Making a Statistical Poster – Guidelines

What is a statistical poster?

It is a one-page presentation that tells a story about a set of data.

It should:

- be simple and have a logical progression (contain a goal, an approach, main findings and key conclusions)
- include graphs and descriptive summaries of data
- contain commentary on the meaning of the data
- be self-contained (viewers should not need any extra material or information to understand the poster)
- be visually attractive and creative
- be able to be read from a distance of about 2 meters (7 feet)

Examples

Here are some links to get a general picture about posters. These posters were made following certain competition rules and may not meet the requirements of other competitions.

International Statistical Literacy Poster Competition 2010−2011:

http://www.stat.auckland.ac.nz/~iase/islp/competition-first

Other examples:

http://www.amstat.org/education/posterprojects/index.cfm

http://magazine.amstat.org/blog/2011/08/01/posterandproject/

http://www.sci.usq.edu.au/statsweb/StatsComp/index.html

Steps in Poster Making

Find a question

First, find an issue or question to study. It should be:

- clearly defined to make it easier to collect relevant data
- be interesting so people want to read the poster
- not too difficult but also not have an obvious answer

Collect Data

Before collecting data plan carefully what measurements etc. are needed. More about different types of data collection:

http://www.statcan.gc.ca/edu/power-pouvoir/ch2/types/5214777-eng.htm

When using data from other sources, they should be reliable and cited.

More about the quality of statistics:

http://tilastokeskus.fi/tup/verkkokoulu/data/tlkt/03/03/index_en.html

Do not forget to consider randomness and numbers of measurements or observations.

Examples:

> If the topic is to find out students' opinions and the study is only made by interviewing two best friends, the results may be severely biased.
>
> If a problem is to measure how far a grasshopper can hop, measuring just one hop from one grasshopper will not give good results. You need a bigger sample. For example, it is better to take 10 grasshoppers and measure 10 hops from each.

More about selection of a sample:

http://www.statcan.gc.ca/edu/power-pouvoir/ch13/sample-echantillon/5214900-eng.htm#a5

Data quality

Do the data represent a general situation?

Data are variable (which is why we need statistics!) but also may have errors. What are the possible sources of errors in the data?

No matter how well the measurements or observations are made, there may still be some sources of variability or errors. Think about sources of variability or errors and if possible mention them in the poster.

Suggestions on how the study could have been improved can also be given.

Analyze data

Analyze the data collected either by hand or by using a computer program.

Remember that you are investigating the original issue(s) or question(s).

Use numbers and graphs to describe the data: for example, histograms, bar charts, line charts, pie charts and box plots. Statistical quantities like mean, median or standard deviation are also useful.

More about different types of averages:

http://tilastokeskus.fi/tup/verkkokoulu/data/tlkt/01/06/index_en.html

More about presentation and visualization of data:

http://www.fernuni-hagen.de/statliteracy/chapter3/intro3.html

Practice making a graph:

http://www.statcan.gc.ca/edu/power-pouvoir/ch9/create-creer/5214819-eng.htm

Making the Poster

Physical or Electronic?

Posters can be:

- either physical (on paper) or electronic (for example, made with PowerPoint)
- either vertical or horizontal

Content

Posters are not meant to be looked at for long but should:

- contain at least what was studied and how, the main results, discussion about results and the principal conclusions
- be presented using pictures and key graphs
- have simple text telling the story of the data
- include summaries but not all the raw data

Remember that there is only limited space so do not say things twice.
Pick only the graphs that best present the results. All graphs should be titled and commented on.

References

http://www.amt.edu.au/statscomp/ideas/guidelines.html

http://www.catalysis.nl/links/presentations/presentations.pdf

http://www.amstat.org/education/posterprojects/whatisastatposter.cfm

http://www.helsinki.fi/atk/neuvonta/ohjehakemisto/posteriohjeet.html (in Finnish)

http://www.valt.helsinki.fi/optek/posteri/ohje.htm (in Finnish)