IASE matters

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A WORD FROM THE EDITORS

As both editors spent time in Australia earlier this year, it may be appropriate to report our impressions of "stat-ed" there. The ISI/IASE Satellite Conference in Sydney organized by Brian Phillips and Kay Lipson were certainly successful: - excellent program of talks, and very pleasant venue arrangements. But the level of activity in Melbourne was impressive as well: Brian Phillips keeps the local statistics community there in touch with each other by arranging talks and dinners at least monthly. For example, a workshop on the R system is being presented by John Maindonald: although the freeware R was designed for researchers rather than students and teachers, it is gaining popularity for use in courses at both introductory and advanced courses. Certainly, we use it this way. As visitors to Australia, we found the attitude to new developments in statistics education positive and welcoming. It seems to us, if we may generalize from our brief experiences in Sydney and Melbourne, that statistics education is thriving in Australia!

This newsletter is an opportunity for statistics educators to reach an important audience. Please send us information about the activities in your country, news about members, news about conferences past and future, or anything that might be of interest to other statistics educators.

Andrej Blejec and Larry Weldon
Editors of IASE Matters

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ICOTS-7: WORKING COOPERATIVELY IN STATISTICS EDUCATION

Salvador (Bahia), Brazil, July 2–7, 2006
Contributed by Carmen Batanero

The International Association for Statistical Education (IASE) and the International Statistical Institute (ISI) are organizing the Seventh International Conference on Teaching Statistics (ICOTS-7) which will be hosted by the Brazilian Statistical Association (ABE) in Salvador (Bahia), Brazil, July 2–7, 2006. Detailed information is available from the site http://www.maths.otago.ac.nz/icots7/icots7.php

The major aim of ICOTS-7 is to provide the opportunity for people from around the world who are involved in statistics education to exchange ideas and experiences, to discuss the latest developments in teaching statistics and to expand their network of statistical educators. The conference theme emphases the idea of cooperation, which is natural and beneficial for those involved in the different aspects of statistics education at all levels. Some examples are given below.

1. *Cooperative learning in statistics education*. Recent trends in educational psychology emphasise the role of student activity and social interaction in learning. These developments are particularly important in the case of statistics where students are taking a more active role in working on cooperative projects and studies.
2. *Cooperation between statistics teachers and researchers*. Real life applications generated by working with a researcher in another area help motivate the teaching of statistics. The subject is more enjoyable for students when a teacher can call on such real applications. At the same time, teachers are an essential part of a research team in statistics education, since they collaborate both in collecting data from the students and in helping with the design and evaluation of action-research programmes.
3. *Cooperation between statistical agencies and statistics educators*. Statistical agencies need the cooperation of the population at large when collecting their data. They are also interested in improving the statistical literacy of their citizens. Consequently, the agencies are communicating statistical ideas to their populace as well as providing official data for research on different topics, including teaching. Statistical offices and educators collaborate in the development of teaching resources based on official data and set up workshops and conferences on the teaching of statistics.
4. *Interdisciplinary cooperation for research*. Interdisciplinary research is natural both in applied statistics and statistics education. Many central statistical concepts and procedures arose from research problems in other subjects. At the same time the researcher, whatever subject he or she is working in, benefits by having problems actually solved. Statistics education is based on many different disciplines, such as psychology, education, epistemology, statistics and sociology, which all contribute in their own unique way to the study and solution of teaching problems.
5. *International cooperation in statistics education*. Global communication and increasing interest and respect for complementarity in education are leading to an increasing number of successful international research or educational programmes at different levels: e.g., Large scale statistical literacy comparative studies; Regional, National or International funded projects; International statistical education centres; International training programmes or conferences in statistics education.
6. *Globalization and diversity in statistics education.* Cooperation requires both global and local approaches to research and teaching. There is a contrast and a complementarity of global and local approaches in statistics education; e.g., large sample, quantitative studies versus qualitative and ethnographic research; the need to recognise global tendencies, and at the same time being sensitive to specific difficulties or talents of special and gifted students, minorities, etc.

We all hope ICOTS-7 will continue the scientific quality and engagement of previous ICOTS and encourage you not to miss this event. The ICOTS conferences only occur every four years and are not to be missed!

SRTL-4 REPORT

Report by Maxine Pfannkuch

The fourth research forum in a series of international research forums on Statistical Reasoning, Thinking and Literacy (SRTL) took place in winter at The University of Auckland in New Zealand. This particular gathering of researchers has played an important role in advancing our understanding of the richness and depth of reasoning about distribution, a key focus of statistics education.

