

INTERNATIONAL STATISTICAL INSTITUTE

Newsletter



Founder member scheme for the International Association for Statistical Education

Regular readers of *Teaching Statistics* will have seen the article by Mary Regier (Vol 14 No. 1 centre pages) about the founding of this Association.

Founding Members of the IASE will be invited to:

- Elect the first Executive Committee of the IASE in 1993.
- Contribute ideas for the policies and programmes of the IASE;
- Participate in ICOTS IV in Marrakesh, Morocco in August 1994;
- Assist in shaping the programme for the 50th ISI Biennial Session to be held in Beijing in 1995.

Further details are provided on the back page of this centrefold which also includes a founder membership application form.



*International Association
for Statistical Education*

THE STARTING-POINTS FOR ICOTS-N ARE FOUND IN ICOTS-(N-1)!

Glyn Davies and David Green were among the nearly 600 delegates who attended the Third International Conference on Teaching Statistics (ICOTS-3) held in August 1990 at Dunedin, in New Zealand. The following notes, which they compiled, demonstrate a selection of approaches to one of the common themes running through the thinking of delegates from a number of different countries, namely that of EDA and statistical graphics. The need for statistical educators to break free of some of the constraints of conventional mathematical and scientific approaches is clearly indicated.

Such considerations form a timely reminder that preparations are now under way for ICOTS-4 which will be held from 25-30 July 1994 in Marrakesh, Morocco. It would be a sign of progress in the emerging discipline of Statistical Education if readers of the proceedings of successive ICOTS conferences could begin to determine coherent frameworks within the research reported ("frameworks", not "straightjackets"). *Any suggestions as to how these might be encouraged by the structure of the ICOTS-4 programme would undoubtedly be welcomed by the Programme Committee, chaired by Prof. Y Escoufier, from whom further information may be obtained by writing to him at Université Montpellier II, Science et Technique du Languedoc, Place Bataillon-34095, Montpellier Cédex 5, France.*

NO INTERNATIONAL BOUNDARIES FOR GRAPHICACY

Notes by Glyn Davies of Sheffield City Polytechnic, UK, and David Green of Loughborough University, UK.

Margaret Gallimore (UK) presented a paper advocating that "graphicacy" should be taken more

seriously, as a skill as important as literacy and numeracy. The varying conceptual demands of the large variety of graphical diagrams is not well understood or appreciated by primary teachers. She argued that there needs to be an ordered progression, pointing out the folly of a curriculum structure which means that six-year olds and fourteen-year olds may at present be doing the same statistical graphwork in UK schools!

Andrejs Dunkels (Sweden) advocated the use of stem-and-leaf diagrams for primary school pupils. These not only provide a numerical and graphical representation all in one, but also can help with place value and can link cardinal and ordinal numerical concepts. Dunkels also reminded his audience that Tukey's tallying by tens method has some advantages over the "barred gate" tallying by fives system, which is the method more conventionally taught.

Lionel Pereira-Mendoza (Canada) reported on his research into the understanding of bar charts by pupils aged 10-13 years. He cited one example where 95% could read information off a particular graph and between 50% (at age 10) to 75% (at age 13) could sensibly interpret the graph, yet only 17% could sensibly predict from the graph.

These pupils were also presented with a graph of the heights of four children, aged between 8 and 18 years. When asked to add a further bar to represent a child aged 10 years, many of Pereira-Mendoza's pupils placed the bar at the end (there not being room in the ordered sequence) and then made the height of the bar exceed that of the 18 year-old! The pattern appeared to act as the dominant feature, suggesting that the mathematical instruction which pupils have previously received can often be detrimental to statistical work.

Susan-Jo Russell (USA) and Pereira-Mendoza (Canada) independently advocated the drawing of graphs downward which they felt was often more natural and easier. They pointed out the dangers to statistical understanding of seeing mathematical and scientific convention as a straightjacket.

A plenary speaker, James Landwehr (USA), also took as his theme Graphs, pointing out that statistical graphs are now very widely used in

industry. The availability of very powerful computers is a necessary condition for this, but he concluded that the reason that graphical methods are used is because they work. However, to use a standard type of graph may not always be the best approach, and there is much scope for creative design of graphs for statistical use. For example, Landwehr asserted that the much-used Pie Chart was not a particularly good tool - feeling that in every situation there is always a better alternative!

