CALL FOR PAPERS: REASONING ABOUT INFORMAL STATISTICAL INFERENCE

The *Statistics Education Research Journal* (*SERJ*), a journal of the International Association for Statistical Education (IASE), is planning a special issue for November 2008, focused on research on *Reasoning about Informal Statistical Inference*. **Submission deadlines: Letters of intent by Sept. 15, 2007; Full papers by Nov. 1, 2007**. Guest Editors will be Dave Pratt (University of London, UK, <d.pratt@ioe.ac.uk>), and Janet Ainley (University of Leicester, UK, <jma30@le.ac.uk>).

1. ABOUT INFORMAL STATISTICAL INFERENCE

The aim of the special issue is to advance the current state of research-based knowledge about the development, learning, and teaching of statistical inference, a foundational area in statistics education. For the special issue we seek articles focused on a critical *subset* of issues in this broad area, describing research related to the understanding, learning, or teaching of *informal* aspects of inferential statistical reasoning, and demonstrating a contribution to research-based educational practice in this area.

It is recognized at the outset that the definition of what counts as "informal statistical inference" may at times be slippery, that is, what is informal could depend on the nature of the inferential tasks being studied, on the complexity of the statistical or probabilistic concepts involved, on the educational stage, and on other factors. The editors will select papers for the special issue that focus on learners' informal ideas about statistical inference or on learners' intuitive ways of reasoning about statistical inference in diverse contexts (see possible research topics below), *not* on mastery of formal procedures or on the learning/teaching of formal methods of statistical estimation, significance tests, etc. The papers being sought will be based on empirical research of a quantitative and/or qualitative nature on individuals or groups involved in all stages of education, including all levels of schooling, teacher education, professional development, and workplace and adult education. Papers on informal inferential reasoning invoked when people face everyday statistical tasks may also be considered, provided that they discuss clear educational implications.

2. POSSIBLE RESEARCH TOPICS

Key examples of relevant topics for papers that may fit under the general heading of *Reasoning about Informal Statistical Inference* include:

a. How does reasoning about statistical inference develop from simple forms towards more complex ones? What stages exist in the acquisition of informal knowledge about statistical inference, or in learning to communicate information or interpret displays about statistical inference, and how do students develop and understand the concepts and language that can be used in this regard (e.g., sampling, significance, confidence)?

b. What technological tools can be used to promote the understanding of statistical inference? How are such tools utilized by learners to help in understanding the building blocks or intermediate steps in statistical inference?

c. What tasks or sequences of instructional activities can help learners develop a conceptual understanding of some aspect of statistical inference? How does the design of tools and/or tasks shape students' informal inferential reasoning?

d. What types of barriers to students' informal reasoning about statistical inference are found, and how can they be avoided or overcome?

e. What types of foundational knowledge (statistical, general) or thinking processes are needed for or used by learners to informally understand and reason about statistical inference? How does an informal understanding of statistical inference connect with or depend on understanding of other statistical concepts?

f. What assessment approaches and research methodologies can be used to effectively assess understanding, reasoning or learning of informal statistical inference?

3. OTHER TOPICS RELATED TO FORMAL STATISTICAL INFERENCE

SERJ is also inviting research-based papers on learning, reasoning or understanding of formal aspects of statistical inference, that is, papers that fall outside the scope of the notion of "informal statistical inference" as described above, but that otherwise fit the general aims of the *Journal*. Such papers would be processed by *SERJ* as regular papers and if accepted will be published in a regular issue. Should enough such papers be accepted for publication, they will be grouped together in a special section and prefaced with an introductory paper by a member of the *SERJ* Editorial Board.

4. SUBMISSION GUIDELINES

Authors are advised to aim for papers in the range of 4000-6000 words of body text (not counting abstract, tables and graphs, references, appendices). Manuscripts for the special issue will be limited to a *maximum* of 7500 words of body text, but shorter, concise papers are encouraged. All manuscripts will be refereed following *SERJ*'s regular double-blind peer-review process. Manuscripts should be submitted in accordance with *SERJ*'s standard Author Guidelines and using the Template file found on the *Journal*'s website: www.stat.auckland.ac.nz/serj.

5. DEADLINES AND CONTACT INFORMATION

Interested authors should send *a letter of intent by Sept. 15, 2007*, but preferably earlier, with a 150-250 word abstract describing key aspects of the research. This letter should be sent by e-mail to *SERJ* co-editor Iddo Gal: <iddo@research.haifa.ac.il>, and authors can expect to get a quick response within 10 days. Authors wishing to send informal queries regarding the suitability of a planned paper can also contact Iddo Gal.

Full manuscripts must be submitted by Nov. 1st, 2007 at the latest to Iddo Gal at the address above, in accordance with the submission guidelines listed earlier**.**

Decisions about the suitability of proposed papers and the allocation of accepted papers to the special issue or to a regular *SERJ* issue will be made jointly by the *SERJ* Editors and Guest Editors.