Teaching applied statistics at UPC: integrating lectures, statistical software and e-learning

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The article presents a pedagogical model, which has been designed for teaching applied statistics at the School of Building Construction of Barcelona in the Technical University of Catalonia (UPC).

The pedagogical model is based on the use of software technology and defines activity sequences in an integrated project in order to motivate learning, guide reasoning and, finally, improve knowledge and skills acquisitions [1].

The model is based on the integration of three aspects: (a) lectures, where statistical concepts and applications are introduced to students, (b) laboratory practices, in which students make use of statistical software to solve activities related with the concepts introduced during lectures, and (c) development of a statistical project, linked to the technical architecture environment [3, 4, 5], that small groups of students carry out in several phases with the help of statistical software. For the project development, students make use of the UPC web platform, so that students can do on-line collaborative work and can receive assistance from the faculty staff. These three aspects of the model interrelate among them, giving place to an educational model that integrates traditional lectures with information technologies (statistical software and web platforms) [2], and promotes both students’ active participation and collaborative learning.