Further details of these and other presentations at ICOTS-3 may be found in the proceedings, published in 2 volumes (Volume 1 - School and General Issues, Volume 2 - Teaching Statistics Beyond School Level) both edited by Professor David Vere-Jones of the University of Otago, Dunedin, and available from the International Statistical Institute, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, The Netherlands. The price is US\$38.00 or £21.15 which is a real bargain.

IASE ANNOUNCEMENT

First meeting of IASE

The scientific programme of the 49th ISI Session (Florence, August 25 - September 2, 1993) includes as a satellite meeting the First Scientific Meeting of the International Association for Statistical Education, to be held in Perugia, Italy, August, 23-24. The meeting, which will provide a chance to discuss the future role and activities of the new Association, will include invited addresses, contributed papers and a session of resolutions on the Association's future programme, tasks and strategies.

To receive the first circular please contact: Prof. G. Cicchitelli, Dipartimento di Scienze Statistiche, Via A. Pascoli, 06100 Perugia, Italy (fax: +39-75-43242, e-mail: statli@ipguniv.earn)

COMPETITION FOR YOUNG STATISTICIANS FROM DEVELOPING COUNTRIES 1993

The ISI announces the Sixth Competition among young statisticians from developing countries who are invited to submit a paper on any topic within the broad field of statistics, for possible presentation at the 49th Session of the ISI to be held in Florence, Italy, in 1993.

Participation in the competition is open to nationals of developing countries who are living in a developing country, who were born in 1961 or later.

Papers submitted must be unpublished, original works which may include material from participants' university theses.

The papers submitted will be examined by an international jury of distinguished statisticians

who will select the three best papers presented in the competition. Their decision will be final.

The authors of the winning papers will be invited to present their papers at the Florence Session of ISI, with all expenses paid (i.e. round trip airline ticket from his/her place of residence to Florence plus a lump sum to cover living expenses).

Manuscripts for the Competition should be submitted in time to reach the ISI not later than January 1, 1993.

The rules governing the preparation of papers, application forms and full details are available on request from the The Director, Permanent Office, International Statistical Institute, 428 Prinses Beatrixlaan, 2270 AZ Voorburg, The Netherlands.

INTERNATIONAL ASSOCIATION FOR STATISTICAL EDUCATION

You are invited to become a Founding Member of IASE, the newest Association of the ISI. Between now and the 49th Session of the ISI, to be held in August 1993 in Florence, Italy, the IASE is offering those interested in statistical education and training an opportunity to play a key role in founding the new Association. The IASE is devoted to the development and improvement of statistics world-wide through education and training. We envisage that membership will appeal particularly to those whose professional activities include:

- Teaching statistics at a primary or secondary school, college or university;
- Teaching statistical computing or another subject, such as demography;
- Teaching quality improvement methods;
- Production of statistical textbooks or audio-visual materials;
- Curriculum development of statistical education.

You will also be able to subscribe at a reduced rate to some other statistical publications:

- Teaching Statistics;
- ICOTS proceedings;
- Proceedings of the Round Table Conferences;
- International Statistical Review, the journal of the ISI and its Associations;
- Short Book Reviews;
- Statistical Theory and Method Abstracts;

To become a member of IASE, please complete and return the form below.

Occupation:

Title:..... Forename: Family Name:

Date of Birth : Nationality:

Mailing Address :

.....

Fields of Interest:

Telephone Number: Telefax Number:

E-mail:

Signature and Date:

- I wish to be a member and agree to pay (US\$ 38.00 - SF 57 - £24 - FF 212 - DM 62 - DFL 70);
- As a Developing Country Member, I am required to pay (US\$ 20.00 - SF 31 - £12 - FF - 115 - DM 34 - DFL 38);
- I wish to subscribe to the newsletter International Statistical Information, and agree to pay (US\$ 10.00 - SF 15.50 - £6 - FF 57.50 - DN 17 - DFL 19);
- I enclose a cheque or money order for my membership dues as indicated above (please note that these should be made payable to the International Statistical Institute);
- I enclose UNESCO coupons for this amount;
- I wish to pay by credit card: Mastercard Visa

Name on credit card account:

Credit card number: Signature:
