

Online

The Online section of the *Journal of Economic Education* identifies exemplary material for teaching and learning economics that is interactive or otherwise not conducive for the printed page. URLs for these Web sites are identified in the descriptive notes.

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Facilitating Student Experimentation with Statistical Concepts

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URL:<http://www.umd.umich.edu/casl/socsci/econ/StudyAids/JavaStat/applet.htm>

The demand for efficient methods for offering hands-on experimentation can be expected to grow with the recognition of the need for active learning. This Web page provides seven Java applets that enable students to experiment with key concepts in an introductory statistics course. The applets cover standardizing a normally distributed random variable, the Central Limit Theorem, confidence intervals, hypothesis testing, simple linear regression, and control charts.

Developing Java applets is no small task for nonprogrammers. To minimize costs, I cooperated with a Computer Information Systems instructor. Three of his students wrote the programs for these applets under our supervision. They gained valuable experience in working with a client and producing the desired product, and my students and I got useful statistical applets.

Instructors can use these applets in three ways. First, they can place links to these applets on their course Web spaces and encourage students to explore the various statistical concepts. Second, the applets can be used to create in-class demonstrations of statistical concepts. Third, a more active method would involve using the applets as the basis of assigned problems that lead students through experiments and to the discovery of important statistical relationships. For example, to develop an understanding of the relationship between variance and probability, instructors could ask students to use the standardization applet and a given mean income level to investigate how the poverty rate is affected by changes in income inequality.

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