
International Association for Statistics Education



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Invitation to join IASE

It is my privilege and pleasure to serve as President of the International Association for Statistical Education (IASE). Over the years I have benefited greatly from my involvement in IASE, primarily through learning of perspectives on teaching statistics from dedicated teachers and education researchers around the world. I urge you to consider joining, or renewing your membership in, IASE not only so you can benefit from the publications and conferences that IASE offers, but also so you can support IASE's many projects to improve statistics education around the world. Please visit the IASE website at: <http://www.stat.auckland.ac.nz/~iase/> and follow the "members" link for membership information and forms.

Allan Rossman
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Statistics Education papers in International Statistical Review

The December 2007 issue of the International Statistical Review features several articles on statistics education. Thanks to Chris Wild for the behind-the-scenes work to prepare this special issue. See <http://www.blackwell-synergy.com/toc/insr/75/3> for table of contents and article summaries. The issue begins with a themed suite of seven papers designed to have broad appeal to practitioners and technology buffs as well as statistics educators. Its focus is on how to give students experiences much closer to the practice of professional statisticians than has been possible in the past using technology to collapse the time scales needed for instruction via virtual environments. The main areas used as illustrations are the design of experiments and multivariate analysis. Although these are relatively advanced topics, many of the ideas discussed can be applied at any level of statistical education.

To introduce readers to the area, its enormous potential for the advancement of statistics education, and also to promote the other papers in the themed suite, the journal has made available free online:

"Virtual Environments and the Acceleration of Experiential Learning" by Chris Wild
<http://www.blackwell-synergy.com/doi/full/10.1111/j.1751-5823.2007.00033.x>

The issue continues its educational theme with an update of Joan Garfield's classic 1995 paper "How students learn statistics", reviewing the subsequent fifteen years of research, and several other articles by leading statistics educators.

Contributed by Allan Rossman

IASE/ICMI Roundtable Conference on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education

After almost two years of planning we are now close to the Joint ICMI/IASE Study conference that is to be held at the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey, México, June 30 to July 4, 2008.

A total of 94 papers were received from 24 different countries, including some developing countries and countries where statistics education is still not well developed. About 2/3 of the contributions came from countries with languages different from English.

A refereeing process was organised by the International Programme Committee and supervised by Allan Rossman and Carmen Batanero. Each paper was reviewed by two external referees (double blind) and one member of IPC (in this case the name of authors was given to the referee). A total of 75 external referees helped in this process. Authors were sent copies of the three reports and a letter with the decision. The letter also included a list of changes suggested for accepted papers. Referees were sent a copy of these letters and reports. The referee process was very constructive; referees provided advice to improve the accepted papers and when needed, support with English language.

A total of 43 papers were accepted and 16 more were conditionally accepted (that is, authors were requested to rewrite and resubmit for a new revision). Consequently the number of papers finally presented in the conference will probably be around 55.

As this is a working conference, the main part of the conference will be structured around six different topics, each organised by two members of the International Programme Committee, as follows:

- Topic 1. The current situation of teaching statistics in schools. Dani Ben-Zvi and Chris Reading
- Topic 2. Teachers' attitudes, knowledge, conceptions and beliefs in relation to statistics education. Carmen Batanero and Gail Burrill
- Topic 3. Analysing current practices in teacher education regarding the teaching of statistics. Doreen Connor and Lionel Pereira-Mendoza
- Topic 4. Empowering teachers to teach statistics: A look into the future. Joachim Engel and Maxine Pfannkuch
- Topic 5. Training teachers in developing countries. Jun Li and Víctor Polaki
- Topic 6. Building collaboration between mathematics and statistics educators in teacher education. Joan Garfield and Maria Gabriella Ottaviani

There will be two types of parallel sessions related to these topics. Each session will have a chair (moderating the discussion) and a recorder (a person taking notes).

1. Paper presentation sessions:

These sessions will be either 90 or 120 minutes in length and will consist of short introductory remarks by the Chair, three /four presentations of papers by their authors (20 minutes for the paper followed by 5 minutes for questions to the author), and general discussion and closing (10-15 minutes).

2. Working Group sessions

The aim of these sessions is to advance the analysis of the questions that were defined for each of the Study Topics in the Discussion Document, reflecting on how the papers presented contribute to the answers for some of these questions and defining what work is still needed (both in future research and for the production of the book). Discussion is arranged around the set of papers presented in the earlier paper presentation sessions. Each paper will be assigned a reactor (and conversely, each author should react to another paper).

