Replacing the Statistics Text with Reader Excerpts and Timely Internet Notes

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Abstract

A new lecture course was recently presented based mainly on the reader "Statistics: A Guide to the Unknown", a collection of short articles by well-known statistical educators on interesting applications of statistics (Tanur, 1989). The succession of topics was application-based rather than the more common logical sequence of topics used in statistics textbooks. Nevertheless, the student feedback, and the final exam, indicated that all the important basics were covered. Moreover, students expressed interest in the particular applications that were discussed in the lectures. Student feedback became an integral part of the course. The ability to provide timely notes via the internet that reflected the evolution of the lectures was a key to the success of the course. The fact that the notes could contain precision graphics and colors was also helpful for motivation of students. The notes for the course can be found at http://www.stat.sfu.ca/~weldon/stat100-02-3.html.

Components of the Poster Display

The poster session will include display of the following items

1. The Internet and This Case-Study Course - This part describes the important role of the Internet in enabling this course design to work.

2. Pedagogical assumptions (open for discussion!) These are the assumptions that lead to the design of the course. There are 11 specific points and also the general one listed here:
"The basic motivation for this type of course is the belief that almost *any* statistical application will involve most of the basic tools and concepts that students are expected to learn in an introductory statistics course, so that discussion of a series of case studies is one way to cover this body of tools and concepts.**"**

3. The Course Outline - An overview of the course topics and applications studied.

4. The articles used – the titles, usually referring to the application discussed, and the major statistical tools and concepts introduced in each article. About two-thirds of the course is covered in these articles.

5. Other Concepts Presented – a few additional applications and techniques, covering the remaining one-third of the course.

6. Two Midterm tests and the final examination – The topics "covered" in a course do not always reveal its real content. The tests and exams reveal exactly what the student is expected to have learned. Answers are included.

7. Three surveys were done during the course to find out the students' perception of what was important, what was confusing, and what required more exposition. The results from these surveys are shown.