The International Collaboration for Research on

STATISTICAL REASONING, THINKING AND LITERACY

SRTL

Preliminary Announcement

The Fifteenth International Research Forum on Statistical Reasoning, Thinking and Literacy (SRTL-15)

Frankfurt Region, Germany (venue TBD)

August 2027

Data transparency: Surfacing subjectivities

About SRTL

The International Collaboration for Research on Statistical Reasoning, Thinking, and Literacy (SRTL) was established to cultivate a community of researchers and statistics educators who share the passion of studying the nature and development of students' statistical literacy, reasoning and thinking, and exploring the challenges posed to educators and researchers at all levels in supporting learners to achieve these goals. The first meeting took place in Kibbutz Be'eri, Israel in 1999. Since that first meeting, we have met in scientific gatherings for statistics education researchers every two years.

The SRTL research forums have unique features, such as a small size (~ 25 participants), that allow time for in-depth presentation and discussion of research-in-progress. There is extensive use of videos to present how learners solve problems and reason with statistical information, concepts and processes in classrooms or during interviews. Forums include a statistician-in-residence in order to provide a perspective of the discipline and to give feedback on the research presented. Participants present, discuss and debate about research related to the theme in a format that facilitates becoming acquainted with key researchers and viewing their work in progress in a stimulating, positive and enriching environment. The SRTL research forums have led to many frontier publications that present new research, synthesise and build on previous research, and form connections among related work in other disciplines (Garfield & Ben-Zvi, 2015; Ben-Zvi et al., 2018; Fielding et al., 2025). Each Forum results in a publication (special issue or monograph) to allow completed work to be shared more broadly.

Looking back over our previous forums, our work has evolved from investigating aspects of statistical (SRTL1-4) and inferential reasoning (SRTL5-8), statistical modelling (SRTL9-11), non-conventional data (SRTL12-13), and more recently subjectivities (SRTL14). SRTL-15 seeks to continue discussions from SRTL-14, which acknowledged

> If subjectivities and perspectives that underpin human decision-making when investigating data are neglected, it can create an unproductive distrust of data as mismanaged or manipulated, or a naive over-trusting of data taken out of context or used in disinformation campaigns. (SRTL-14 Preliminary announcement, 2024, p. 2)

The Fifteenth International Forum for Research on Statistical Reasoning, Thinking and Literacy (SRTL-15) will build on working with data in all its forms and complexities while progressing our understanding of how learners navigate and communicate subjectivities.

Data transparency: Surfacing subjectivities

AI generated images, videos and information create enormous challenges in humans' abilities to distinguish truth from opinion; and consequently have sown seeds of mistrust in peoples' views of statistics and data science. In a world mired in misinformation and disinformation presented as truth, teasing out truth is a critical skill. A focus on transparency in statistics and data science education provides an opportunity to engage learners in evidence-based approaches to combat misinformation and disinformation.

In order to develop public trust in the scientific enterprise, significant critical thinking skills are needed when making sense of data-based claims. At the same time, we want learners to understand that data outcomes reflect a range of human choices and contexts, and to acknowledge and seek transparency to bring these subjectivities to the surface. We see data transparency as a pedagogical and ethical commitment to making visible the contexts, histories, cultures and beliefs in how we communicate choices and uncertainties inherent in working with data. "Transparency in data, methods and process gives the rest of the community the opportunity to see the decisions, question them, offer alternatives, and test these alternatives in future research" (Silberzahn et al, 2018, p. 354).

Without data transparency practices, trust in the scientific process is at risk. "Confidence in scientific claims is rooted in being able to interrogate the evidence for the claims and how that evidence was generated" (Nosek et al., 2025, p. 1). Treating transparency as a routine, expected practice in working with data allows learners to take a hard look at what's behind, within, surrounding, hidden and absent from data. Data science educators want learners to understand that data outcomes reflect a range of human choices, and to acknowledge and seek transparency to make analyses and inherent subjectivities visible. Taken together, the choices one makes when working with data are not trivial and can drive results in significant ways. Statisticians have processes for documenting their analysis approaches so that other researchers may test their results through reproducibility (same analysis on the same data), robustness (same data, different analyses) and replicability (testing the same question with new data) as one approach for achieving transparency in their work. Expecting transparency and bringing it to the surface as normal practice helps learners participate in developing the critical skills they need as citizens and workers in contemporary society.

Despite its importance, the field is behind in developing curriculum, pedagogy and assessment at all stages to highlight transparency when working with data. The field of statistics and data science education needs:

- to move the field from (vaguely) acknowledging subjectivity to researching ways to incorporate transparency and justifying analytic choices into teaching and learning;
- research that focuses on productive acknowledgement of subjectivities while at the same time builds trust that rigorous data practices provide valuable insights into teasing out truth from misinformation and disinformation;
- to promote the development of measures and frameworks that connect argumentation with data practices and data agency that reflect what is valued for active citizenship;
- meaningful learning experiences around global and social issues affected by the use and communication of data, where subjectivity must be managed and transparent.

Key Question

How does the field of statistics and data science education support students and teachers at all levels to develop age-appropriate reasoning about data and literacies that honour context and expect transparency?