The focus of SRTL-4 on reasoning about distribution emerged from the previous three SRTL conferences. Distribution is a key concept in statistics, and yet statisticians and educators may not be aware of how difficult it is for students to develop a deep understanding of this concept. When students are given tasks involving comparing distributions or making inferences, they often fail to utilize relevant information contained in the underlying distributions. Curricular materials often focus on construction and identification of distributions, but not on what these distributions mean to students and how they interpret them.

The programme began with an overview talk by Chris Wild entitled: "A statistician's view on the concept of distribution". Eight presentations of SRTL-4 were thematically grouped into five clusters. A cluster included one or two ninety-minute research presentations to the entire group, small group discussions, and a whole group reflection on the cluster. All presenters showed a small subset of video segments of their research. Optional time was devoted to viewing and discussing the research video-tapes from methodological and interpretive perspectives. In addition, three post-graduate students presented their current research findings in a poster session and a software developer discussed potential research questions to the entire group (see abstracts below). The programme ended with three discussants' reflecting on reasoning about distribution from research, curriculum, and technology viewpoints.

The research forum proved to be very productive in many ways. Several types of scientific publications will be produced including a CD-ROM of the proceedings edited by Katie Makar, papers in refereed journals, and a special issue of Statistics Education Research Journal (SERJ) on reasoning about distribution co-edited by Maxine Pfannkuch and Chris Reading. An additional product of the meeting will be a new SRTL website hosted by the Department of Statistics, The University of Auckland, that will include a variety of resources. These will all serve as a rich resource for statistics educators and researchers. As a result of the success of this gathering, plans are already underway for the next gathering (SRTL-5) in 2007.

For further information please visit SRTL-4 website at http://www.stat.auckland.ac.nz/srtl4/index.html or contact the SRTL Co-chairs Joan Garfield (jbg@umn.edu) and Dani Ben-Zvi (dbenzvi@univ.haifa.ac.il).

INTERNATIONAL STATISTICAL LITERACY PROJECT (ISLP) NEEDS YOUR HELP

Contributed by Carol J. Blumberg

In order to make the webpages of the International Statistical Literacy Project (ISLP) more helpful for users, the ISLP Advisory Committee is conducting a short survey of the users of the ISLP webpages. The survey is anonymous and is at http://course1.winona.edu/cblumberg/survey.htm. It should take about 3 minutes to complete. We would appreciate the filling out of the survey by anybody who has ever looked at the ISLP webpages. Thank you in advance to all who fill out the survey form.

If you have not yet explored the webpages of the ISLP, you can begin to do so by going to http://course1.winona.edu/cblumberg/islplist.htm. Contact Carol Joyce Blumberg at cblumberg@winona.edu for further information.

CHANCE NEWS

Contributed by Laurie Snell

Chance News reviews current issues in the news that use probability or statistical concepts. Its aim is to give the general public a better understanding of such news and to allow teachers of probability and statistics courses to liven up their courses with current news. In the past, most of the articles in Chance News related to U.S chance news. We have changed Chance News to a Chance Wiki to make it a collaborative effort of its readers in the spirit of the very successful free encyclopaedia Wikipedia. We hope, by this, to make the new Chance Wiki an International Chance Wiki. And so we encourage you to participate and to pass this information on to anyone who you think might like to contribute to this effort. You can view the Chance Wiki at http://chance.dartmouth.edu/chancewiki/

THIRD RADICAL STATISTICS CRITICAL ESSAY 2006

Contributed by Susan Starkings

Speak your mind and win a prize! Submit an original essay, 3,000 words maximum, by 1 May 2006 that addresses a current social research/policy question, with critical use and interpretation of relevant data sources. First prize is £300 and second prize is £200. There are two categories of entry, Student or Open, awarded on the basis of readability, clear presentation of statistical material and convincing argument.

Age and experience will taken into account when judging. The judges are Simon Briscoe, Len Cook, Ruth Levitas, Denise Lievesley and Susan Starkings

The essay awarded first prize will be featured on the Radical Statistics website and published on 1 July 2006. More detailed information can be found on the website http://www.radstats.org.uk.

