

A PROPOSAL BY ISTAT TO SUPPORT THE TEACHING OF STATISTICS IN PRIMARY SCHOOL

Nadia Caporrella, Silvia Da Valle, Luciana Micucci and Susi Osti
Istat - Central Directorate for the development and coordination of the territorial statistical network
regional offices for Abruzzo, Toscana and Veneto, Italy
davalle@istat.it

THE CONTEXT AND THE OBJECTIVES

The Italian National Institute of Statistics (Istat) promotes *statistical literacy* both at a national and at a regional level, and has always paid particular attention to the school system. In addition, the school system itself recognizes that citizens of the knowledge society need to have an adequate level of statistical literacy. School curricula, in fact, deal with Statistics from the early years of compulsory education, with the aim of promoting a gradual learning of those skills needed for the correct use of data. Istat recently decided to give a new impulse to the promotion of statistical culture, implementing initiatives for the younger generation through the school system. In this work we intend to illustrate the methodology and present some tools specifically designed to support the teaching of statistical curricular topics in primary school.

THE FRAMEWORK AND THE PROPOSED APPROACH

Istat recently built up a specific network of experts to promote statistical literacy at a local level. The network works in synergy with the Advanced School for Statistics and Socio-economic Analyses of Istat (SAES), recently established with the institutional task of developing statistical literacy at various levels. The driving idea underlying the work was to address children through the mediation of their teachers, by providing – by free download from the website of Istat-SAES – some learning tools, ready to be used by teachers in their classes.

METHODOLOGY

The first step of the work focused on a careful analysis of school curricula in force in primary schools, in order to create a proposal that teachers could consider relevant and up to date. From this analysis, we obtained precise references to core topics to propose.

We decided then to design learning tools in accordance with three basic requirements: the first one was the need to pay particular attention to the presentation, considering the age of the target group, (6-11 years old). The second was about providing the possibility of doing exercises on the topics, to reinforce concepts through application. The third requirement was the option to use these tools in a flexible way, in order to make them suitable for use both with or without multimedia supports. This ensures the highest level of freedom for the teacher.

THE RESULTS: STRUCTURE AND CONTENTS OF THE TOOLS

In the final realization, learning materials are structured as thematic *dossiers* and cover the following topics: one-way and two-way frequency tables, pictograms, bar charts, arithmetic mean; mode, introduction to probability. The structure of these *dossiers* respects the same format, each of them in fact includes:

- an interactive Power Point presentation that introduces the topic in a friendly way to pupils;
- a set of thematic exercises in Excel, with input cells for the children's responses, and output cells to report to students whether the answer is correct or not;
- a technical note, in text format, containing information for further study, specifically designed to give further information to teachers.

A concise guide for the correct use of the tools is also available.

CONCLUSIONS

With this organized collection of didactic instruments, teachers can access a proposal for an organic path of work. They can take advantage of a concrete support for the teaching of curricular themes in Statistics during the course of study. The wide margin of freedom in choosing the depth of study respects the teacher's didactic autonomy and the needs of their pupils.