IASE article for ISI Newsletter February 2000



INTERNATIONAL ASSOCIATION FOR STATISTICAL EDUCATION http://www.cbs.nl/isi/iase.htm

Editorial Address: Joan B. Garfield, Department of Educational Psychology, University of Minnesota, Minneapolis, MN 55455, USA. Tel: +1-612-625-0337, Fax:+1-612-624-8241; E-mail: <u>JBG@maroon.tc.umn.edu</u> Web site: <u>http://edpsy.coled.umn.edu/faculty/garfield/garfield.html</u>

President of the Association: Brian Phillips, School of Mathematical Sciences Swinburne University of Technology, PO Box 218 Hawthorn 3122, Australia Tel: +61 3 9214 8288, Fax: +61 3 9819 0821, E-mail: bphillips@swin.edu.au Web site: http://www.swin.edu.au/maths/iase/

1. In Memory of Lennart Råde 1925 - 1999



Lennart Råde

Lennart Råde, one of the early leaders in statistics education and one of the people who urged the establishment of the IASE, died on December 9 1999 after a long illness. His distinguished career started as a teacher of mathematics in secondary schools then continued at the Chalmers University of Technology, Gothenburg, Sweden in 1952 where he worked till 1990. Lennart was a prolific writer with over 50 research publications, nearly 30 books as well as numerous other publications and presentations. From the 60's he was involved in improvements in mathematical and statistics education both in Europe and the USA. His involvement with statistics education continued through the 1970's and he was a major driving force in establishing the ICOTS meetings, being chairman of the ISI task force which lead to icots-1 in Sheffield, 1982.

He organised an International Conference on the Teaching of Probability and Statistics in 1969 at Carbondale, Illinois, USA, whose Proceedings contain material which is still of value today. This was a particularly fruitful time for collaboration between the Americans and the Europeans, and both Lennart and Arthur Engel were able to bring back to Europe rich experiences as a result of their extended stays in the United States. Lennart brought to stochastics teaching a mixture of a well trained academic mind together with an understanding of the need for practical activities. He was able to develop and demonstrate many suitable activities which might be used by children as well as by tertiary students. His disarmingly simple style enabled him to lead students to deeper and deeper understanding. As well as his interest in stochastics teaching he also worked hard to discover ways in which hand calculators could be effectively used in classrooms. His colleagues at Chalmers, The University of Gothenburg, and at IASE, will all remember him for his deep engagement in mathematics, teaching mathematics and in statistical education. He also was the former chairman of the european society for engineering education, mathematics working group, SEFI-MWG.

David Vere-Jones, the president of the IASE interim committee 1991 - 1993 wrote " I first met Lennart relatively late in his career, when he was already one of the establishment figures in statistical education. The occasion was the ICME 5 conference in Australia, for which he was organising the statistics teaching stream. Three of us from New Zealand went across to talk about the use of projects in the school programme and how they figured in the revisions that were then being introduced into in the mathematics programme in the New Zealand uppper secondary school. I remember being most impressed by how efficiently and effectively he organised the somewhat straggling bunch of statisticians seeking to establish their identity among the hordes of mathematics teachers. (once, when i visited the department in

Gothenberg where Lennart worked, I recall peter jagers, the chairman at the time, making some crack about always letting Lennart do exactly what he wanted, because everything he did was done so exceptionally well. That was certainly the impression i gained of him).

When I got to know Lennart better, and was able to meet him in England and Sweden in more relaxed surroundings, and even to share his passion for walking to some extent, i realised what an exceptionally modest, courteous but also strong-principled person he was. I had somewhat horned in on his territory, but he never seemed to bear any resentment. I was also very much more ignorant of statistics education, both at the practical end and in terms of international contacts, than he was, but again he never dwelled on his own achievements - hardly even mentioned them - but only talked about future plans that he was helping us to develop. I found that we also shared a research interest in point processes and their applications, but again he was exceedingly modest about his contributions, despite, I think, being quite proud that he had a professional role as a research statistician in addition to his role as an educator.

