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*This issue contains an introduction to the proceedings of the 50th Session of the International Statistical Institute, held in Beijing this August, and a report of one of the sessions, **Networking Innovations and Resources: the Internet as Toolbox**. It is anticipated that further reports will appear in future issues.*

NEW EDITOR FOR IASE MATTERS

Dick Scheaffer, who is taking over as editor, will be very pleased to receive contributions - short reports and articles on statistical education, research notes, announcements, etc. - of interest to an international readership. [Department of Statistics, Griffin-Floyd Hall, University of Florida, PO Box 118545, Gainesville, FL 32611-8545, USA. Tel 1-904-392-1941, Fax 1-904-392-5175, scheaffe@stat.ufl.edu]

SOME NOTES ON THE IASE PRESENCE IN BEIJING

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The Programme Coordinating Committee organised the 50th Session of the International Statistical Institute in collaboration with the five Sections of the ISI. Each of the five set up a certain number of meetings, all taking place during the same period, 21-29 August 1995, and in the same city, Beijing. This enhances the role of the Sections, a fact of great importance particularly for IASE, which was born in Cairo as recently as 1991.

After the first IASE meeting in Perugia (1993), the 50th ISI Session saw the Association engaged in the organisation of two invited joint meetings (one with the International Associations for Official Statistics, IAOS, and of Survey Statisticians, IASS, and the other with the International Association for Statistical Computing, IASC), two invited meetings, one panel discussion, four contributed meetings on selected topics, and one joint contributed meeting on selected topics (with IASC). This kind of organisation, and in particular the joint meetings, had the merit of making IASE and its members more visible to the whole community of statisticians who were present in Beijing.

Raising the profile of those statisticians engaged in statistical education, and of their activities, is a very important goal. These statisticians carry out a kind of research that is not always appreciated by their colleagues, who do not always worry about the didactic problems of their discipline. Moreover, in promoting statistical education they have to face, on the one hand, lack of concern on the part of political decision makers who are not always keen to understand the importance of the knowledge of the discipline for citizens and, on the other hand, the resistance of well established education systems.

An awareness that their hard work is appreciated and esteemed at an international level, that problems are not so very different in other countries, and that current experience of one might be used in the future by others, may become a strong stimulus for IASE members to persist in their diverse activities. A typical example of this field of research comprised the contributed paper meeting on selected topics that I had the honour to organise in Beijing on behalf of IASE, *Statistics at School Level*. The papers presented allow one to gain an impression of the various types of research into teaching statistics.

Curriculum matters is the subject with which the meeting began. Two works addressed this theme, illustrating the problems of teaching statistics in Hong Kong (S M Shen) and in Malaysia (A L Wang). In Hong Kong, statistics is taught to students aged 6-18 years, while in Malaysia it is taught from the beginning of secondary school education. There are some interesting developments that are specific to

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these two countries that otherwise share well-known difficulties with many others.

Teachers in general find it difficult to teach statistics and need in-service courses because statistics and probability have not been part of their curriculum. Not many textbooks are available which exactly cover the syllabus to be taught. Lack of hands-on experience limits the capability of statistical concepts to percolate through the class.

Textbooks are not the only available teaching aids. Educational journals may also be a useful instrument for teachers, because they are a source of ideas on how to teach statistics, as proposed by the most advanced applied didactic research in a particular country. This is very much the case in Italy where, for example, different journals are published for the primary school level. Articles on mathematics have been analysed (M G Ottaviani) to verify how three journals have faced the 1985 changes in the primary school syllabus, introducing statistics and probability in Italian elementary schools.

One aspect, only recently emerging, relates to the new quantitative attitude of history and geography towards statistics. The proposals of some Italian educational journals for teachers of junior high school are analysed (E Aureli) to check how this new approach to history and geography has been developed utilising statistical tools.

Many fields of international research on teaching statistics were covered during the meeting. Two of the papers investigate actual problems arising when students have to face statistical topics, in particular with reference to graphs. One paper (A Dunkels) considered how primary school children are taught stem-and-leaf diagrams, and links in an ingenious way the simplest tool of EDA to "place value idea" in the decimal system of enumeration. The interest of the young pupils is stimulated with the help of simple material such as a piece of thread and bottle tops, so that the children are directly involved in the teaching and learning process.

The other paper examined the misconceptions of students dealing with graphical situations (L Pereira-Mendoza). Misconceptions were generated from students' experiences, and inspected in detail in order to develop an instructional strategy that would reduce the possibility of

mistaken views arising from technical, as well as from more subtle modelling, aspects.

