Editorial

by Koen Veermans, Tasos Hovardas, and Valentina Nachtigall

Dear members of EARLI SIG 20,

We are happy to announce our 11th newsletter.

In this newsletter, we would like to inform you about the following topics:
1. News from the EARLI Policy Council meeting
2. Present and future of SIG 20: Please send us your ideas and suggestions
3. Call for mentees and mentors for the SIG 20 & 26 conference
4. Keynotes at the SIG 20 & 26 conference
5. Spotlight on inquiry learning

Please feel free to forward this newsletter to colleagues who are not yet members of our SIG but might be interested in research on inquiry learning or even in becoming a member! If you have any suggestions or if you would like to contribute a spotlight (see topic #5) to the next newsletter: just send us an e-mail to sig20inquiry@gmail.com

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1. News from the EARLI Policy Council meeting
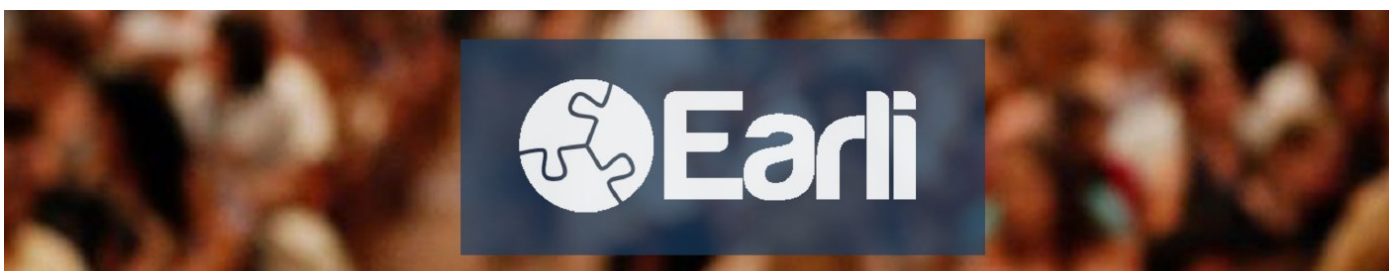
As SIG coordinators we attended the annual Policy Council meeting. These meetings combine more formal (e.g. related to the budget) and less formal (e.g. sharing overviews by the portfolio holders) agenda points. We will discuss some of these things in more detail at the business meeting during the conference, but share a few things here for those that cannot attend the conference. As part of the formal agenda the overview of the finances was presented and the good news is that these showed that despite the need to move the Gothenburg conference online the financial situation of EARLI is healthy.

As you probably know, the next main conference will be in Thessaloniki (Greece) hosted by Aristotle University of Thessaloniki and the University of Macedonia. JURE 2023 will take place on 20 and 21 AUGUST 2023 followed by EARLI 2023 from 22 to 26 AUGUST 2023. Submissions Open on the 1st of September 2022 and the Submission Deadline is 27 October 2022. More details can be found on the conference webpage: https://www.earli.org/EARLI2023. As a SIG we are invited to submit a symposium to the EARLI main conference. This will be a separate call that we will forward to our members as soon as it reaches us, but we would like to bring that already to your attention now so you can consider that possibility.

In a previous newsletter we forwarded the call for the EARLI EDUREV Early Career Editorial Board and the EDUREV College of Reviewers. We have forwarded the applications to Educational Research Review and they are progressing with this initiative. At the meeting it was announced that other EARLI journals may follow suit, which means that similar calls can be expected from the other EARLI journals in the future. If you are interested in this kind of opportunity stay tuned to our newsletters.

2. Present and future of SIG 20

Since we took over the coordination of SIG 20 we have been discussing several aspects concerning the motivation and incentives of current members of the SIG as well as wider needs and desires of colleagues who would be interested in considering joining the SIG.

Against this background, we would like to use the SIG 20 business meeting at the upcoming joint conference of SIG 20 & SIG 26 in Utrecht and at the EARLI conference in Thessaloniki next year to discuss questions, such as "What should we expect from SIG 20?", "How could we increase constructive interaction between SIG members the coordinators as well as between SIG members themselves?", " How can we establish and maintain a vibrant and growing community of practice organized around the SIG 20?", and to think of the present and future of SIG 20 more generally, e.g., potential collaborations and synergies with other SIGs, themes and topics to single out for future keynote presentations, areas of particular interest for research in inquiry learning.

To prepare for these meetings, we would like to open the floor for your ideas, suggestions, and recommendations on the present and future of SIG 20. Please send us your thoughts via email (sig20inquiry@gmail.com) by September 7th. We look forward to hearing your personal opinions on how to address the questions above and any other challenges related to SIG 20.

