molenaar Chair: Inge Molenaar Discussant: David Gijbels</p> <ol style="list-style-type: none"> <li>1. Understanding Self-Regulatory Learning Across Advanced Learning Technologies Using Multimodal Data (Presenter: Roger Azevedo *)</li> <li>2. Exploring emotional responses to automated feedback: initial results of a multimodal approach (Presenter: Anne Horvers)</li> <li>3. Adapt to improve: measuring error processing in an online learning environment (Presenter: Susanne de Mooij)</li> </ol>	<p><b>Symposium</b> <i>Alternative ways to model reading processes as measured with eye-tracking</i> Room 8013 (Level 8)</p> <p>Organiser: Leen Catrysse &amp; Tine van Daal Chair: Leen Catrysse Discussant: Johanna Kaakinen</p> <ol style="list-style-type: none"> <li>1. How eye read: A social network approach (Presenter: Leen Catrysse)</li> <li>2. Scanpath regularity as a measure of reading comprehension ability (Presenter: Diane Mézière)</li> <li>3. Unravelling students' reading pattern: a longitudinal analysis of eye-tracking data (Presenter: Tine van Daal)</li> </ol>
<b>12:30 - 13:30</b>	<i>Lunch</i> Room 4013 (Level 4)		
<b>13:30 - 14:30</b>	<p><b>Keynote 2</b> <i>Teresa Cerratto Pargman *</i> Lecture Theatre B (Level 4)</p> <p>Chair: Sanna Jarvela</p> <p>Event briefing: Conference dinner</p>		

<b>14:30 - 15:00</b>	<i>Coffee break</i> Room 4013 (Level 4)		
<b>15:00 - 16:00</b>	<b>Parallel session 3</b>		
	<p><b>Paper session</b> <i>EDA, cardiovascular responses and eye gaze</i> Lecture Theatre B (Level 4)</p> <p>Chair: Ahsen Çini</p> <ol style="list-style-type: none"> <li>1. Electrodermal Activity and Judgments of Learning, Mental Effort estimates, and Task Difficulty (Presenter: Moritz Niemann *)</li> <li>2. Cardiovascular responses to students' daily-reported excitement and boredom Presenter: (Elina E. Ketonen)</li> <li><del>3. How does gaze reflect collaborative knowledge construction kinematics? (Presenter: Joni Lämsä *)</del></li> </ol>	<p><b>NoNSPD roundtable</b> <i>Learning from and testing with multimedia</i> Room 8011 (Level 8) Chair: Kevin Ackermans</p> <ol style="list-style-type: none"> <li>1. Dealing with smaller sample sizes: A Bayesian approach (Presenter: Marijn Gijsen)</li> <li>2. Multimedia effect in testing with representational and decorative pictures (Presenter: Jorik G. Arts)</li> </ol>	<p><b>NoNSPD roundtable</b> <i>Self-regulated learning</i> Room 8013 (Level 8)</p> <p>Chair: Marcella Hoogeboom</p> <ol style="list-style-type: none"> <li>1. Dimensions of Self-Regulated Learning: Survey, Clickstream, or Both? (Presenter: Tudor Cristea)</li> <li>2. Natural language processing as online measure of student answers for self-regulated learning (Presenter: Héctor J. Pijeira-Díaz)</li> </ol>
<b>16:00 - 16:15</b>	<i>Comfort break</i>		
<b>16:15 - 17:45</b>	<b>Sponsors' presentations</b>		
	<p><b>iMotions</b> Lecture Theatre B (Level 4)</p> <p>Presenter: Divya Seernani &amp; Oscar Haven</p>	<p><b>BIOPAC</b> Room 8011 (Level 8)</p> <p>Presenter: Andreu Oliver Moreno</p>	<p><b>Tobii</b> Room 8013 (Level 8)</p> <p>Presenter: Steven Clifford &amp; Robert Jones</p>
<b>19:00 - 22:00</b>	<b>Conference dinner at Ceno</b> 119 Highfield Ln, Portswood, Southampton SO17 1AQ		

