

## Annotated bibliography of print resources on the treatment of data

Alfassi, Z.B.; Boger, Z.; Ronen, Y. *Statistical Treatment of Analytical Data*, CRC Press, Boca Raton, FL: (2005), 266p.

Specifically *Chapter 6: Outliers*, which includes discussion of Dixon's Q-test, the rule of huge error, and Grubbs' T-test as some of the more basic and well-known methods for dealing with outliers in data sets.

Booth, Vernon. *Communicating in Science: Writing a scientific paper and speaking at scientific meetings*, 2<sup>nd</sup> ed., Cambridge University Press, New York: (1993), 78p.

*Chapter 3: Empty Numbers* is a short chapter on making sure that numbers presented within text are not misleading or confusing.

“Data Selection and Retention (Case A2).” *Teaching the responsible conduct of research through a case study approach*. S.G. Korenman and A.C. Shipp, eds. American Association of Medical Colleges, Washington, D.C.: (1994), 226p.

A short case study with discussion questions on “cleaning up the data” (excluding data points) instead of repeating experiments in order to eliminate outliers and determine causes of experimental error. This text may be ordered directly through the American Association of Medical Colleges webpage via the “Publications” link at [www.aamc.org](http://www.aamc.org).

“Data Selection and Retention (Case A4).” *Teaching the responsible conduct of research through a case study approach*. S.G. Korenman and A.C. Shipp, eds. American Association of Medical Colleges, Washington, D.C.: (1994), 226p.

A short case study with discussion questions on the ethics of choosing “aesthetically pleasing” data – in this case photographs – for publication. This text may be ordered directly through the American Association of Medical Colleges webpage via the “Publications” link at [www.aamc.org](http://www.aamc.org).

Finkelstein, Leo Jr. *Pocket Book of Technical Writing for Engineers and Scientists*, 3<sup>rd</sup> ed., McGraw-Hill, Boston: (2007), 384p.

*Chapter 15: Visuals* discusses all of the different kinds of visual aids, from photographs to equations, that may be used to present data.

Niewoehner, Rob; Paul, Richard; Elder, Linda. *The Thinker's Guide to Engineering Reasoning*, The Foundation for Critical Thinking, (2007), 57p.

Available through [www.criticalthinking.org](http://www.criticalthinking.org). Especially useful is the sections “Using Intellectual Standards to Assess Graphics”, a list of items to consider when constructing graphics for a paper or presentation.

- As an activity, have students bring in their own data that they're trying to decide to keep/discard, or provide “faked” data (qualitative or quantitative) to students, and discuss how to decide what to do.

