INTERNATIONAL ASSOCIATION FOR STATISTICAL EDUCATION

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This issue features a report on the Arabic-speaking satellite meeting that immediately preceded the 4th International Conference on Teaching Statistics (ICOTS-4) in Morocco, July 1994.

Readers are invited to send in short reports and news items that contribute to an international perspective on statistical education. Longer articles and reviews may be published in IASE Matters or IASE Review.

NEWS AND ANNOUNCEMENTS

The 5th International Conference on Teaching Statistics (ICOTS-5) will be held during the summer of 1998 at a venue in South-East Asia.

50th Session of the International Statistical Institute, Beijing, 21-29 August 1995

IASE sessions: The Relative Roles of Universities and Employers in Training Professional Statisticians; Networking Innovations and Resources - the Internet as Toolbox; Teaching Statistics in Asia; Teaching Statistics in Geographical Courses - Links with GIS (Geographical Information Systems); Statistics at School Level; Training Statistical Staff and Continuing Education in Developing Countries; Statistical Literacy in Educational Programmes; Statistics Service Courses at Higher Education level.

Other sessions include: Statistics in Education; Research in the History of Statistics; Improvement of Manuals for Statistical Program Packages and Distribution of Software.

Bulletin 1 is now available from Executive Secretariat of the 50th ISI Session, c/o State Statistical Bureau, No.38 Yuetan Nanjie, Sanlihe, Beijing 100826, Republic of China [E-mail: wangjl@bepc2.ihep.ac.cn Tel: +86-1-38-10965/10051; Fax: +86-1-3810035]

IASE Round-table, Summer 1996, Granada, Spain.

Research into the Role of Technology in Teaching and Learning Statistics. *Contact Joan Garfield, General College, University of Minnesota, 140 Appleby Hall, 128 Pleasant St S E, Minneapolis, MN 55455 [E-mail: jbg@vx.cis.umn.edu].* The timing of the round-table will permit participants to attend the **Statistical Education sessions at ICME-8,** (International Congress on Mathematical Education) **Summer 1996, Seville, Spain.**

FREE!! Proceedings of 1st Scientific Meeting of IASE, Perugia 1993.

Edited by Lina Brunelli and Giuseppe Cicchitelli. ISBN 90-73592-10-0. Order through ISI Head Office, Voorburg (postage cost of $US5 payable).

Proceedings of the 4th International Conference on Teaching Statistics, Marrakech, July 1994.

ISBN 90-73592-09-7. Copies of the ICOTS-4 proceedings (2 volumes) are available from ISI Head Office, price $US60 including postage (ISI members $US50, IASE members $US45).

Journal of Statistics Education. Volume 2(1) is now available. To obtain a list of contents and instructions for retrieving articles, send one-line e-mail message to archive@jse.stat.ncsu.edu;

send jse/v2n1/contents

National Centre for Statistical Education. The Royal Statistical Society has resolved to fund (up to an agreed maximum) the establishment of a new National Centre for Statistical Education in the UK for a period of 5 years in the first instance, provided that equivalent sponsorship can be obtained from a host university and business/industry.

RSS95 - Conference on *Communicating Statistics,* Telford, UK, 12-14 July 1995.

The Royal Statistical Society conference will focus strongly on statistical education issues. Professor David Moore, President of IASE, is among the invited speakers. *Contact: Neville Davies, Nottingham Trent University, DMSOR, Burton Street, Nottingham, NG1 4BU, UK. [E-mail: mat3davien@trent.ac.uk, Fax: +(0)602-484266]*

TEACHING STATISTICS AND INFORMATICS AT ALL LEVELS.

Report on the 2nd IASE Scientific Meeting, Cairo, 20-21 July 1994, by Professor Abdelmegid M. Farrag

Twenty-two papers were presented, organised around the following six themes, although the ensuing discussions inevitably overlapped these divisions;

(a) Problems of Teaching Statistics at Pre-University level,

(b) Training in Applied Statistics,

(c) Teaching Informatics at University and Pre-University levels,

(d) Teaching Mathematical Statistics and Probability at University Level, and Prerequisites in Mathematics,

(e) Teaching Statistics for Students of Basic and Experimental Sciences at Universities, and

(f) Problems of Teaching Statistics to Students of Humanities at Universities.