Not long after the ICME meeting, I became involved with the ISI education committee, and learnt at first hand more about the contributions he had made to statistical education at the international level. (his contributions at the national level, to the local teaching scene in Sweden, from the accounts which Kerstin Vannman and others gave of them, may have been even more impressive, but they lie outside my direct knowledge.) Lennart had been involved in some of the very early round table meetings sponsored by the isi, and when Joe Gani became chairman of the ISI education committee in 1979, he persuaded Lennart to take on the role of leader of the task force on international conferences. This was a critical period for the development of statistical education at the international level, and Joe and Lennart, backed by their colleagues on the committee, were the key people moving it forward. It was during this period that the foundation was laid for the ICOTS conferences, and in particular for the first ICOTS meeting in Sheffield, which was essentially a brainchild of the Sheffield-Gothenburg axis that Joe and Lennart had established.

Through his writings - also exceptionally clear and well-argued, through his energy and organisational skills, and through his dedication over many years to the cause of statistical education, Lennart earned himself a respected and well-justified place as one of its true pioneers. He had seemed to me quite imperishable, destined to enjoy a perpetual and well-deserved retirement, so it was a shock as well as a sadness to hear of his recent death."

Other information and tributes on Lennart appear at http://www.swin.edu.au/maths/iase/lrade.html

Our condolences go to his wife and family.

2. The Royal Statistical Society Centre for Statistical Education

by Neville DAVIES & Peter HOLMES http://science.ntu.ac.uk/rsscse/

On 1 August 1999 the Royal Statistical Society (RSS) Centre for Statistical Education moved across the city of Nottingham to Nottingham Trent University (NTU). The aim of the Royal Statistical Society Centre for Statistical Education is to promote the improvement of statistical education, training and understanding at all ages. Work to support this aim will be carried out in four main areas: (i) school and further education; (ii) higher education for all courses in which statistics is taught; (iii) continuing professional development including all who use statistics as part of their professional life and (iv) society as a whole. Although based in the UK the Centre has an international role.

The main RSS Centre resource room houses a valuable collection of periodicals, books and IT equipment for research and development. The new Centre at NTU will continue to be the administrative centre for the successful journal, *Teaching Statistics*. The Centre is funded by sponsorship from three main sources. These are NTU, the RSS and Statistical Products and Service Solutions (SPSS). A five-year commitment of funding from NTU and the RSS, and the final year's commitment from SPSS, together with promised sponsorship from Minitab Ltd, enable the Centre to look forward to a secure future,

Our plans for working with schools throughout the UK include: a) Running a national children's census, joint with the Office for National Statistics, in October 2000; b) Actively promoting good practice in the use of statistics software (MINITAB for data handling in the national curriculum by running a regular series of workshops at schools and/or the Centre for pupils and teachers; c) Working with the DFEE as part of a UNESCO-sponsored World Mathematics Year 2000 to promote statistics; d) Advising on and helping with rewriting the Data- handling part of the national curriculum for Maths for the Qualifications & Curriculum Authority; e) Continuing to market over 25 of the Centre's own

publications for use in schools; f) Making resources available to teachers on our Web site (<u>http:science.ntu.ac.uk/rsscse</u>). Currently these include the material from the Schools Council Project on Statistical Education (POSE), chapters from the booklet Teaching and Using Statistics and the contents of The Best of Teaching Statistics; g) Contributing to national (and international) conferences for teachers of statistics; h) Being a source of advice for all matters of statistical education in schools.

Within NTU the Centre will be working closely with the Faculty of Education, and will have regular direct contact with the 300 or so schools in the area that are involved in teacher training contracts. In order to attempt to utilise the collective wisdom of teachers in schools, we plan to create a group of Centre Associates comprising colleagues who are interested in promoting statistical education. We invite you to join a world renowned Society and a distinctive UK university to promote statistical education. If you would like to help and become involved with the Centre in this way, or have ideas and contacts that could help, please phone or email us at The Royal Statistical Society Centre for Statistical Education, Nottingham Trent University, Nottingham NG1 4BU_Phone: 0115 848 4476, Fax 0115 848 2998, Email: rsscs@ntu.ac.uk

Help wanted: Mathsfests

There is a major initiative this year in UK on publicising mathematics and statistics to the general public. The Department for Education and Employment has designated next year as Maths Year 2000 and is arranging activities to bring mathematics (including statistics) to a wider audience as well as having major initiatives in schools. On behalf of the RSS Centre for Statistical, Peter Holmes has agreed to put in some statistical input and would very much like any help statistical educators can give with ideas, content, contacts and possibly presence on the days if at all possible.

