IASE matters

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This issue contains a report about statistical education in China by Mr. Wang Jili, a summary of the new curriculum for training statisticians in Spain by Rafael Pérez Ocón, and some brief news and announcements.

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THE STATISTICAL EDUCATION IN CHINA

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The system consists of three parts:

(1) School education. There are about 130 universities and colleges that have statistics departments with a total enrolment of about 18400, including undergraduate and graduate (Master and Doctorate) students. Most of them are liberal and arts departments which emphasise the application of statistics in business and economics while the others are mathematical departments or majors courses which emphasise general statistical theory. We also have over 500 secondary schools and vocational schools with a total enrolment of 50,000. In recent years, the teaching of statistics has been under reform to upgrade the knowledge of the students who take a major course in statistics, including the training objectives, curricula, etc.

(2) In-service training. It is provided to all the statisticians with a total amount of 2 million people working in the government statistical departments, enterprises and social organisations. Among them, 140,000 are working in the government departments and 80,000 in the statistical bureaux at and above the county level. Statistical in-service training is mainly conducted by statistical education departments within the government statistical system. Most of them consists of short-term programs designed to offer the required knowledge and skill for statistical work. To complete the training for such a huge number of staff, TV and distance education enhanced with the audio-visual technologies is one of the important forms of training.

(3) Universal education to the general public and individual citizens. This includes three components: (i) Statistical education in primary and high schools; (ii) the universal education in statistics for the leaders and decision-makers in various departments and enterprises; and (iii) the dissemination of statistical knowledge and statistical information to the general public and individual citizens through media such as TV and newspapers.

Organisations for Statistical Education

There are statistical education centres within the Statistical Bureaux at the national, provincial, and prefectural levels and full-time staff at the county level responsible for statistical education. The responsibilities of the Statistical Education Center of the State Statistical Bureau (SSB) include:

Leading and co-ordinating statistical education and training all over the country; guiding all the colleges and schools offering statistical education and managing the schools directly under SSB; organising the in-service training for the statistical staff; executing and managing the introduction of the foreign intelligence; delivering TV and distance education in statistics; organising universal education in statistics; and organising the compilation and evaluation of statistical teaching materials.

Development Strategies for Statistical Education

According to the Outline of Statistical Education Development (1996-2000) worked out by SSB, the development strategies for statistical education include:

(1) Promoting the understanding of the importance of statistical education, especially in the modernisation of the statistical work.

(2) Strengthening exchange with international statistical education circles and introducing the advanced experience and methods of statistical education of foreign countries.

(3) Speeding up the reform of school education, updating the teaching materials and means, and reforming the statistical curricula so as to keep up with developments in international statistical education.

(4) Formulating in-service training programs for the whole statistical system, establishing professional norms of the statistical staff, working out scientific approaches of statistical training, developing a set of supporting rules and regulations.

(5) Enlarging the scale of universal education, producing and revising teaching materials, strengthening the propaganda education of the statistical knowledge and the laws.

(6) Training a number of outstanding statisticians who have a good understanding of the modern statistics and can play leading roles in research, teaching and statistical work.

(7) Utilising various means and methods to complete the organisational construction of statistical education, improving the infrastructure, and establishing several sample education bases.

THE TRAINING OF STATISTICIANS IN SPAIN

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Until recently, specialists in statistics and operational research in Spain were recruited from graduates in mathematics, economics, engineering, etc., since statistics had no curriculum of its own. This lack of professional statisticians and operational researchers has led to the creation in the last few years of a three-year curriculum leading to a Diploma in Statistics. As the creation of this programme has been so recent, the effect of these professionals on the job market is still unknown. The title of Diploma in Statistics was first recognised by the government in 1990.

The current need for professional statisticians has led to a call for the introduction of a new statistics programme at a higher level than the Diploma. Recently, several universities have begun the courses for training professional statisticians at the level of the Bachelors Degree (two years after the Diploma). This year the first graduation class of statisticians will finish their studies and join the labour force. A description of the programs for training professional statisticians is provided in the following sections.

Diploma Studies

The studies for the Diploma in Statistics are basically directed to educating professionals to a middle level position, enabling them to carry out sampling projects, to outline and solve statistical problems in small companies, and generally to accomplish projects corresponding to their level of studies. In other words, they are prepared to be practical statisticians.

The students selected for this programme come from secondary school. At the University of Granada 70-80 new students are admitted each year. The courses last four months, and comprise 60 to 75 hours each, depending on the subject. Students must take ten courses per year, on average. The aim in these three years is practical knowledge.

The programmes of study mainly consist of required subjects and a few optional courses in the first two years. These two years are dedicated to mathematics and introductory courses in statistics, probability and operational research. Special attention is paid to the computational analysis of data. Students use the statistical package SPSS and other programmes such as Statgraphics and Mathematica. There is a computer laboratory equipped with 40 personal computers where practical exercises are done. In the third year most of the courses are optional. Students must choose different courses from the areas of public statistics, computational statistics, and in general courses dedicated to applications.

Bachelor's Degree Studies

The Diploma courses satisfy the needs of practical statisticians. However, there is also a need for specialists in top-level statistics (i.e., professional statisticians), to carry out the designs of projects or top-level research of their own, to solve operational research problems in large companies or in government, and to deal adequately with other problems that one way or another have to do with the statistics of operational research that frequently occur in technological societies. In order to solve the lack of top-level professionals, the curriculum of Bachelor of Sciences and Technical Statistics, lasting two years (a second-cycle curriculum termed "Licenciatura") was introduced in certain Spanish universities (La Laguna in Tenerife, Sevilla, Granada, Elche, Complutense and Carlos III in Madrid) in 1996.

