THE SRTL FORUMS: INTERNATIONAL RESEARCH FORUMS
ON STATISTICAL REASONING, THINKING, AND LITERACY

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Over the past decade there has been an increasingly strong call for statistics education to focus more on statistical literacy, reasoning, and thinking. One of the main arguments presented is that traditional approaches to teaching statistics focus on skills, procedures, and computations, which do not lead students to reason or think statistically. The Statistical Reasoning, Thinking, and Literacy Forums (SRTL) began in 1999 to foster current and innovative research studies that examine the nature and development of statistical literacy, reasoning, and thinking, and to explore the challenge posed to educators at all levels — to develop these desired learning goals for students. The SRTL Forums, co-chaired by Joan Garfield and Dani Ben-Zvi, offer scientific gatherings every two years and related publications in journals, CD-ROMs and books. The SRTL Forums have multiple features: small size that allows plenty of time for interaction and discussion; the use of videos of classroom work or interviews with students, as a way to present, discuss and argue about research related to these topics; and a stimulating and enriching format that facilitates the acquaintance with key researchers in this area and viewing their work in progress.

The fifth Forum is to be held in England in August 2007, hosted by the Institute of Education, University of Warwick. The topic of the fifth Forum will be Reasoning about Statistical Inference: Innovative Ways of Connecting Chance and Data. The Forum’s focus will be on informal ideas of inference rather than on formal methods of estimation and tests of significance. This topic is of current interest to many researchers as well as teachers of statistics. We focussed our discussions at SRTL-4 on the concept of distribution. This raised many interesting issues including the recognition that the nature of inference varies according to whether we are treating distribution as a collection of data or as a theoretical model. We have decided to develop this discussion by making inference the focus of SRTL-5. As new courses and curricula are developed, a greater role for informal types of statistical inference is anticipated.

We encourage research papers that deal with reasoning about statistical inference at all levels of education including the professional development of elementary and secondary teachers and address questions such as the following: What are the simplest forms of statistical inference that students can understand? How does reasoning about statistical inference develop from the simplest forms (informal) to the more complex ones (formal)? How can instructional tasks and technological tools be used to promote the understanding of statistical inference? What are sequences of activities that can help student develop a conceptual understanding of statistical inference? What types of misconceptions are found in students' reasoning about statistical inference? What types of foundational knowledge and reasoning are needed for students to understand and reason about statistical inference? How do students develop an understanding of the language used in describing statistical inference (e.g., significance, confidence)? How does an understanding of statistical inference connect and effect understanding of other statistical concepts? What are useful items and questions to use to assess understanding of statistical inference?

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