



Overview

Teaching Challenge

To find an instructional platform for teaching statistics that would de-emphasize formula manipulation and cumbersome calculations and promote the acquisition of a clear, conceptual understanding of – and appreciation for – statistical methods as they are applied in real-life settings.

Solution

Sharon L. Weinberg, Professor of Applied Statistics and Psychology at New York University, has found that by integrating IBM SPSS Statistics into her course curriculum, she has been able to obtain the right instructional platform for achieving her course goals.

Making statistics relevant and easy to learn

IBM® SPSS® Statistics keeps students engaged by allowing for “real world” problem solving with larger datasets

Sharon L. Weinberg, Professor of Applied Statistics and Psychology, teaches applied statistics at New York University. Her approach to teaching this subject matter coincides with one of the key recommendations of the 2005 Guidelines for Assessment and Instruction in Statistics Education (GAISE) Project, funded by the American Statistical Association, that the technology revolution “has changed the way statisticians work and should change what and how we teach.” (GAISE Report, 2005)

Given the dizzying array of available choices instructors may make to augment the teaching of applied statistics through the use of technology, including video presentations, instant access to data on the Internet, interactive simulations, online discussion boards, a variety of different software programs, and so on, Weinberg agrees that in choosing among these and other alternatives, the focus cannot be on the technology itself, but on how that technology improves the teaching of the subject.

Recognizing the importance of taking into account both content and pedagogy, she believes that every instructor of statistics must grapple with choosing a particular technology that will be accessible to students and be effective in the classroom to enhance student learning.

Choosing a statistical software package that is well aligned with both content and pedagogy, that can be integrated into classroom instruction, and that optimizes a student’s opportunities to apply statistical concepts to real data are of utmost importance. When complex computer programming is required by a software package, students will, by necessity, focus on mastering the elements of that software package at the expense of learning statistics.



Teaching Benefits:

- Focused students' attention on learning concepts rather than on formula manipulation.
 - Enabled teaching of real-life problems, engaging students more actively in the learning process.
 - Increased students' confidence in being able to learn and understand what they initially anticipated as being a complicated and difficult subject.
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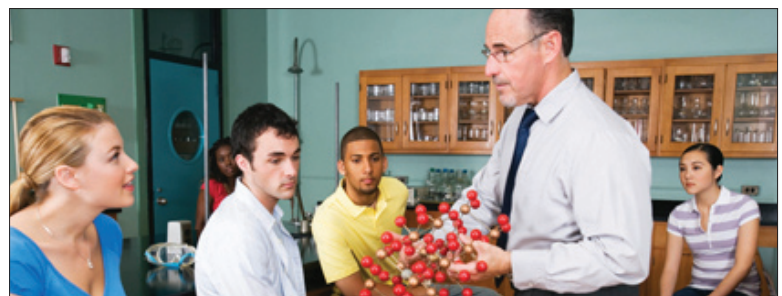
IBM SPSS Statistics engages students more actively in the learning process

The software package chosen by Weinberg is IBM SPSS Statistics. Its advantages are that it reduces an emphasis on time-consuming computation; it frees the students to focus on conceptual understanding; it models statistical practice; and, in general, it enhances the teaching of her subject.

The particular features of IBM SPSS Statistics that support these advantages are its availability and student pricing; its ease of use for particular audiences; its ease of data entry and ability to import data in multiple formats; its dynamic linking between data, graphical and numerical analyses; its interactive and high speed capabilities; its versatility as an all purpose tool for use throughout the course and beyond, in academic settings and industry; and its portability for classroom and home.

Weinberg and Sarah Abramowitz, Professor of Mathematics and Computer Science at Drew University, are the co-authors of the text (2nd edition) *Statistics Using SPSS: An Integrative Approach*, published by Cambridge University Press (2008). The textbook comes with a disk that contains several real datasets for use with the course. These datasets are analyzed repeatedly in different contexts and with different methods throughout the text.

In so doing, the approach used provides a more cohesive presentation of statistics, one that links different methods of analysis to each other and thereby avoids the perception that statistics is an often-confusing array of many separate analytical methods with little or no bearing on each other.



Smarter solutions for higher education

For more than 40 years, IBM SPSS technology has led the way in helping colleges and universities teach statistics and data mining – as well as assisting them in harnessing data to achieve their goals. IBM SPSS predictive analytics touches every point of the student lifecycle so that institutions can generate more value for their students and receive a higher return on their information.

From recruitment and retention to student success and institutional advancement, IBM SPSS predictive analytics provides the ability to direct and automate effective decisions. The result is a more efficient, successful and accountable academic environment.

“With IBM SPSS Statistics, students can tackle important real-life problems, applying a range of analyses to achieve a solution in a short period of time.”

— Sharon L. Weinberg, Professor of Applied Statistics and Psychology, New York University

IBM SPSS Statistics is a “wonderful instructional platform”

Weinberg finds IBM SPSS Statistics to be a “wonderful instructional platform” for students to learn what it means to be a data analyst. The user-friendly program takes “no effort” to master and allows students to focus on learning statistical concepts in the context of real data. Because “an analysis is only one click away with IBM SPSS Statistics,” Weinberg is able to engage students without the distraction that comes from having to manipulate formulas or learn complex software programming commands.

In addition, one can easily handle large sets of real data with IBM SPSS Statistics and, in so doing, show that only from multiple analyses one can achieve a thorough understanding of the information contained in the dataset.

The use of a real dataset also facilitates the discussion of more interesting problems that often are captured by large and more complicated datasets. It motivates students to take ownership of the process of analyzing and drawing conclusions about data so as to uncover answers to timely and relevant questions. This creates an empowering experience – students learn skills that may be used in other settings and arenas unrelated to the class in question.

In summary, Weinberg’s integration of IBM SPSS Statistics into her course in statistics:

- Focuses students’ attention on learning concepts rather than on formula manipulation
- Enables teaching of real-life problems, engaging students more actively in the learning process
- Increases students’ confidence in being able to learn and understand what they initially anticipated as being a complicated and difficult subject

She also has learned along with her students, gaining new insights into ways to approach statistical problems and their solutions. By combining more than 30 years of teaching experience and a passion for statistics with the tools available in IBM SPSS Statistics, Weinberg teaches a course in which she and her students are partners in the learning process. The net result is a more popular course, one that offers a more fun and profitable experience for both teacher and student.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, predictive analytics, financial performance and strategy management, and analytic applications provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage. For further information or to reach a representative visit www.ibm.com/spss.



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May 2010
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