

# INTERNATIONAL ASSOCIATION FOR STATISTICAL EDUCATION

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## THE IASE IN 1993

The IASE, the youngest member in the ISI family of Associations, will be electing its first Executive Committee in the spring to this year, and the newly elected committee is to take office at the Association's first business meeting (the General Assembly) during the 49th Session of the ISI (starting on August 25) in Florence, Italy. Another "first" for the IASE will be the satellite meeting in Perugia, Italy (see boxed announcement below) immediately preceding the ISI Session. Members of the IASE will continue to receive the information relevant to these events by mail. Others who are interested in statistical education can still join the ranks of founding members, or inquire about membership in the Association, by contacting: Daniel Berze, International Statistical Institute, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, The Netherlands. Telephone: (31) 70-33 75737; FAX: (31) 70-3860025; E-mail: isi@cs.vu.nl

### FIRST SCIENTIFIC MEETING OF THE IASE, AUGUST 23-24, 1993, UNIVERSITY OF PERUGIA, ITALY

The program for this two-day satellite meeting, immediately preceding the 49th Session of the ISI, will include both invited and contributed papers, the main topics being:

- College and university level statistics education;
- Statistics education in developing countries;
- Training statistical staff in government offices;
- Teaching probability and statistics at school level;
- The role of computers and video tools.

IASE members and non-members interested in attending the meeting, in receiving more information about the meeting, or in submitting a contributed paper or other presentation, are invited to contact the chair of the Local Organizing Committee: Professor G. Cicchitelli, Dipartimento di Scienze Statistiche, Università di Perugia, Via A. Pascoli, 0611 Perugia, Italy. E-mail: STATLI@IPGUNIV.EARN; FAX: 01039-75-43242.

Dr. Pereira-Mendoza reports that the conference was organized around presentations made by the 20 delegates on various aspects of the general topic, each presentation being followed by an extensive discussion of the implications for statistical education in general, and for the teaching of Data Analysis in particular.

One of the issues discussed was: Is data analysis an interdisciplinary topic in schools? And, if it does cross interdisciplinary boundaries, what role can the mathematicians and statisticians play in introducing the topic or proposing methods for teaching it? Another issue discussed by this multinational group, with delegates from 10 different countries in the developed and developing world, was: should the introduction and teaching of data analysis be different in different countries? Among the relevant factors brought out in this discussion were technological disparities, cultural differences, and well-established local educational systems.

Several other issues were addressed over the four days of the conference. All papers, a summary of the discussions and a set of recommendations arrived at by the group, will appear in the forthcoming conference Proceedings volume, which is due for publication in June of 1993.

## Statistics At ICME-7

The following report was contributed by Anne Hawkins, University College & Middlesex School of Medicine, University of London, who was one of the invited speakers at the conference.

The 7th International Conference on Mathematical Education took place at Laval University in Quebec, Canada, on August 17-23, 1992. As has been customary at this four-yearly conference, there was a modest, some would say a token, coverage of statistical education issues. This is not meant in any way to belittle the efforts of the statistical educators present, but merely to point to the fact that during the entire scheduled discussion and oral presentation sessions (totalling in excess of 600 hours) only about 9 hours were allocated to statistical education presentations, and out of approximately 400 posters presented only 22 were about the teaching of statistics or probability.

Almost all of the statistical education presentations were organized into a working group entitled "Probability and statistics for the future citizen" organized by Mary Rouncefield from Great Britain and James Schultz of the USA, and a topic group entitled "Statistics in the school and college curriculum", organized by Richard Scheaffer of the USA. Both of these groups provided those present with stimulating opportunities for discussion.

The working group considered the implications of technology for the teaching of probability and statistics (in particular the use by pupils of spreadsheets and databases as part of a statistical investigation); the possibilities afforded by cross-curricular projects; ways in which opportunities could be opened up for the teaching of probability and statistics; issues regarding the teaching of statistics in developing countries, and to pupils of varied ability levels or

## CONFERENCE REPORTS

### ISI Round Table Conference

The 1992 ISI Round Table Conference, which was held on August 10-14 in Lennoxville, Quebec, Canada, dealt with the topic, Introducing Data Analysis in the Schools: Who should teach it and how? The Conference was organized by L. Pereira-Mendoza of the Faculty of Education at Memorial University, St. John's, Newfoundland, Canada.

of different gender; and the future trends in the statistics curriculum.

The topic group looked at introductory statistics within mathematical curricula and at ways of promoting interest and understanding in students who are not going to specialize in mathematics or statistics. The college, and post-college, statistical education of non-specialists were also discussed, with particular reference to engineers and to personnel in the medical and related bio-scientific professions.

Parallel scheduling within the conference program, coupled with the observed attendance rate for these two groups suggests that the impact of these sessions could only have touched directly on a maximum of 1 in 30 of the conference delegates overall, and in fact the ratio may well have been considerably lower. Given that much, and in some cases most or even all, statistical education is conducted from within the framework of mathematics education, there is clearly a continuing need to raise the profile of statistical education and to promote its cover at plenary levels within the context of future mathematics education conferences.

### **ELECTRONIC COMMUNICATIONS AS A TOOL IN STATISTICS EDUCATION**

It is the wisdom of teachers, not faster computers or newer software, that is the essential ingredient in communicating human knowledge. With statistics education, as with education in general, human interaction is the most important factor no matter how far technology may progress.

