

Editorial

Teaching Statistics

This issue is devoted to teaching statistics methodologies and problems which could help to lecturers and students, and facilitate the process of teaching and learning. Several selected works show new possibilities developed in this area.

Dr. S.J. Mends-Cole considers the constructivist perspective on teaching statistics with data. Dr. I. Lipkovich presents Bayesian decision making on an educational example. Profs. A. Shemyakin and B. Tiefenbruck share their experience on community-oriented projects in calculus-based statistics. Profs. L.M. Lesser and M.E. Glickman explore the role magic tricks can play in teaching probability and statistics. Prof. M. Kozak shows that teaching statistics means actually teaching how to think statistically, and together with Drs. E. Bakinowska and J. Paderewski describes students' graphical perception. Profs. J. Subramani and K.N. Ponnuswamy describe construction and analysis of SUDOKU designs that can serve aims of teaching statistics. Dr. T.A. Grace and Prof. S. Sawilowsky consider the problem of data error prevention and cleansing for instructors and students of statistics. And together with Prof. I. Mandel in artistic collaboration with his daughter, a young painter Anastasia Mandel, we describe how art can help to teaching and appreciation of statistics.

In continuation of the previous quotations on statistics, below are other thoughts cited mainly by [1]:

"Who can number the sand of the sea, and the drops of rain, and the days of eternity?" – Apochrypha, Ecclesiasticus, 1–2.

"With many calculations, one can win; with few one cannot. How much less chance of victory has one who makes none at all!" – Sun Tzu, Chinese general (544BC-496BC).

"How far would Moses have gone if he had taken a poll in Egypt?" – Harry S. Truman.

"Errors using inadequate data are much less than those using no data at all." – Charles Babbage.

"I know of scarcely anything so apt to impress the imagination as the wonderful form of cosmic order expressed by the "Law of Frequency of Error". . . The huger the mob, and the greater the apparent anarchy, the more perfect is its sway." – Francis Galton, in: J.R. Newman, ed., *The World of Mathematics*, 1956.

"What used to be called prejudice is now called a null hypothesis." – A.W.F. Edwards, *Nature* 233, 18.

"A difference which makes no difference is no difference at all." – William James.

"It is commonly believed that anyone who tabulates numbers is a statistician. This is like believing that anyone who owns a scalpel is a surgeon." – R. Hooke, *How to tell the Liars from the Statisticians*, 1983.

"The best thing about being a statistician is that you get to play in everyone's backyard." – John Wilder Tukey.

"Why speculate when you can calculate?" – Vijay Pandharipande.

"Beware of programmers who carry screwdrivers." – Leonard Brandwein.

"In the fall of 1972 President Nixon announced that the rate of increase of inflation was decreasing. This was the first time a sitting president used the third derivative to advance his case for reelection." – Hugo Rossi, *Notices of the American Mathematical Society* (1996) 43(10).

"Such an event is probable in Agaphon's sense of the word: "It is probable, he says, that many things should happen contrary to probability". Accordingly, the poet should prefer probable impossibilities to improbable possibilities." – Aristotle, *Poetics*, chapters 18 and 24.

“The basis for poetry and scientific discovery is the ability to comprehend the unlike in the like and the like in the unlike.” – Jacob Bronowski.

“Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.” – Herbert George Wells, in Warren Weaver, *Scientific American*, January 1952.

“Chance is the pseudonym God uses when He’d rather not sign His own name.” – Anatole France.

“To understand God’s thought, we must study statistics, for these are the measure of His purpose.” – Florence Nightingale (1820–1910) [2–3].

*Guest Editor for MASA 2009,
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References

- [1] J.E.H. Shaw, *Some Quotable Quotes for Statistics*, available in the web, 2006.
- [2] H.W. Eves, *Return to Mathematical Circles*, a fifth collection, #357, PWS-KENT Publishing, Boston, 1988, 143.
- [3] B. Everitt, *Chance Rules: An Informal Guide to Probability, Risk, and Statistics*, 1999, 137.