Plenary sessions planned for the conference include:

3. Opening address: Joao Pedro da Ponte, Portugal, Preparing teachers to meet the challenges of statistics education

4. Panel 1. Fundamental ideas in statistics and how they affect the training of teachers: Gail Burrill (Chair), USA Martha Aliaga, USA, Rolf Biehler, Germany, Ernesto Sánchez, México

5. Panel 2. The interplay of probability and statistics in teaching and in training the teachers: Gabriella Ottaviani (Chair), Italy, Manfred Borovcnik, Austria, Jean Claude Girard, France, Delia North, South Africa

6. Panel 3. Technology in the teaching of statistics: potentials and challenges in preparing the teachers: Dave Pratt (Chair), U.K., Dani, Ben-Zvi, Israel, Doreen Connor, U.K., Anthony Harradine, Australia

7. Reports from Working Groups

8. Conference overview and closing

The web page for the Study

(http://www.ugr.es/~icmi/iase_study/) is being updated with information for the Study, as soon as it is produced. We are also starting develop a web version of the Proceedings CD.

Contributed by Carmen Batanero

The ViSA project: Variety in Statistics Assessment

The Royal Statistical Society Centre for Statistical Education (RSSCSE) under the auspices of the UK Higher Education Maths, Stats and OR Network is funding a new international project. This project, Variety in Statistics Assessment (ViSA), aims to gather accounts of recent successful experiences in assessment of statistical learning at tertiary level from statistics teachers worldwide. The main focus is a virtual international conference, with refereed proceedings to be published as a book in 2009. This links with, but is not directly associated with, the IASE satellite meeting on Assessing Student Learning in Statistics held in Portugal last Summer. The project leaders are Penelope Bidgood, Kingston University, UK, p.bidgood@kingston.ac.uk; Neville Hunt, Coventry University, UK, n.hunt@coventry.ac.uk; and Flavia Jolliffe, University of Kent, UK, F.Jolliffe@kent.ac.uk.

Abstracts were due in March 2008, a working group at the University Mathematics Teaching Conference in Birmingham, UK in December 2007 produced a working paper Promoting Variety in Statistics Assessment, and a related presentation at the MSOR/CETL Conference in Lancaster, UK is planned for September 2008. News and updates can be found on the web page

<http://www.rsscse.org.uk/activities/visa/>

Contributed by Flavia Jolliffe

The Sixth International Research Forum on Statistical Reasoning, Thinking, and Literacy SRTL-6: The Role of Context and Evidence in Informal Inferential Reasoning

The sixth in a series of International Research Forums on Statistical Reasoning, Thinking and Literacy (SRTL-6) is to be held in Brisbane, Australia from July 10 to 16, 2009. The School of Education at The University of Queensland, will host the Forum.

The Forum's focus will build on the work presented and discussed at SRTL-5 on informal ideas of statistical inference. Recent research suggests an important role for developing ideas of informal types of statistical inference, even at early educational levels, that encourage students to infer beyond samples of data and use technological tools to support these informal inferences. The findings of these studies reveal that the context of the data and the use of evidence may be important factors to study further. The role of context is of particular interest because in drawing (informal) inferences from data, students must learn to walk a fine line. First, they must maintain a view of data as "numbers with a context" (Moore, 1992), at the same time, they must learn to see the data as separate in many ways from the real-world event they observed (abstraction). The role of evidence is also of particular interest because in learning how to make data-based claims (argumentation), students must consider the evidence used to support the claim, the quality and justification of the evidence, limitations of the evidence and finally, an indication of how convincing the argument is.

Based on SRTL-5, we now characterize Informal Inferential Reasoning (IIR) as the cognitive and socio-cultural activities involved in drawing conclusions with some degree of uncertainty that go beyond the data and having empirical evidence for them. Three principles appear to be essential to informal inference: (1) generalization (including predictions, parameter estimates, and conclusions) that go beyond describing the given data; (2) the use of data as evidence for

those generalizations; and (3) conclusions express a degree of certainty, whether or not quantified, accounting for the variability and uncertainty that is unavoidable when generalizing beyond the immediate data to a population or a process.

An interesting range of diverse research presentations and discussions have been planned and we look forward to a stimulating and enriching gathering. These papers will address the role of context and evidence when reasoning about informal inference at all levels of education including the professional development of elementary and secondary teachers.