One major initiative is a series of six Mathsfests to take place in different regions of the UK during 2000. The aim of these is to give all and sundry an opportunity to do some mathematics and see what mathematics can do (maths in this context includes statistics).

They expect between one and two thousand people to come to these one-day events, and this will include members of the general public, not just teachers, pupils and those generally connected with education. The organisers are keen that those attending be involved in activities and not just see passive displays. If you think you have anything that may be of help, please email to Peter Holmes <u>Peter.Holmes@ntu.ac.uk</u> (use word, jpg or gif files). For more information and examples see <u>http://www.swin.edu.au/maths/iase/mathsfests.html</u>

3. ICOTS –6: The Sixth International Conference on Teaching Statistics

It is a great pleasure for the IASE Executive Committee to inform the ISI members as well as the members of the sister associations within the ISI family that the Sixth International Conference on Teaching Statistics (ICOTS 6) will be held in Durban, South Africa, July 7 - 12 July 2002.

Long before the arrival of the first Europeans in Durban, the Zulu people recognized the value of this jewel on the east coast of South Africa. They named it iThekweni - the place where the sea and earth have made union. This is a part of Africa where the warmth of the sun is reflected in the warmth of the people, where the blue of the sea parallels that of the sky.

The conference will take place at the Durban International Convention Centre, offering versatility and key features of exceptional standards of service and cuisine. This state-of-the-art Centre has set the highest standards for its qualified staff and services to ensure a stress-free and successful event. ICC Durban is the ultimate synergy of Western technology and African hospitality and charm.

The IASE will make a special effort to attract African participation, and in particular will offer some financial assistance to delegates from African developing nations. It is also planned that there will be strong participation from local school teachers.

The theme of the Conference is **"Developing a statistically literate society**." Thus, we plan a special focus day -"Statistical Literacy Day", which would be aimed to attract a wider audience than just the conference attendees. This day will include: keynote speakers on statistical literacy, discussions of the role of statistics in various everyday contexts and how these could be reflected in education, discussions of the role of the media and statistical information in this regard in democratic societies, special sessions for administrators on statistical literacy, etc.For more details of the ICOTS6 Program see <u>http://icots.itikzn.co.za/program.htm</u> (IPC) consists of:

IPC Executive

Maria-Gabriella Ottaviani (Italy), Chair, ottavian@pow2.sta.uniroma1.it

Brian Phillips (Australia), International Organiser, <u>bphillips@swin.edu.au</u>

Dani Ben-Zvi (Israel), IPC Secretary, dani.ben-zvi@weizmann.ac.il

Local Organizing Committee Executive

Delia North (South Africa), Chair of the Local Organizing Committee, delian@icon.co.zal

Linda Haines (South Africa), President South Africa Statistical Association, haines@stat.unp.ac.za

Topic Convenors

SCHOOL LEVELLionel Pereira-Mendoza (Singapore), lpereira@nie.edu.sg

POST SECONDARYGilberte Schuyten (Belgium), Gilberte.Schuyten@rug.ac.be

Allan Rossman (USA), rossman@dickinson.edu

WORKPLACE Carol Joyce Blumberg (USA), wncarolj@vax2.winona.msus.edu

René H. M. Smulders (The Netherlands), RSLS@cbs.nl

WIDER SOCIETY Helen MacGillivray (Australia), h.macgillivray@fsc.qut.edu.au

INTERNATIONAL PERSPECTIVE Vitalis Muba (Tanzania), eastc@ud.co.tz

RESEARCH Carmen Batanero (Spain), batanero@goliat.ugr.es

Joan Garfield (USA), jbg@maroon.tc.umn.edu

TECHNOLOGY Lawrence Weldon (Canada), weldon@sfu.ca

OTHER DETERMINANTS Philip J. Boland (Ireland), Philip.J.Boland@ucd.ie

CONTRIBUTED PAPERS Starkings (UK), starkisa@vax.sbu.ac.uk

The conference first announcement will be available by July, 2000. A Web-site, which contains all the news from ICOTS-6 and its venue, has been set-up by Dani Ben-Zvi at: <u>http://www.beeri.org.il/icots6/</u>