Applications are encouraged well before the deadline. Send your essay by email, labelled 'Radstats Critical Essay', include your full name, address, age and number of years for which you have been engaged in social research, statistics, or the social sciences to janet.rmshapiro@btopenworld.com

TEACHING STATISTICS TRUST GRANTS OFFER

Contributed by Gerald Goodall

In addition to publishing Teaching Statistics, the Teaching Statistics Trust has many other facets. It is very keen to support statistics teaching in general, and is embarking on a new initiative to help and encourage statistics teachers in

schools. It wants to encourage school teachers to develop and share their good ideas. So it is offering small development grants of £50 for any article by a practising school-teacher that is accepted for publication in Teaching Statistics from now to the end of 2006. "Accepted for publication" doesn't mean actually published - the lead times mean that this might be somewhat later - but the article must have been refereed, any comments attended to, and a final draft accepted by the Editor. "Schools" include colleges provided a substantial amount of the work is at what would normally be thought of as school level, i.e. up to about age 18. And anywhere in the world. The Trust is also sponsoring an additional prize, as well as the annual C Oswald George Prize, which will be an award of £100 for the best article in the journal by a practising school-teacher in 2006 (volume 28) and in 2007 (volume 29). The winner each year will be determined by the Editorial Board. For details of how to submit your article, and further information about Teaching Statistics, please visit
http://www.blackwellpublishing.com/test

FIRST ANNOUNCEMENT OF THE JOINT ICMI/IASE STUDY

"Statistics Education In School Mathematics: Challenges For Teaching and Teacher Education"

Contributed by Gilberte Schuyten

In the past three decades a statistics education research community has developed, linking people from various background (statisticians involved in teaching statistics in service courses at University, mathematics educators, and psychologists), leading to the creation of the International Association for Statistical Education (IASE, http://www.stat.auckland.ac.nz/~iase/) in 1991, with over 500 members at the time being and to the publication of a research journal SERJ in 2002, a peer-reviewed electronic journal of IASE (http://www.stat.auckland.ac.nz/~iase/publications) and the International Statistical Institute (ISI, http://isi.cbs.nl/).

Conversations between ICMI and IASE made clear the common interest in organising a joint Study related to current problems in teaching of statistics within school mathematics. It was recognized that, in spite of recommendations to increase the presence of statistics teaching at school level, students enter University with a poor level in statistics. This impedes their progress in learning very basic inferential statistics at University and is causing a general misuse and misunderstanding of statistics by researchers and professionals.

The above facts led the ICMI Executive Committee to invite the IASE to cooperate in a joint ICMI/IASE Study focussed on statistics. This invitation was accepted by the IASE which proposed to merge the Study Conference with IASE's next Round Table Conference to be held in 2008 in Monterrey, Mexico.

Carmen Batanero (past IASE president 2001-2003) will act as chair of the International Programme Committee of the joint Study, whose composition is given below.

The first meeting of the ICMI/IASE Study IPC is planned at ICOTS-7 (July 2006, Brazil http://www.maths.otago.ac.nz/icots7) where over 400 statistics educators are expected. The second ICMI/IASE Study IPC meeting is planned at ISI 56th Session (August 2007, Lisboa, http://www.isi2007.com.pt/).

The ICMI/IASE Study Conference will be hosted by the Monterrey Technological Institute in July 2008 (Monterrey Mexico).

IASE is convinced that the engagement of both organizations to work together on the issue of statistics education in school mathematics will contribute to the advancement of preparation of youngsters to become statistical and mathematical literate citizens.

R – THE FREE STATISTICS SOFTWARE

Contributed by the Editors

Statistics researchers who have used advanced statistics software often do not consider the software appropriate for teaching, especially at the elementary levels. However this constraint is being eroded by some fearless enthusiasts of the freely downloadable package called "R". For example, there is a website with complete details on an introductory course using R. (http://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf). Several universities (including those of the editors) now teach statistics courses using R at the elementary level. (See also the Google search result for "introductory statistics R" for additional examples). The increasing use of R has encouraged improvements to the documentation. The R-help newsletter is very active and is supported by internationally renowned statisticians. While it takes a while to become familiar with all the sophisticated resources of R, some things are much simpler than other available packages. For example, the command **`plot(x)`** will produce an appropriate plot no matter whether **`x`** is a time series, or an n x p data matrix: when p = 2 you get a scatter plot, p > 2 a matrix plot. Another example illustrates the convenience of R using composite commands: **`dotplot(rnorm(25))`** provides a dotplot of 25 standard random deviates.

The download facility and much more information about R can be obtained from the URL
http://www.r-project.org/