

International Statistical Education Newsletter

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EDITORIAL

The 'Integration of Statistics' is a concept currently much discussed, and of course the ISI itself set up a committee to consider the problem; the report of the Committee appeared in the August, 1980, issue of the *International Statistical Review*. The first of the articles looked forward to in the previous issue of this Newsletter is on one aspect of this important question, and appears below under the heading Viewpoint.

In December the 43rd Session of the ISI will be held in Buenos Aires, and during the Session the Education Committee will meet and review progress on various fronts, as will, no doubt, the Task Forces; perhaps more importantly, it will look to the future. Such meetings can usually only be held at the biennial Sessions, and so it is particularly valuable if anyone who has views or suggestions makes them known beforehand.

Readers are reminded that they can aid the development of this Newsletter as a useful vehicle of communication by sending news items and other contributions to the editor.

EDUCATION COMMITTEE

TASK FORCE ON THE TEACHING OF STATISTICS AT SCHOOL LEVELS (TOTSAS)

Chairman: V. Barnett (UK)

The TOTSAS Report "Teaching Statistics in Schools throughout the World" was completed in April and handed over to the ISI. No date for publication of the Report has yet been announced by the ISI.

TASK FORCE FOR AN INTERNATIONAL CONFERENCE ON THE TEACHING OF STATISTICS

Chairman: L. Råde (Sweden)

The Task Force has continued its work in connection with the International Conference on the Teaching of Statistics, to be held August 9-13, 1982, at the University of Sheffield, England.

TASK FORCE ON COORDINATION OF STATISTICAL TRAINING CENTRES

Chairman: M. Benyaklef (Morocco)

The Task Force, whose name is self-explanatory, has completed the compilation of an Almanac of International Statistical Training Centres. This

gives, for seventeen centres, information concerning entrance requirements; language of instruction; facilities and financial aid; capacity; faculty, publications; and graduates. The almanac can be obtained either from the ISI permanent office, or from INSEA, B.P. 406, Rabat, Morocco.

The Fourth Meeting of Directors of International Statistical Training Centres took place in Rabat in May 1979, and the Fifth Meeting is due to take place in December 1981, in Chile.

TASK FORCE ON TERTIARY AND TECHNICAL EDUCATION IN STATISTICS

Chairman: R.M. Loynes (UK). Other members: B.Afonja (Nigeria); R.A.Bradley (USA); N.Bhattacharya (India); K.Krickeberg (FRG); H.Midzuno (Japan); M.Taha (Egypt).

The Task Force was set up at the 1979 Session in Manila, with the intention that its area of activity should complement those of other Task Forces. 'Tertiary' refers to post-secondary (and hence to university and similar institutions of higher education) and 'technical' to professional and sub-professional matters not covered by the others.

Following its creation it has explored a number of possible activities, and has begun the publication of the Statistical Education Newsletter.

NEWS AND ANNOUNCEMENTS

GOTHENBURG SYMPOSIUM ON TEACHING STATISTICS

This symposium was held in Gothenburg, Sweden, from April 20 to 25, 1980. The proceedings have now been published and contain the following papers.

P. Holmes, 'Using project work in teaching statistics to students aged 16-18 in the United Kingdom'

P. Holmes, 'Why teach statistics and what statistics should be taught to pupils aged 11-16'

B.L. Joiner, 'How to use Minitab effectively in teaching statistics'

M.N. Murphy, 'Some thoughts on teaching of survey sampling'

G.E. Noether, 'An introduction to nonparametrics through estimation'

J.O. Oyelese, 'Some problems of the teaching of statistics in developing countries - the Nigerian example'

L. Råde, 'The Gothenburg students' statistical field trip to USA'

The proceedings may be ordered from Mathematics Department, Chalmers University of Technology, S 41296 Gothenburg, Sweden. The price is US\$6.

Volume 3, Nos. 2 and 3 have now appeared.

VIEWPOINT

Practical Statistics and the Academic

One of the interesting aspects of my experience in CSIRO (Commonwealth Scientific and Industrial Research Organisation, Australia) over the past seven years has been the insight it has given me into the practice of statistics, and the computing requirements of statistical consulting. These requirements are often very different from those of academic statistics.

Universities are set up to teach students the essentials of a subject, in this case statistical theory and methods. As part of their training, students may be required to acquire skills in computing, and may also have to carry out one or more projects involving the analysis of statistical data. But, because training time is short, it is impossible to present students with some of the large data sets which arise in practice when the real problems of agriculture, industry or the social sciences have to be solved. With some exceptions, few universities can give their students a realistic idea of the importance of statistical computing, or the place of the computer in modern statistical practice.

University teachers are judged mainly on their research and publications, and while there is some call on their consulting capabilities, they have the option of becoming involved only in those projects which they find interesting. Except where Statistical Laboratories whose main function is consultative are established, academics can avoid direct contact with the messy problems of practical statistics. This, I believe, is a great pity since statistics has its roots in empirical problems involving numerical data sets, some of them very large. It is in the solution of real problems that new statistical developments are to be found.

Yet the paths of academic advancement impose upon many university researchers the sterile refinements of minor concepts and ideas which have almost lost contact with reality. This is not to say that theoretical research should be undervalued, but that there is a difference between research into a real problem and research into a pseudo-problem. Let me contrast, purely for fun, two (invented)

titles of papers, which, I hope, will illustrate the point: 'Outliers in linear regression' (real problem), and 'Ultimate concepts of fiducial inference' (not so real problem).

What then, should one do? I have two general suggestions to put forward which will not be considered too radical. The first is that all students of statistics should undergo an apprenticeship of at least three months in a Statistical Laboratory, or an organisation such as CSIRO or the Census Bureau. There they would acquire some expertise in the practical handling of statistical data sets, and familiarise themselves with modern methods of computational statistics. This suggestion is by no means revolutionary; it is the equivalent of on-the-job training schemes for engineering students who must put their theories to the test in a practical working environment.

The second suggestion is that academics should be encouraged to take their sabbatical leave in institutions other than universities. If they were placed in an environment where they were compelled to face the realities of statistical problems, their prevailing rather detached viewpoint would gradually change. They would understand far more readily the importance of the computer in statistics, and be prepared to introduce appropriate courses in computational statistics in their syllabuses. They would also become more willing to concentrate their research efforts in areas of real need, instead of being side-tracked by relatively trivial problems.

How could one achieve these two aims? Clearly, more than goodwill and encouragement are required. Not only will a more realistic evaluation of statistical skills for academic advancement in Universities be necessary; considerable financial support will also be needed to make the apprenticeship scheme for students and the sabbatical leave program for academics feasible. Yet if agreement could be reached on the underlying principles, surely it should not prove impossible to tap the resources of the great educational foundations. No effort should be spared to make statistical education serve the very real needs of people in solving their problems in agriculture, commerce, industry and the social sciences.

J. Gani

(Chief of the Division of Mathematics & Statistics,
CSIRO, 1974-1981)