SRTL-15 Proposals

We seek contributions that will examine how K-12 and post-secondary education and public communication avenues (including social media) can cultivate data reasoning that is rigorous and transparent through acknowledging context, careful consideration of evidence and explicit connection to implications. Contexts for research can relate to classrooms, public engagement, informal learning, AI use, or multi-disciplinary data practices in history, journalism, science, etc. We encourage applications that consider one or more of the following questions or related ideas.

The nature, power and realisation of transparency

- How do we elevate the role and transparency of evidence, assumptions and/or implications around data use?
- What kinds of frameworks support thinking around subjectivities and transparency in data-based measurement, decision-making and communication across a range of contexts?
- What are the epistemic conventions in different disciplines around transparency and argumentation and how can we incorporate those in data science education?

Teaching and learning strategies that promote transparency

- How can greater focus on transparency around values, ethics, sustainability and responsible communication be embedded in curriculum, teaching and assessment practices?
- How do educators help students distinguish between being transparent about one's positionality and unmoored relativism?
- What kinds of dispositions and capacity-building can transparency in data promote around bias, assumptions, perspective-taking, healthy scepticism as well as trust in the scientific enterprise?
- How can we design learning experiences that treat transparency about uncertainty and context as essential to rigour rather than opposed to it?
- What aspects and examples of tasks, technologies or design of learning environments promote richer understandings of subjectivities and transparencies in working with data?

Technology, AI and algorithmic subjectivity

- In what ways can technology enable and hinder transparencies around student decision-making?
- How do learners experience subjectivities embedded in algorithms and machine learning?
- What is the potential role of AI in data analysis and interpretation in advancing transparency?

Data agency and data-literate citizenship

- How do we support the public to expect greater transparency in reporting information from data and using that information to make informed decisions?
- How can transparency empower learners to integrate subjectivities in rigorous ways in data work?
- How can we better support learners to recognise and interrogate subjectivities in proxies?
- What roles do disposition play in developing data-literate citizens?

Surfacing subjectivities

- How do we integrate historical, generational and cultural contexts into statistical reasoning without losing analytical clarity?
- How can data stories promote awareness of subjectivities in data investigations?
- How can Bayesian ideas of updating initial ideas based on new evidence be shaped into age-appropriate learning activities?
- How could ideas from risk management be incorporated into research and pedagogical approaches?
- What data ethics are age-appropriate in K-12 and post-secondary education?

Call

Expression of interest to attend the Forum can be submitted before **October 30, 2026** to **SRTLmailbox@gmail.com**. Participation in the SRTL-15 Forum can be as a *presenter* or as a *discussant*.

- *Presenters* are asked to send a brief letter of introduction of yourself (if new to SRTL) and a brief (two-page) overview of work-in-progress relevant to the theme of the Forum, addressing: introduction, literature review and/or theoretical framework, methodology, expected results, and your practical and theoretical contribution to the theme. The overview should particularly emphasise the transparency and/or subjectivity aspect of engaging with complex data that you are addressing in your proposed presentation. Note that presentations are *intentionally* on incomplete rather than polished work and should seek to provoke discussion about the theme.
- *Discussants* are experienced SRTLers who will actively participate in all sessions and discussions and share their own reflections and insights in a panel on the final day. Discussants are asked to send a brief expression of interest.

Key preliminary dates:

- 16 November 2026: Expression of interest due
- December 2026: Response to Expression of Interest
- 18 January 2027: Extended abstracts due
- February 2027: Decision on acceptance
- March 2027: Pre-SRTL Discussions (online)
- 18 June 2027: Registration and preliminary paper due (front end of a full paper)
- 15-21 August 2027 (Dates TBC): SRTL-15 held

Location and local organising team

Location: Frankfurt Region (venue TBC), Germany

Local organisers:
Susanne Schnell, Goethe University – Frankfurt
Daniel Frischemeier, University of Münster

References

Ben-Zvi, D., Makar, K., & Garfield J. (Eds.) (2018). *International handbook of research in statistics education*. Singapore: Springer.

Fielding, J., Makar, K., & Ben-Zvi, D. (2025). Developing students' reasoning with data and data-ing. *ZDM–Mathematics Education*, *57*(1), 1-18.

Garfield, J., & Ben-Zvi, D. (2015). The International Collaboration for Research in Statistical Reasoning, Thinking, and Literacy (Foreword). In A. Zieffler & E. Fry (Eds.), *Reasoning about uncertainty: Learning and teaching informal inferential reasoning* (pp. xv-xviii). Catalyst Press.

Nosek, B., Mummery, C., Scarabelli, L., & Podzorov, V. (2025). Reproducibility and transparency: what's going on and how can we help. *Nature Communications, 16*(1).

Silberzahn, R., Uhlmann, E. L., Martin, D. P., Anselmi, P., Aust, F., ... & Nosek, B. A. (2018). Many analysts, one data set: Making transparent how variations in analytic choices affect results. *Advances in Methods and Practices in Psychological Science*, *1*(3), 337-356.

SRTL (2024). *SRTL-14 preliminary announcement.* www.srtl.info.