The IPC is confident that ICOTS 6 will be a great event for statistical education. For further details, please contact:

M. Gabriella Ottaviani, ottavian@pow2.sta.uniromal.it

Brian Phillips, bphillips@swin.edu.au

4. ISI 53

Plans are progressing for the 53rd ISI session to be held in Seoul, Korea in August, 2001. There are seven sessions to be organised by the IASE alone, with another four being jointly organised with other sections. Lionel Pereira-Mendoza is corrdinating the IASE sessions and may be contacted at: lpereira@nie.edu.sg.

The sessions and their organisers are:

1. Forum: IASE and statistics education in developing countries

Maria-Gabriella Ottaviani, Italy (ottavian@pow2.sta.uniroma1.it)

2. Undergraduate level statistics programmes

Shen Shir Ming, Hong Kong, SAR China (HRNTSSM@hkucc.hku.hk)

- 3. The future of statistics education research
- Joan Garfield, USA (jbg@tc.umn.edu)

4. Research on teaching statistics at school and university levels

Susan Starkings, UK (starkisa@sbu.ac.uk)

5. Undergraduate statistics education in non-statistics degree programmes Elisabeth Svenssen, Sweden (eliss@math.chalrmers.se)

- 6. Continuing statistics education in the workplace
- 7. Carol Blumberg, USA (wncarolj@VAX2.WINONA.MSUS.EDU)
- 8. Postgraduate training of statisticians
- 9. Gilberte Schuyten, Belgium (Gilberte.Schuyten@rug.ac.be)

Joint Sessions

- 1. Women's contributions to leadership in statistical education\ Martha Aliaga, USA (aliaga@umich.edu)
- 2. Technology in statistical education Tae Rim Lee, Korea (trlee@av9500.knou.ac.kr)
- 3. The role of official statistics in the university curriculum (TBA)
- 4. With IAOS: Education and the internet: Effective structures Brian Phillips, Australia (bphillips@swin.edu.au)

5. Statistical Education One Day Seminar AUS-ICOTS 2

Reported by John TRURAN.

In December 1998 the first AUS-ICOTS was held at Swinburne University of Technology, Australia. This gave people the opportunity to hear Australians who presented at ICOTS-5 and to retain links formed in Singapore. This year a second meeting was held to continue to give the opportunity for all interested to learn about the latest in Statistical Education in Australia. Brian has now worked hard and successfully to organise two one-day seminars in Melbourne to try to maintain the momentum generated by the Singapore ICOTS Conference. The fact that the 1999 conference on 10 December included six visitors from three other states among its 40 participants was very pleasing indeed.

Sixteen talks were presented during the day. Not surprisingly, many addressed the use of computers: using computers for on-line assessment; using Excel to illustrate basic power analysis graphically; using StatPlay to explore statistical concepts; using thoughtfully constructed artificial databases to illustrate real-life principles; and using computers for examining the teaching and learning of the Central Limit Theorem. More discursive papers discussed: the teaching of consulting to final year students; the importance of well-designed questionnaires in expensive medical research (with interesting counter-examples!); using labour statistics in educational planning (or "where universities are going now"); teaching epidemiology to mature age students; seeing the null hypothesis as a cultural product of the Westminster system; students' use of graphs to solve problems; students' understanding of confidence intervals. Two papers addressed more general issues: the teaching and used of statistics in a wide variety of scenarios and the importance of relating theory and practice in statistics research.