Thursday, 1 <sup>st</sup> September 2022			
9.00-10.30	<b>Symposium session 3</b>		
	<p><b>Symposium</b> Supporting self-regulated learning with data analytics and artificial intelligence</p> <p>Lecture Theatre B (Level 4)</p> <p>Organiser: Dragan Gasevic &amp; Sanna Järvelä Chair: Dragan Gasevic &amp; Sanna Järvelä Discussant: Leen Catrysse</p> <ol style="list-style-type: none"> <li>1. Tracing Affective Triggers for Collaborative Learning Regulation with Facial Expression Recognition (Presenter: Andy Nguyen)</li> <li>2. Effects of Personalized Scaffolds on Self-Regulated Learning based on Student's Learning Processes (Presenter: Lyn Lim)</li> <li>3. When and why learners benefit from personalised scaffoldings for self-regulated learning (Presenter: Yizhou Fan)</li> </ol>	<p><b>Symposium</b> Machines with meaning: The potential of machine learning in educational research</p> <p>Room 8011 (Level 8)</p> <p>Organiser: Nora McIntyre Chair: Nora McIntyre Discussant: Christian Bokhove</p> <ol style="list-style-type: none"> <li>1. Video-based mind-wandering detection employing gaze features in temporal models during reading (Presenter: Babette Bühler)</li> <li>2. Gaze-Based Machine Learning Analysis of Students' Learning During Solving Graph Items (Presenters: Lonneke Boels &amp; Alex Lyford *)</li> <li>3. Interpretable machine learning insights into inequalities in access to online learning (Presenter: Nora McIntyre)</li> </ol>	<p><b>Invited EFG symposium</b> STEM Teachers's Capacity to Teach Self-Regulated Learning: Effectiveness of Extended Reality</p> <p>Room 8013 (Level 8)</p> <p>Organiser: Roger Azevedo Chair: Inge Molenaar Discussant: Inge Molenaar</p> <ol style="list-style-type: none"> <li>1. Effectiveness of immersive virtual reality to augment teachers' instructional decision-making for teaching self-regulation during STEM learning (Presenter: Roger Azevedo *)</li> <li>2. Capturing teacher education students' SRL strategies in a VR-based STEM task using think aloud (Presenter: Foyisal Mubarek)</li> <li>3. Teachers' perceptions on the integration of VR technology in classrooms (Presenter: Daryn Dever)</li> </ol>
10.30-11.00	<p><i>Coffee break</i> Room 4013 (Level 4)</p>		
11.00-12.30	<b>Parallel session 4</b>		
	<p><b>Paper session</b> (Self-regulated) learning with multimedia Lecture Theatre B (Level 4)</p> <p>Chair: Héctor J. Pijera-Díaz</p>	<p><b>NoNSPD roundtable</b> Problem solving Room 8011 (Level 8)</p> <p>Chair: Christin Lotz</p>	<p><b>Paper session</b> Collaborative learning and problem solving Room 8013 (Level 8)</p> <p>Chair: Tiina Törmänen</p>

	<ol style="list-style-type: none"> <li>1. The Impact of the Background in Instructional Videos on Attention and Learning (Presenters: Andrienne Kerkchoffs)</li> <li>2. Identifying Learner Profiles using Metacognitive Judgment Accuracy and Bias to Explore Learning (Presenters: Megan Wiedbusch)</li> <li>3. Embedded Pedagogical Agents' Support of Learners' Self-regulated Strategy Use (Presenters: Daryn Dever)</li> </ol>	<ol style="list-style-type: none"> <li>1. How to better understand social aspects of remote collaborative problem solving in dyads? (Presenters: Johanna Pöysä-Tarhonen)</li> <li>2. Investigating Problem-Solving Behaviour in an Adaptive Office Simulation Using N-grams (Presenters: Sabrina Ludwig *)</li> <li>3. Student-tutor joint attention in scaffolding mathematical problem solving (Presenters: Anna Shvarts *)</li> </ol>	<ol style="list-style-type: none"> <li>1. How multiple levels of metacognitive awareness operates in collaborative problem solving (Presenters: Ahsen Çini)</li> <li>2. Measuring peer collaboration in higher education and beyond: An integrative framework (Presenters: Verena Schürmann)</li> <li>3. Struggling in sync: Physiological synchrony reflecting challenges in collaborative learning (Presenters: Eetu Haataja)</li> <li>4. Complex Skills in Simulations: Predicting Performance with Theoretically Derived Process Features (Presenters: Laura Brandl)</li> </ol>
<b>12:30 - 13:30</b>	<p><i>Lunch</i> Room 4013 (Level 4)</p>		
<b>13:30 - 14:30</b>	<p><b>Keynote 3</b> <i>Lars-Erik Malmberg</i> Lecture Theatre B (Level 4)</p> <p>Chair: Jonna Malmberg</p>		
<b>14:30 - 15:00</b>	<p><i>Coffee break</i> Room 4013 (Level 4)</p>		



<b>15:00 - 16:15</b>	<p style="text-align: center;"><b>Panel session</b> Lecture Theatre B (Level 4) Chair: Nora McIntyre</p> <p style="text-align: center;"><i>Senior academic: Roger Azevedo *</i> <i>Rising star academic: Carolien Knoop-van Campen</i> <i>Industry leader: Andy Shaw, Tracksys UK</i></p> <p style="text-align: center;"><i>Commentators: Lars-Erik Malmberg, Teresa Cerratto Pargman *, Kshitij Sharma</i></p> <p style="text-align: center;"><b>Closing ceremony</b> Chair: Nora McIntyre</p> <p style="text-align: center;">Event briefing: City walking and drinks</p>
<b>16:15 - 17:00</b>	<b>SIG 27 business meeting</b>
<b>17:30</b>	<p style="text-align: center;">Buses departing from campus 'Highfield Interchange' to 'Civic Centre' for walking tour Journey duration: 20 mins</p> <p style="text-align: center;">Option 1, via Portswood, U1C: Dep every 20 mins at 17:05, 17:17, 17:29, 17:41 Option 2 (Scenic), via The Avenue, U2C: Dep every 30 mins at 17:30, 18:00 See bus stand for later times</p>
<b>18:00 - 20:00</b>	<p><b>City walking tour, from Civic Centre bus stop</b> <b>Drinks at Pitcher and Piano, Ocean Village</b></p>

NOTE: Online presenters are annotated with an Asterix \* .