Curriculum, teacher aids, research on the teaching and learning of statistics, i.e. the main stream of research on statistical education, were all discussed at this meeting. Statisticians of many different countries were able to contribute, thereby showing the truly international aspect of this topic.

NETWORKING INNOVATIONS AND RESOURCES: THE INTERNET AS TOOLBOX

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A live Internet connection was made available for this ISI session, by courtesy of the Local Organising Committee in Beijing, to provide an up-to-the-minute look at the real possibilities that we have in using the Internet as a tool in our professional lives as statisticians, teachers and consultants.

While China is a fairly new addition to the Internet, connections within the country are proliferating. The China Home Page, provided by the Institute for High Energy Physics, has become well-known internationally as a high-quality information centre on the Internet.

China's booming telecommunications sector is speeding up the development of a nationwide information network as part of its modernisation programme for the next century. The country aims to accelerate information exchange through a global digital system to meet the demands of China's fledgling market economy. While the United States, Europe and Japan are poised to build their "Information Highways," China is also preparing to enter the information era.

Three speakers of international renown were invited to give presentations at the session, each demonstrating through the live-link how the Internet can be used. *Statistics in the Era of Networking* by Professor Gianfranco Galmacci of Università degli Studi, Perugia, Italy, gives a brief history of the development of the Internet and then addresses the question of how it can be used as a tool for the statistical researcher. Professor Galmacci is active in statistical computing and also runs an information server himself on the Internet. If you know what a

Universal Resource Locator is, you may want to browse Professor Galmacci's information service at the URL

<http://www.stat.unipg.it/iasc>

Professor Galmacci's paper is especially relevant to researchers looking for collaboration with distant colleagues and those interested in locating archives of free and public-domain statistical software.

The Internet: A New Dimension in Statistical Education by Professor James Laurie Snell of Dartmouth College, New Hampshire, USA, outlines the uses of the Internet for teachers of statistics. Professor Snell has been an active participant in creating that new dimension and is widely known for his work in the development and implementation of a course called *Chance*, the *Chance Database* and for his electronic *Chance Newsletter*. The database includes news stories and classroom examples which should provoke discussion in any statistics lesson. The database, as well as an archive of data-driven examples, is made available on Professor Snell's Internet homepage. The URL for this page is

<http://www.geom.umn.edu/docs/snell/chance/welcome.html>

Professor Snell's paper will be of interest to anyone with concerns about intellectual property in the era of electronic publishing, and about the strong and weak points of using the Internet in educational initiatives.

Professor Rongsheng Xu from the Institute of High Energy Physics in Beijing China described the global aspects of communication via the Internet, and the national and scientific challenges and benefits that are posed by linking to the network. Professor Xu has been instrumental in the development of the Internet link in China and is currently working through the Institute for High Energy Physics to extend linkage to many sectors in China as well as implementing wide-spread Internet training courses. Professor Xu's paper will be of interest especially to those working in NGOs (non-governmental organisations) within developing countries, or to anyone interested in linking, or extending links, in their home country.

The use of a live-link to the Internet was designed to make this session unique during the ISI conference. The Internet is a tool that will be useful to all in the field of statistics, whether as non-specialists, as consultants to NGOs,

academics, scientists or government statisticians.

The session itself was also planned to be slightly different from other sessions, in that there were to be no invited discussants. This was to allow more time for audience questions, participation and interaction with each speaker. Additionally, each speaker would actually be using the Internet as a tool during their respective talks, allowing for on-the-spot examples and demonstrations of concepts, and also revealing real links that audience members could take away from the session and use in their professional lives.

For those readers who would like more information on China and Beijing, etc., the following link page for China News and information may be of interest;

<http://www.cnd.org/Other/Chinese.html>

NEWS AND ANNOUNCEMENTS

1995-97 IASE Executive Committee

President:

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IASE National Correspondents

An international network of correspondents has been established to act as intermediaries between the Executive and the IASE membership and other people concerned with statistical education. The full contact names and addresses of these correspondents will shortly be available from the JSE Archive (see *Journal of Statistics Education* below) or from the ISI Permanent Office in Voorburg. If your area does not seem to be served by a local Correspondent, do not be afraid to volunteer your services. You could play a very important and interesting role in IASE's development.