The structure of the scientific programme will be a mixture of formal and informal sessions, small group and whole group discussions, and the opportunity for extensive analysis of video-taped research data. There will also be a poster session for exhibiting current research of participants on additional topics related to statistics education. The Forum is co-chaired by Dani Ben-Zvi (University of Haifa, Israel) and Joan Garfield (University of Minnesota, USA), locally organized by Katie Makar and Michael Bulmer (The University of Queensland), and planned by a prestigious international advisory committee. Conference attendance is by invitation only. For more information, visit the SRTL website at:

<http://srtl.stat.auckland.ac.nz/> or email SRTL2009@gmail.com.

Contributed by Katie Makar

Report from ISI-09 Programme Coordinating Committee (PCC)



I am pleased to report that the meetings of the ISI-09 PCC went very well, both for IASE and overall. They were informative, constructive and very collegial. The IASE proposals for IPM's (Invited Paper Meetings) were well-received. The total set of

proposals from all ISI Sections and Committees had to be greatly reduced, but IASE's proposed sessions were reduced by only two, with some shared sessions as described below. The outcome for IASE is given here. The full list of IPM's will appear shortly on the Durban Session website and also appears in this issue of the *Newsletter* (see page 7). The IPM organisers are currently in the process of confirming their proposed invited speakers; this information will appear in a later *Newsletter*. Many thanks to IASE members for the ideas and detailed proposals that were of great assistance in preparing the IASE submission.

IASE was asked to join in session IPM15 proposed by IAOS, which I agreed with provided the original title (Capability Issues in Statistical offices - How statistical offices are managing the different capability challenges) was broadened to the title you see below. The IAOS organiser (Nancy McBeth) was very keen on my suggestion and we are working together on this session. It will probably have an IAOS organiser and at least one IASE speaker. In turn I proposed that session IPM37 be shared with IAOS. IAOS are not only happy with this but also happy with the current proposal as it stands. Suggestions from

the local hosts aligned themselves naturally with sessions IPM38 and IPM39, so that I was able to say that IASE could incorporate the local hosts' interests.

I am also working with the Local Programme Committee and the ISI President on a number of educational aspects of ISI-09 that will involve school students. It is planned to hold the final of the First International Statistics Literacy Competition (<http://www.stat.auckland.ac.nz/~iase/islp/competition>) during ISI-09. During my trip to South Africa as one of the 2007 official visitors to the South African Statistical Conference, one of my duties was to give a 1-day workshop to teachers. There was great enthusiasm throughout, including for the competition which Juana Sanchez described at the end of the day. Our thanks to Juana for her excellent work on this competition and the ISLP this year. The other educational activities for ISI-09 are currently in the planning stages and will be announced later.

Any IASE members who would like to propose and organise a Special Topic Contributed Paper Meeting (STCPM) for ISI-09, are welcome to contact me (h.macgillivray@qut.edu.au) if they would like advice or feedback.

IPM15 The challenge of building a supply of statisticians for the future To be determined, c/o Nancy McBeth, Nancy.McBeth@stats.govt.nz

IPM36 The roles of statistical agencies in developing statistical literacy
Reija Helenius, Finland, Reija.Helenius@stat.fi

IPM37 Educating the public on how to use official statistics
Peter Wingfield-Digby, pwdigby@loxinfo.co.th

IPM38 Challenges faced in Statistics Education in African countries
Delia North, South Africa, northd@ukzn.ac.za

IPM39 Balancing the training of future statisticians for workplace and research
Charles Rohde, USA, crohde@jhsph.edu

IPM40 Exploiting the Progress in Statistical Graphics and Statistical Computing for the benefit of Statistical Literacy
Juana Sanchez, USA, jsanchez@stat.ucla.edu

IPM41 Survey Research in Statistics Education
Irena Ograjensek, Slovenia, irena.ograjensek@ef.uni-lj.si

IPM42 Research on Informal Inferential Reasoning
Katie Makar, Australia, k.makar@uq.edu.au

IPM43 Teaching, Learning and Assessing Statistics Problem Solving in Higher Education
Neville Davies, UK, neville.davies@ntu.ac.uk

IPM44 Technologies for learning and teaching in developing countries
Gabiella Belli, USA, gbelli@vt.edu

IPM45 Virtual Learning Environments for Statistics Education
Adriana Backx Noronha Viana, Brazil, backx@usp.br
and Pieter Verhoeven, Netherlands, n.verhoeven@roac.nl

Contributed by Helen MacGillivray