In the session concerned with teaching statistics at pre-university levels, issues related to teacher-training featured prominently. Statistics is taught by teachers of mathematics, who have little, if any, training in statistics teaching. Nevertheless, they must introduce students to tabular and graphic presentation, and provide them with some idea about averages at primary school level. Furthermore, at the preparatory level (from the age of 11) their students must meet frequency distributions, sample average and variance. Also, at secondary level (from the age of 14) their students may encounter elementary probability, the binomial and the normal distributions, together with Pearson's and Spearman's correlation coefficients and linear regression.

It was suggested that some quality control techniques might be included in commercial and agricultural secondary schools, and that all students could be introduced to population studies. Thus, students would be encouraged to prepare projects in these social and economic areas of study so that the teaching of statistics at pre-university level could emanate from practical applications. Some suggestions were made for re-distributing course contents amongst the years of pre-university level education.

Training statisticians was the subject of a separate session and was mainly confined to the experience of CAPMAS (the Egyptian Central Agency for Public Mobilisation and Statistics), except for one paper from Libya (by El-Figih) dealing with training in field survey methods. At CAPMAS, general and advanced types of training are presented to audiences with middle and high levels of education respectively. Training is geared mainly to field operatives and includes manual and computer-based data processing, oriented to the work of CAPMAS.

In session (c), different courses of teaching informatics were described and reviewed by Moreim and Abdel-Wahab, underlining the importance of informatics in different fields of application. El-Bassiouni described how the *MINITAB* package can be used to teach statistical distributions, and referred to the work of Stephenson (1990), Marriott and Naylor (1992), Zeaha (1992) and Roberts (1993).

With regard to teaching mathematical statistics and probability, two case studies from Cairo

University were presented. El-Gayor, from the Statistics Department in the Faculty of Economics and Political Science, reported on students' inability to absorb abstract probabilistic concepts. This author recommends a more balanced diet of statistics and mathematics (favouring mathematics), with a gradual escalation from general to more theoretical subjects, so that mathematics and probability would be covered more intensively at the beginning and would not be so thinly spread throughout students' courses. The second paper (by Mahmoud and Ashour of the Institute of Statistical Studies and Research) was less critical than the first one, reporting curriculum developments with favourable results.

Papers in session (e) showed how statistics is taught to students of agriculture and engineering, and to medical and para-medical students. Emarah argued that all Arab universities should strengthen their mathematical teaching for students of agricultural statistics because of the type of statistical experiments that they would be called upon to perform. It was pointed out that agricultural education is fully developed in some Arab countries, but less so in others, being non-existent, for example, in Bahrain, Qatar, Kuwait and Oman. In the context of medicine, teachers of statistics are faced with the problem that students cannot offer mathematics as a pre-requisite. Medical students will have taken biology instead of mathematics (Ibrahim). Statistics therefore needs to be carefully placed within the medical curriculum, and a certain simplification of approach is essential. Osman reported on the use of computers and the *EPI-INFO* package to teach medical statistics. Students of engineering usually receive their teaching in English, which was said to facilitate their understanding of mathematics and probability and their use of foreign references and textbooks (Sorour).

The last session dealt with the teaching of statistics to students of humanities at universities. It was noted that (whether the teaching of statistics is done directly through statistics courses or indirectly as an integral component of social science courses) the content lacks sophistication, is confined mainly to methods of calculation, and suffers from the "absence of an organic link between statistics and social science and the lack of utilisation of computers and statistical packages" (Fergany). Non-parametric statistics are only taught to a small minority of students in the social science fields. The students' learning process depends entirely on their teachers' efforts to arouse the students' interest.

It was concluded that learning statistics should be achieved through doing real statistics, which hopefully opens the way for students' innovation and creativity. This process of learning by doing was adjudged not to be too difficult, especially in an age where figures have become part of everyday life. It all depends on the approach taken by teachers, on their determination to train statistically-minded graduates and statisticians, and also on their dedication to the profession in general and to teaching statistics in particular.

Arabic-language proceedings of this conference are available. For more information, contact: Professor Abdelmegid M . Farrag, c/o Mr. & Mrs. Mahmoud, 16 Rte de Meyrin, 1202 Geneva, Switzerland.