EDUCATIONAL TECHNOLOGIES AND THE TEACHING OF STATISTICS

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Communication technologies employed in education have allowed for the development of new ways of teaching and learning. Considering the innumerable difficulties posed by teaching Statistics in courses outside the field of exact sciences, these technologies offer a form of rendering pedagogical practices more flexible and changing some paradigms. This paper presents suggestions on how these technologies can contribute to the Statistics teaching-learning process in undergraduate courses in applied social sciences. The experiences reported here are based on results achieved in the undergraduate course in Business Administration at the University of São Paulo School of Economy, Administration and Accounting (FEA-RP/USP). The curriculum of this undergraduate course includes the following Statistics subjects: Introduction to Statistics, Applied Statistics I, Applied Statistics II, and Applied Statistics III. Various technological systems were developed to support the teaching of the content of these subjects, namely:

1) Interactive system for teaching statistics (SINEST): A CD-Rom broaching introductory contents on Statistics, in the form of a presentation in which each slide works like the page of an electronic book. The links found on each page can be activated with the mouse, taking the reader to other contents.

2) Tutorials for using SPSS and Excel: Step-by-step explanations on how to apply the statistical tools introduced in the subjects, using the SPSS and Excel software programs. These tutorials were produced with the Microsoft Producer program and provide explanations about how to insert data on an electronic chart, how to obtain the results of the application of statistical tools and how to analyze the charts – outputs obtained through the software, using a movie. These tutorials enable the student to see where the cursor moves and listen to the explanatory audio.

3) Virtual Laboratory of Statistics Applied to Business Administration (LaViE): A virtual learning environment that makes available texts, a glossary, examples, links, SPSS software, FAQs, forum and chat room developed by the authors. The contents discuss statistical concepts and tools that are widely utilized in Business Administration. This is a web site available for student access (www.npt.com.br/lavie).

4) Online evaluations: The virtual laboratory has a “test your knowledge” tool, i.e., the teacher prepares an evaluation with multiple choice questions, to be offered online. Feedback regarding the student’s performance is provided immediately. The questions are divided into three levels, each successive level involving more complex content and application than the preceding one.

The use of the aforementioned educational technologies in the subject of Statistics in the Business Administration course taught at FEA-RP/USP provided very favorable qualitative results. All the technologies were taught as complementary material in physically attended classes. When compared with the previous teaching process (expository classes), the use of these technologies rendered the time spent in the classroom more productive in clarifying doubts and underpinning discussions.