Some of the papers represented work in progress, and it was interesting to follow through on people's attempts to improve the teaching and/or learning of specific topics. But for me personally, locked away in the unreality of academia, the most interesting talks were those dealing with real-life applications of statistics, and particularly the difficulties in doing really good surveys, even when money is of relatively little importance. Some fears were expressed over coffee that statisticians are a dying breed, yet it seemed to me that part of the problem was that the world as a whole did not realise really what statisticians had to offer.

Small mini-conferences of this sort are all too rare in Australia, and this one provided a good opportunity for a very relaxed, low-key conference which covered a wide variety of very interesting topics. It also helped to highlight important issues of concern to members which may be of help in planning ICOTS-6. The biggest disadvantages of the day were that the large number of papers reduced the time available for discussion, and the logistics of transport in a large country and a sprawling city for a one-day conference meant that not everyone was able to join in the very pleasant happy hour which was followed by an equally pleasant time at a nearby restaurant.

Members were also informed of future plans for IASE and had an opportunity to make suggestions about the Statistics Education Workshop at the forthcoming Statistical Society of Australia Conference. More information is available at http://www.swin.edu.au/maths/iase/ausicots2.html

6. IASE Statistical Education Research Newsletter

In January the first issue of a new *IASE* publication, the *IASE* Statistical Education Research Newsletter appeared. This continues the work of it predecessor, the newsletter of the *International Study Group for Research on Learning Probability and Statistics* which started informally at ICOTS-1 in 1982. More information about this group as well as all the Newsletters produced since 1996 to 1996 is available from the web site: <u>http://www.ugr.es/local/batanero/</u>

From January 2000, we have changed our name to the *IASE Statistical Education Research Group*, a special interest group within the *IASE (International Association for Statistical Education)*, which is open to all who share our common interest in carrying out research on the teaching and learning of statistical education through the world, *IASE* offers its membership the opportunity to contribute to innovations and progress in statistical education. To achieve this aim, the current Executive Committee has recognised, the need to improve channels of communication between statistical educators, who often find themselves relatively isolated in professional terms. Promoting research is one of IASE's most pressing priorities, as a way of extending our knowledge about the processes of teaching and learning statistical education as a discipline.

We hope that the IASE Statistical Education Research Newsletter and the IASE Statistical Education Research Group can serve this purpose. We intend to continue publishing summaries of research papers, books, and recent dissertations, bibliographies on specific topics; information concerning recent and forthcoming conferences, and Internet resources of interest. We also plan include short papers of general interest.

The extent to which a research newsletter is useful depends of the quality and completeness of the information published. We need your collaboration and we encourage you to send any type of information about your research projects and results that you consider of interest for other colleagues to one of the editors.

The current issue of the newsletter includes an article by M. Gabriella Ottaviani titled *Research into statistical education. The point of view of a statistician*, IASE members' news, Summaries of publications by IASE members, Recent dissertations, Bibliography on textbooks analysis, Other publications of interest, and Other topics of interest. The Newsletter is located at the web site: <u>http://www.ugr.es/local/batanero/sergroup.htm</u>

7. World Numeracy Project

This Committee, instituted in 1994, was established to stimulate the spread of quantitative skills around the world in areas and populations (especially in developing countries and among the young) which could benefit from increased knowledge of numbers and their applications, with particular regard to statistics. The Committee was Chaired by Prof. Luigi Biggeri, and while it could be said that their mandate was very ambitious, some very concrete successes have been realized.

The ISI President has now invited the IASE to take this program under its umbrella. We aim to initiate at least one meaningful educational-centered project, hopefully to be announced at ISI53. Anyone interested in being involved with this committee can contact Brian Phillips. Some information about the project can be seen on <u>http://www.swin.edu.au/maths/iase/wnp.html</u>

8. Report from Pakistan: ISOSS Organized Sessions on Education Statistics.

Report by Dr. Munir Ahmad, President ISOSS, Lahore, Pakistan.

