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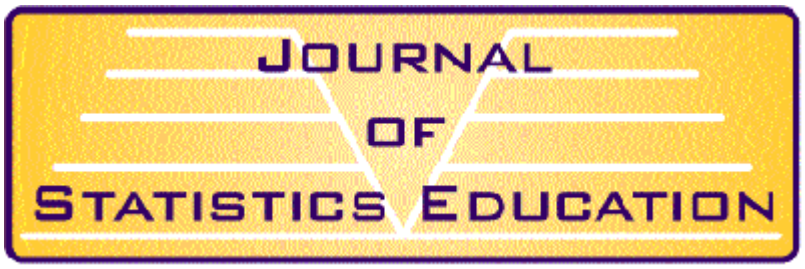

2000 Abstracts

Volume 8, Number 1 (March 2000)

Jim Albert, "Using a Sample Survey Project to Assess the Teaching of Statistical Inference" (59K)

This article describes the evaluation of the teaching of statistical inference in a first statistics class. A sample survey project is described as a means of assessing the effectiveness of a Bayesian approach in communicating the basis tenets of inference. There are several advantages of the Bayes viewpoint in performing this survey project, including the explicit modeling of one's prior opinion by means of a probability distribution and the relative ease in reporting statistical conclusions. Some evidence is presented to show that students with sufficient knowledge can accurately specify probability distributions. The success of the survey project is evaluated, and changes to the structure of the project are described that facilitate the interaction of the instructor with the students. --JA

Key Words: Bayesian inference; Interval estimation; Prior distributions; Proportion inference.

Thomas E. Love, "A Different Approach to Project Assessment" (46K)

An approach used to assess project team work in a condensed (half-term) elective course is discussed. The instructor's evaluation method signals appropriate course goals to students. The scheme described encourages student groups to prepare presentations that will be attractive to people who will evaluate their work in the real world. Colleague comments determine one-half of each student's course grade. Students are randomly selected to lead the presentations, ensuring that all students are thoroughly involved in the process (including assessment). A report on the projects (and comments) completed by Masters of Business Administration (MBA) students at a midwestern school of management is provided, along with the inventory used to assess each team's work. --TEL

Key Words: Cooperative learning; Management education; Projects; Regression; Short courses; Teams.

Richard M. Single, "52,467 + 57,204 = 254,281,227? Using the National Health Interview Survey and the 2000 Census to Introduce Statistical Sampling and Weights" (55K)

The use of tangible examples can make the concepts of statistical sampling and survey design more meaningful for college students. These concepts are especially relevant with the advent of the 2000 Census and the debate over its use of statistical sampling.

In this paper, basic ideas from survey design are introduced using the 2000 Census as an example, in order to capitalize on the recent media attention. Then, these same concepts are applied to the National Health Interview Survey (NHIS). Data for the 1993 NHIS can be accessed through the National Center for Health Statistics web site and simple analyses can be performed over the web to demonstrate the use of sampling weights. In addition, subsets of the data can be downloaded and analyzed using statistical software packages.

The methods of statistical sampling and the structure of a national survey have a variety of applications in the classroom, depending on the level of the course being taught. This paper discusses some of these applications and how to access and use these data as an effective teaching tool. --RMS

Key Words: Sampling frame; Stratification; Survey design.

Linda A. Tappin, "Statistics in a Nutshell?" (29K)

The paper reports on a two-year investigation into the feasibility of allocating three weeks of an undergraduate calculus-based probability course to statistics. This brief introduction to statistics would take the place of a course, thus constituting the students' only exposure to statistical science. At first glance, the request seemed quite reasonable. Statistical inference is based on probability, and statistical inference could be presented as an application of probability. Besides introducing some statistical concepts, it was hoped to enhance understanding of probability by highlighting this connection. However, it was not possible for the students to learn anything meaningful about statistical science in three weeks. In addition, any enhancements to the learning of probability were not significant enough to warrant the omission of material from that course. --LAT

Key Words: Binary data; Deductive reasoning; Inductive reasoning; Probability vs. statistics; Statistical thinking.

Stanley A. Taylor, Manfred W. Hopfe, and Thomas E. Hebert, "Computer Testing for a Data Analysis Course" (27K)

Given the emphasis on utilizing the computer in many statistics courses, we discuss how we have implemented microcomputer task based testing in our courses. Background information is provided about a required, undergraduate, multiple section course, and why we believe computer-based testing is an effective evaluation instrument. Issues of examination design, administration, and evaluation are presented. Examples of problems used in computer-based exams are also included. --SAT

Key Words: Examinations; Microcomputer task based testing; Student performance evaluation.

"Teaching Bits: A Resource for Teachers of Statistics" (31K)

This column features "bits" of information sampled from a variety of sources that may be of interest to teachers of statistics. Bob delMas abstracts information from the literature on teaching and learning statistics, while Bill Peterson summarizes articles from the news and other media that may be used with students to provoke discussions or serve as a basis for classroom activities or student projects. --JG

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