It is ironic, then, that the technological tools of electronic communication are now fostering a new level of human interaction, creating new possibilities for both educators and their students.

This article addresses two promising areas of electronic communications: electronic mail discussion groups and electronic scholarly journals. Two concrete examples are discussed: EdStat-L, the electronic discussion group devoted to statistics education, and the Journal of Statistical Education, an electronic scholarly journal that is now being formed.

### **ELECTRONIC MAIL**

Many universities, companies, colleges and private individuals are linked together by various international computer networks, collectively called the Net or the Internet. Each day more people discover the Net and each day more sites are added, enabling individuals to access virtual libraries of information located worldwide. This high level of connectivity fosters an unparalleled degree of communication, collaboration, and resource sharing. Information access is no longer restricted to lie within geographical or political boundaries. One of the most useful tools for obtaining information from the network is electronic mail (e-mail).

Besides providing basic correspondence between two network users, e-mail may also be used in electronic discussion groups. In these discussions, any message sent to a specific central address is automatically re-broadcast to all members of the mailing list group. These discussions bring people together as a focus group, enabling them to discuss common problems, share solutions and argue issues. There is an added benefit to these rapid, textual conversations;

because the personal qualities of the writer are not evident, the forums obtain a certain absence of prejudice. The reader's attention is primarily focused on the content of the message, not on the race, sex or nationality of the writer.

There are several discussion forums that may be helpful to the statistics educator, but one of particular interest is EdStat-L.

### **EdStat-L: THE STATISTICS EDUCATION DISCUSSION GROUP**

This electronic discussion forum was created for one reason: to provide a vehicle through which techniques, tools, ideas and philosophies of statistics education can be shared. As people involved or interested in the teaching of statistics, we have a precious asset in our collective knowledge. EdStat-L exists to communicate and preserve that knowledge. The philosophical goal of this project is to provide the technological means with which to transmit a specific form of wisdom. Here are some examples of topics that have been discussed on this forum: How can we improve students' retention of statistical concepts? What specific techniques are being used in graduate classrooms? What assets can we share among ourselves (public domain software programs, datasets, etc.)? How can one teach statistics to the blind? How can we incorporate data-driven learning? What are good undergraduate statistics textbooks?

### **ELECTRONIC JOURNALS**

A scholarly electronic journal (e-journal) functions much like a paper-based journal, each containing refereed articles, reviews, and helpful departmental information. However, the two differ in several ways. The most obvious difference is that an e-journal exists on the Net or in electronic archives instead of on paper. Readers access journal articles and other information by e-mail request or direct access to an archiving computer.

The very definition of a journal is undergoing change in the electronic environment as e-journal publishers experiment with different publication models and document-type possibilities. For instance, an e-journal article might contain a video clip, a sound file, or interactive graphics. E-journals may also function as informational databases, allowing readers/users to query the journal archives, requesting articles on a given subject. Journal delivery and search requests may be carried out through e-mail messages between the journal information system and the reader or by direct network access. E-journals promise exiting possibilities and improvements upon the traditional paper journal.

For those interested in statistics education, one of the most important developments in this area is the now-forming Journal of Statistics Education.

### **JOURNAL OF STATISTICS EDUCATION**

Why another journal?

There is a need for a rigorously refereed, respected journal where people involved in statistics education can share results and experiences, materials and recommendations in a more formal way. Until we have a system where teachers are rewarded for teaching or for furthering the spirit of teaching within the discipline, we will not have reached our

potential. The Journal of Statistics Education is a step in that direction.

#### Why an electronic journal?

The electronic medium is being used for several reasons, one of the most important being economics. While there are definite costs to publishing any journal, whether delivered on paper, a computer network or a CD ROM, the electronic medium allows for considerable savings in publication costs. The medium also speeds up the processing of information through each step of publication; submission, review, and final dissemination can all be accomplished electronically.

The diversity of possible document types is another important factor in using the medium. Articles and departmental materials may contain interactive graphics, video clips, still images or sound. Datasets may be nested within an article, retrievable on command. Possibly the most important innovation is the ability to query the Journal as an informational database. The Journal, existing in the electronic communication matrix, becomes an information entity that can be interactively queried from anywhere in the world, at any time. These possibilities all combine to make the electronic medium particularly suited to the field of statistics education.

While not all of the possibilities mentioned here will be implemented immediately, all of them will come in as short a time as possible. In the implementation, the focus will be two-fold: to take advantage of the possibilities of the medium and at the same time to reach as many readers as possible, regardless of their technological level. In the dissemination of information, technological progress must not be placed over the inclusion of people, either authors or readers. Technological progress in this century has far outstripped advances in human wisdom; it is an easier task to communicate scientific knowledge than human experience. Perhaps we have now arrived at a balance point where technology can help in communicating the thoughts, values, and ideas that are important in education. We now have access to a multitude of information, the most important of which is ourselves.

For information on how to access the EdStat-L forum or for more information on the Journal of Statistics Education, please contact: Tim Arnold, Instructional Computing, North Carolina State University, Department of Statistics, Raleigh, NC 27695-8230, USA. Internet: [arnold@stat.ncsu.edu](mailto:arnold@stat.ncsu.edu); BITNET: ARNOLD@NCSUSTAT; FAX: 919-515-7591.