The ISOSS organized ICCS-VI at Lahore, Pakistan on 27-31 August,1999 in collaboration with PSA, UNFPA, ISESCO and the University of the Punjab, (Pakistan). The theme of the conference was "3RD MILLENIUM CHALLENGES". Two sessions on Statistics Education were arranged where 3 invited papers and 6 contributed papers were presented on various aspects of Statistical Education. The titles of the invited papers were

Dr. Maria-Gabriella Ottaviani, Dr. Carmen Batanero "The Role of IASE in Developing Statistical Education."

Miss Saleha Naghmi Habibullah, "Kinnaird Inter-Collegiate Statistical Competition ÜGuided Level Ó: An Innovative Endeavour to Train Pakistani Teachers of Statistics Regarding the Conduct of Sample Surveys within Colleges."

Dr. Munir Ahmad, "On 50 years of statistical education in Pakistan."

Some full length papers and abstracts of papers will be published in the conference proceedings.

9. Summary of some upcoming Statistical Education Activities

March 17-18, 2000 Western Statistics Teachers Conference 2000 University of Northern Colorado, USA www.math.armstrong.edu/faculty/lesser/WeSTCo2000.html

July 1-2, 2000. Statistical Education Workshop, Adelaide, South Australia. Theme: Innovation in Statistical Education. Guest speaker, Professor David Moore. See http://www.sapmea.asn.au/15ASC.htm

July 23-27, 2000. PME, Hiroshima, Japan. See http://www.ipc.hiroshima-u.ac.jp/~pme24/

July 31-August 6, 2000—International Congress on Mathematics Education, ICME-9 Makuhari/Tokyo, Japan. IASE has been involved in the planning of several sessions. See http://www.swin.edu.au/maths/iase/icme9.html.

August 7-11, 2000—Round Table Conference: Training Researchers in the Use of Statistics—Tokyo, Japan. By invitation only. All invitations have already been extended. Further information is available at http://www.ugr.es/~batanero/iasert.htm.

August 13 - 17, 2000, ASA Joint Statistical Meetings Indianapolis, USA.

August 22-29, 2001—**ISI 53 Biennial Session**—Seoul, Korea Further information on these IASE can be found at http://www.swin.edu.au/maths/iase/isi53.html. Further information on the ISI Biennial Session can be found at http://www.nso.go.kr/isi2001.

July 7-12, 2002—International Conference on Teaching Statistics—Durban, South Africa. This is the major international conference in Statistics Education that is held every 4 years. Planning for ICOTS-6 is well under way. Details can be found at the ICOTS-6 web site at <u>http://www.beeri.org.il/icots6</u>.

10. ISI Development Fund

One of the aims of the ISI is to promote the quality of statistics internationally. As developing countries are in the greatest need for such improvement, the ISI considers it as its duty to provide assistance to statisticians from developing countries in achieving this improvement. For this purpose, the Executive Committee of ISI has established the ISI Development Fund. Full details and an application form can be downloaded from http://www.swin.edu.au/maths/iase/isidevfund.doc

11. MEMBERSHIP IN IASE

As you can see from all of the activities listed above, IASE is very active. It is the only global organization whose main focus is Statistics Education. If you are involved in statistical education at any level and are not already a member of IASE, you are recommended you join IASE. At the present annual dues are only US \$24.00, with 50% discount for members from developing countries. As part of your membership in IASE you will become a member of an international community of statistical educators. This will entitle you to receive the IASE Review (devoted exclusively to Statistics Education) and the ISI Newsletter which deals with all areas of statistics at the international level. Furthermore, you can receive the International Statistical Review journal and Short Book Reviews newsletter as well as registration for conferences organized by the IASE at reduced rates. Members have found these very helpful in their teaching of statistics courses. For further information about the IASE and a copy of the IASE Membership form see the IASE web site at http://www.cbs.nl/isi/iase.htm. This site also has many links useful to anyone involved in statistical education.

If you have any other questions about IASE activities, please feel free to contact Brian Phillips (President of IASE) at School of Mathematical Sciences, Swinburne University of Technology, PO Box 218, Hawthorn 3122, AUSTRALIA, Fax: (61) 3-9819-0821, email: <u>bphillips@swin.edu.au</u>