IASE Round-table, 23-26 July 1996, Granada, Spain. *Research into the Role of Technology in Teaching and Learning Statistics.* This will be a small "working conference" of about 24 participants, consisting of presentations, software demonstrations, and discussions. It is expected that presentations will be grouped into the following categories: Exemplary software for teaching statistics and probability, How technology changes the teaching of statistics and probability, What can be learned from research on the impact of technology in helping students learn

statistics, Questions to be addressed regarding the role of technology in statistics education. For further information, contact Joan Garfield, Dept of Educational Psychology, University of Minnesota, 332 Burton Hall, Minnesota 55455, Minneapolis, USA. [Tel: 612-625-0337, Fax: 612-626-7848, jbg@maroon.tc.umn.edu]

8th International Conference on Mathematical Education, Seville 14-21 July 1996. Preceding the Roundtable in Granada, Brian Phillips is organising ICME-8 topic group 9 comprising two sessions on "Statistics and Probability at the Secondary Level". Three parallel meetings are scheduled for the first session: *Children's understanding of basic concepts of probability and statistics*, *Focus on data analysis*, and *Issues of learning and teaching probability and statistics for Spanish speaking teachers (in Spanish)*. The second session will deal with *General issues in teaching probability and statistics*, with short presentations on Assessment, Teacher-training, and Research followed by a forum discussion on *How statistics and probability can best be incorporated in the overall school programme*. Further details from Brian Phillips (see ICOTS-5, below).

ICOTS-5, June 1998. The next International Conference on Teaching Statistics will be held in Singapore. For the time being, requests to receive further information as it becomes available should be addressed to: Brian Phillips, School of Mathematical Sciences, Swinburne University of Technology, PO Box 218 Hawthorn, 3122, Australia [brp@swin.oz.au, Tel: +61-3-214-8288, Fax: +61-3-819-0821]

2-8 June 1996 (provisional dates) Computational Statistics and Statistical Education, University of Tartu, Estonia, co-sponsored by IASE, IASC and the Estonian Statistical Society. Rolf Biehler, Universität

Bielefeld, Institut für Didaktik der Mathematik (IDM), Postfach 100131, D-33501 Bielefeld, Germany [Tel: +49 521-106 5058/5060, Fax: + 49 521-106 2991, rolf.biehler@post.uni-bielefeld.de]

Journal of Statistics Education. Volume 3(2) is now available, with articles on: *Using Small Groups to Promote Active Learning in the Introductory Statistics Course* (Carolyn Keeler & Kirk Steinhorst), *Conditional Probability and Education Reform: Are They Compatible?* (Allan Rossman & Thomas Short), *Teaching Statistics: Making It Memorable* (Eric Sowe), and *Some Demonstration Programs for Use in Teaching Elementary Probability and Statistics* (Bruce Trumbo). *JSE* also includes a selection of downloadable datasets with notes on their use. The latest issue includes materials on poverty and inequality, and the readability of information booklets for cancer patients.

To obtain instructions for retrieving articles, send a one-line e-mail message to archive@jse.stat.ncsu.edu; send jse/v3n2/contents

Users of World Wide Web client software, go to: <http://www2.ncsu.edu/ncsu/pams/stat/info/jse/homepage.html>

The *JSE Information Service* is an online archive of useful information (including IASE materials) and software. To receive the index of what is available, send a one-line e-mail message;

send index
to the same address. Users of World Wide Web client software, go to: <http://www2.ncsu.edu/ncsu/pams/stat/info/infopage.html>

STOP PRESS!! RSS Centre for Statistical Education established with Anne Hawkins as Director. (See report in main body of *Teaching Statistics*.)

INTERNATIONAL ASSOCIATION FOR STATISTICAL EDUCATION

IASE is devoted to the development and improvement of statistical education on a world-wide basis. Membership will appeal to those whose interests or professional activities include

- Teaching statistics at a primary or secondary school,
- Teaching statistics in a college, technical institute, or university,
- Teaching, or developing software for, statistical computing,
- Teaching statistics, including quality improvement methods, in business or industry,
- Training statistical staff for government statistical offices, or
- Developing statistical textbooks, audio-visual materials, or curricula.

Members receive the *International Statistical Review*, *Short Book Reviews*, *Annual Review of International Statistics*, the *IASE Newsletter* and occasional publications such as the *IASE Review*. They may subscribe at a reduced rate to statistical journals, for example *Teaching Statistics* (with *IASE Matters*) and may purchase IASE and ISI education publications, e.g. Proceedings from international conferences on teaching statistics, at a discounted price. Members also benefit from reduced registration fees for regular conferences such as IASE satellite meetings (associated with ISI and ICME congresses), and ICOTS.

For details of how to become an individual, or institutional, member of IASE, contact the ISI Permanent Office. Concessionary rates apply to applications from developing and transition countries.