3. Call for mentees and mentors

During the upcoming SIG 20 & SIG 26 conference in Utrecht, we would like to enable our JURE members of SIG 20 to get the opportunity to have an informal meet-up with experienced researchers. This could be a chance to get new insights and feedback on one's own research and also to ask questions or have an exchange about theories, methods, and so forth. A possible format could be a chat and coffee with an experienced researcher after a paper or poster presentation of the junior researcher at the conference. If you are interested in participating either as a mentee (i.e., junior researcher) or mentor (i.e., senior scholar) at the SIG 20 & 26 conference, please send us an email to sig20inquiry@gmail.com by September 7th.

4. Keynotes at the SIG 20 & 26 conference

We are honored that **Sarit Barzilai**, **Ton de Jong** and **Antonia Larrain** are the keynote speakers of the upcoming joint conference of SIG 20 and SIG 26 in Utrecht from September the 14th to September the 16th.

Sarit Barzilai is a Senior Lecturer in the Department of Learning and Instructional Sciences in the Faculty of Education of the University of Haifa, Israel.

In her keynote entitled "*Epistemic Growth in a "Post-Truth" World: Challenges for Argumentation and Inquiry Learning*", she will first outline four core "post-truth" thinking problems that have concerned educators, and then use each of these problems to frame challenges and opportunities for argumentation and inquiry learning. She will further present a theoretical framework, the Apt-AIR framework, which posits that education should focus on promoting students' apt epistemic performance. Building on this framework, Sarit Barzilai will describe several instructional directions for addressing "post-truth" challenges.

Ton de Jong holds a chair in Instructional Technology at the University of Twente in the Netherlands.

In his keynote "*Let's talk evidence – what do we know about the instructional effects of inquiry learning?*", he will discuss existing evidence from controlled studies, correlational analyses, and larger scale interventions on the effectiveness of inquiry-based learning (compared to direct instruction). He will argue that there are many forms of inquiry-based and direct instruction available for a diversity of domain content and learning goals and each may have their specific virtues and disadvantages.

Antonia Larrain is a Full Professor of Psychology at the Universidad Alberto Hurtado in Chile.

The title of her keynote is "*Deliberative teaching as educational experience: Weaving together different threads of research to craft education for democracy in the 21st century*". Based on existing empirical evidence and theoretical insights, she will discuss different open questions related to research on deliberative teaching, such as "does the deliberative experience prompt knowledge and skills at the same time?" or "how does deliberating with others prompt learning outcomes on an individual level?".

More information about our keynote speakers and their complete keynote abstracts can be found on our conference homepage: https://earli.org/SIG20-SIG26-2022#keynotes

The detailed programme of the conference can be found here: https://earli.org/SIG20-SIG26-2022#programme

5. Spotlight on inquiry learning

We are proud to announce this new section in the newsletter of SIG 20 where we would like to share current research from SIG 20 members that offers new insights and innovative perspectives on inquiry learning. The first spotlight in the present newsletter is provided by SIG 20 coordinator Tasos Hovardas.

Educational robotics and inquiry learning: Assessing learning products across iterations
by *Tasos Hovardas* (Research in Science and Technology Education Group, University of Cyprus)

Educational robotics provides an excellent opportunity for orchestrating open-ended learning activity sequences in inquiry learning that involve a trajectory with questioning and exploration instead of the more close-ended trajectory with hypotheses and experimentation. A crucial consideration is how to evaluate such open-ended learning environments, where implementations involve few students, where control groups could hardly be established to be compared to experimental groups, and where pre-post tests may not grasp the richness of student actions and paths.

At the Research in Science and Technology Education Group, University of Cyprus, we have been working in the last three years within the frame of the GINOBOT programme (Cyprus Research Promotion Foundation; Proposal Number INNOVATE/0719/0098; https://www.engino.com/w/index.php/products/innolabs-robotics/ginobot) on these aspects in pedagogical design, implementation and assessment.

At the SIG20 & SIG26 Conference in Utrecht, we will present some preliminary results of our work with students in lower primary education. We planned for multiple iterations with increasing programming complexity, where students engaged in subsequent cycles of design, programming, testing, and revision. To monitor and evaluate student performance, we assessed the quality of learning products delivered by students. We define learning products as physical or digital artefacts constructed by learners during learning activities by means of physical or digital tools. The objective was to examine if student performance improved within and across iterations. Our results indicate that students progressed within each iteration as well as from one iteration to the next. Learning products can be employed by teachers for formative assessment, by students themselves for peer assessment as well as by stakeholders for structuring a dialogue on the cross-fertilization of inquiry-based learning and educational robotics.

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