The Bachelors Degree programme for the training of these new professionals will be the first in Spain in this area of specialisation. The new curriculum continues that of the Diploma, but is open to students who have completed other diplomas, such as economics, mathematics, and engineering, among others. The difference between mathematicians and other professionals skilled in statistics, and the statisticians that have taken these new studies, is in professionalism. The studies attempt to prepare the students for the labour market. The theoretical formation is only one part of the training, but not the most important. The aim is on statistics applications in different fields, and the computational preparation is followed through the disciplines, practising with the usual statistical packages. This year will see the first professional statisticians in Spain, whom we expect to be welcomed by employers.

Doctorate Studies

These studies last two years. Students from the Bachelor's Degree in Sciences and Technical Statistics will be able to enter doctorate studies in the academic year 1998-99. In this period the students commence research and the performance of statistical projects. Currently, the doctoral studies in statistics are taken by mathematicians, but the courses have been organised keeping in mind the new students that will be admitted next year. The preparation of the courses is currently in progress.

NEWS AND ANNOUNCEMENTS

Updated IASE Web site

The IASE web site has been updated, and can be located at the following address:
http://www.stat.ncsu.edu/info/iase/

The web page includes introductions to the ISI and to the IASE in English or French. Lists are available of the IASE Executive Committee (1997-1999) and current IASE National Correspondents, and a membership directory. Membership information for IASE is provided along with a list of members' benefits and a membership application in English or French. Links are provided to previous IASE reviews and to reports from IASE meetings.

International Statistics Competition

The Department of Statistics at Kinnaird College for women, Lahore in Pakistan launched in 1997 an international competition of data analysis for the world-wide community of

students/young adults aged 18-26. The competition aimed at enhancing the data analytical skills of the young generation of today. More information can be obtained from Ms. Saleha Naghmi Habibullah. E-mail: hagha@brain.net.pk

Stochastics Group at MERGA

The Mathematics Education Research Group of Australasia (MERGA) has a Special Interest Group in Stochastics. Kath Truran (E-mail: kath.truran@unisa.edu.au) is the co-ordinator of this group, which was formed about 5 years ago and which meets at each MERGA Conference. The group has a membership of approximately 25 although this fluctuates according to member's research interest. Members are currently considering the publication of a monograph on the subject of teaching probability and statistics in primary and secondary schools.

International Colloquium on Mathematics in Gambling, Budapest (Hungary), 30 August - 5 September, 1998

The scope of the Colloquium. organised by The János Bolyai Mathematical Society includes the following topics:

Combinatorial problems in gambling; statistical testing of gambling devices; gambling in mathematical education; lottery - market analysis; bankruptcy estimations; probabilities of sequence patterns; card shuffling; estimates of odds for totalisator agencies; gambling and the history of mathematics; mathematical theories related to roulette, blackjack, redfox, bingo, lottery, toto, keno, dice games, card games.

More information is available from the web site: http://www.math-inst.hu/~jatek, as well as from the Conference Secretary (e-mail: jatek@math-inst.hu).

Research Forum on Data Handling at PME-22, Stellenbosch, South Africa, 12 -17 July, 1998

In addition to the usual research reports, short oral communication, posters, and the Stochastics Working Group, this year the PME Conference includes a research forum on "Data handling" which will be coordinated by Paul Laridon (E-mail: 036pel@cosmos.wits.ac.za). The topics for being presented and discussed are: "Graphing as a computer-mediated tool" and "Building the meaning of association through data analysis activities".

The First Conference of the European Society for Research in Mathematics Education, CERME 1, Osnabrueck, Germany, 27 - 31 August, 1998

In May 1997, representatives from 16 European countries met in Osnabrueck, Germany, to establish a new society ERME, to promote communication, co-operation and collaboration in mathematics educational research in Europe, which is holding its first Conference this year. More information is available from the Conference secretary: Sabine Jones, Universitat Osnabrueck, FB Mathematik /Informatik, CERME 1, D-49069 Osnabrueck. E-mail: erme@mathematik.uni-osnabrueck.de
web site:
http://www.erme.uni-osnabrueck.de/erme98.html

Statistics Education Topics and Organisers at the 52nd Session of the International Statistical Institute Helsinki, Finland, 10-18 August, 1999

1. *Statistical Education and the Significance Tests Controversy.* C. Batanero, batanero@goliat.ugr.es
2. *Teaching and Training Multivariate Data Analysis.* H. Bacelar-Nicolau, ulfphelb@cc.fc.ul.pt
3. *Statistical Education Using Flexible Learning Approaches.* A. Di Ciacio, diciaccio@econ.uniurb.it
4. *Statistical Education for Life:* A. Hawkins, ash@maths.nott.ac.uk
5. *Issues Involved in the Assessment and Evaluation of Student Learning of Statistics.* J.B. Garfield, jbg@maroon.tc.umn.edu
6. *Visualisation as an Educational Tool..* L.Weldon, weldon@cs.sfu.ca
7. *Statistical Training for People working in and with Official Statistics* (in co-ordination with IAOS). R. Smulders, rsls@cbs.nl and C.J. Blumberg, wncarolj@vax2.winona.msus.edu

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http://www.stat.fi/isi99