Session C3

Distance Teaching Programmes in Probability and Statistics

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Introduction

In the majority of countries and especially in the industrialised ones, the use of statistics in the professional sector has increased. Its presence has also increased in the society as a whole. Consequently, the request for statistical training has grown.

An equally diffused phenomenon, on the other hand, is the lack of teachers of statistics, from the school level to that of professional specialisation.

This is why statistical training through distance learning methodologies is becoming more and more important. These methodologies are characterised by the integrated use of different instruments and in particular: didactic software for use with either the student's personal computer or with a mainframe-connected terminal; audio-visual materials used either with a personal video cassette recorder or transmitted via radio and television; and, finally, traditional printed materials, even if specially produced for distance learning.

These multimedia techniques have the advantage of using the most appropriate methods for particular subjects. For example, the availability of statistics packages allows the use of a large amount of real data and their easy manipulation for purposes of illustration. The connection to a mainframe gives access to current data-banks (on personal or family income and consumption, on population, etc.) and allows the student to become familiar with these data. The use of audiovisual materials and computer-graphics makes learning easier and the subjects more interesting.

Automatic management of student practice (more and more common in systems of distance learning) permits the diagnosis of errors made by the students in real-time or in a brief period, thus allowing immediate correction.

Radio and television broadcasting can also serve to sensitise a wider public to the field of statistics. And this is the most important function to be recognised in the use of these media.

Even if multimedia techniques offer wide and diversified didactic possibilities, they are, however, very expensive. This is why it is possible to develop materials for distance learning only when the number of students is particularly high and thus the cost of production is easily recuperated.

Elementary and secondary school teachers are a group particularly receptive to such materials. This is even more evident if one considers that the most recent initiatives of academic reform in various countries have given more time, with respect to the past, to the teaching of statistics and probability and most of the teachers are unprepared.

Moreover, the development of materials for distance learning offers the opportunity to experiment with innovative methodologies that can be transferred to the traditional teaching context.

For these reasons, the International Statistical Institute should give more attention to distance learning and statisticians should become involved in the production and experimentation of specialised materials.