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The Basics of Poster Design

NEW! ► Poster design workshop handout, 2011

Most university and college students who participate in research will eventually need to create an academic poster. Done well, posters are an effective way to communicate research work concisely and powerfully.

Getting started

Clear design starts with clear thinking.

Most viewer will spend five minutes (or less) looking at your poster. Before you begin sorting through your charts, graphs and photos, you need ask yourself this question:

If a person is going to remember only one idea about my work, what do I want that idea to be?
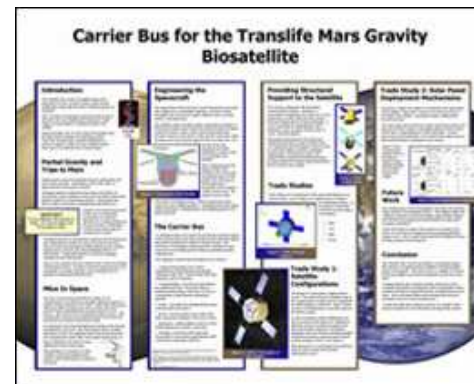
Now write down your answer.

This is the theme of your poster, its focal point. Everything you choose to include on your poster needs to support this theme.

+ enlarge
This poster combines carefully selected graphics and plain fonts. The researcher's effective use of columns and precise, clear headings makes her poster presentation easy to follow, even without reading the large sections of text.

Organizing your research

Posters tell stories. A research poster explains to the viewer what you did, why you did it and what you learned from doing it.

Your poster should include a statement of the problem that you investigated, a description of the research methods you used, and your results or findings (in other words, your conclusion).

For example, the Translife Mars Gravity poster shown here details the author's research in four columns. The first column introduces the overall project. The second and third

explain her specific project goals and the methods used in her research. The final colum gives her results, areas for future study and conclusions.

To begin, try writing an outline for your poster as if you were writing a term paper. More visual than verbal? Cluster your ideas in balloons and then link them in order. Your goal is to create a road map that will guide the viewer through your research from start to finish.

Choosing your tools

Posters can be created either wholly on computer, or by printing out groups of components and gluing them to posterboard. Use the method that feels most comfortable to you.

Many software programs can be used to create posters. The best known are Microsoft PowerPoint and the Adobe design programs such as Illustrator, InDesign and Photoshop However, there are a growing number of free software programs such as OpenOffice.org's Impress that can also be used to create posters. Linux users, for instance, often opt for LaTeX.

Most companies maintain a website to help you get the most out of their products. Ther is also a list of software tutorials at the end of this guide. In choosing a program, it's best to use one that you or your mentor already knows.

Mastering the basics

A good poster looks simple and uncluttered. Someone standing three feet away should quickly understand what each component is and why it is there.

Here's how to accomplish that:

- Each poster should have a title. Poster titles are best created on a computer to guarantee that the lettering is professional and easy to read.
- Illustrations and photographs should be clear and properly proportioned. Use high resolution images (200 dpi or higher); TIFF or GIF images are best. The drop-and-drag method of adjusting an image's width or height can result in distortion. It's better to resize images using commands such as "image size." "scale" or "fit content proportionately."
- Connect your words to your graphic elements. If a statement refers to a diagram off to the side, say so. For example, "Wind blows over ocean, generates waves (Fig. 1)."
- Viewers can't read small type from a distance. Use 24-point (24pt) type or larger (captions can be 18pt; poster titles should be at least 85pt).
- Building your poster by hand? Make sure all of your background materials and graphics have straight edges and even margins; use a ruler and a razor knife to cut out components such as charts, graphics, photos and text before pasting them into place.
- Be concise. Can you explain something better in a chart? Do so. Try using bullets or a photograph to convey your information. Stay on point and remember to skip the jargon.

As you jot down the elements you want to include on your poster, group together key o related information. Think about ways to convey ideas as a unit.

Creating design unity

By this point, you should know what you want to say about your research, which program or method you want to use to create your poster, and the basics of how to arrange your information effectively. Now it's time to start building your poster.

Graphic designers create unity through the use of white space, type and color. Let's start with the first element: white space.

Despite its name, white space is not necessarily white. White space (sometimes called negative space) refers to any area not covered by a design element such as a picture, a word, or even just a letter. White space guides the eye and makes the other components stand out. Too much and your viewer's eye will wander. Too little and the result is confusion.

The second design element is the style of type, or font. If possible, limit yourself to three or fewer fonts. A font can be either "serif" like Times Roman or "sans serif" like Helvetica or Ariel. In general, fonts like Times Roman are better for the text while Helvetica and Ariel are good for titles and to label the figures.
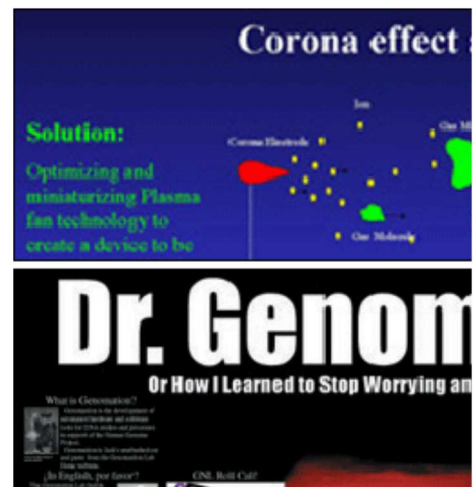
The drop shadow effect can look blurry at large magnifications and is best avoided for technical posters. Using all capital letters in posters, like in e-mail, can translate as "unfriendly." It's better to stick to standard case just as you would in a normal sentence.

Serif fonts (top) are easy to read quickly. San serif fonts (bottom) are easy to read at a distance.

Lastly, think about your color choices. Individual colors have visual weight. There should be a contrast between text and background. Light green text on a pale lavender background, for instance, can be almost as hard to read as if they were the same color.

Be aware of the connotations that certain colors and color combinations carry. Black and orange, for instance, can carry the connotation of Halloween. In most cases, the background of your poster should be a solid color rather than a pattern.

Some final tips

Sketch out your ideas early. Print out your photos, illustrations and other materials. Look at them from a distance. Colors may print differently than they appear on your computer screen.

Notice how the words in the bottom boxes disappears into the background.

You can avoid surprises by printing out a letter-sized proof on a standard color printer. Get someone else to proofread your writing, if possible. Don't forget to run the spellchecker.

Due to the very high volume of poster production on campus, turnaround time at the campus printers is usually two full business days for printing and three if you need to have your poster mounted.

Where available, request a contract proof, which is a scale model of your poster. If you don't, any errors on the final poster are your responsibility, and you will be charged for the original and any reprints.

Remember good design can't salvage poor research, but it can keep your good work from being overlooked.

More design resources & software tutorials

General tips on good design

The Do's and Don'ts of Poster Presentation
In this article from the Biophysical Journal, Steven M. Block of Harvard University offers a blunt guide to preparing a good scientific poster. His advice to poster novices is best summed up his caution: Keep the experimentation to the lab.

How To Make a Great Poster
Written by Dina F. Mandoli in the UW Department of Botany, this article from the American Society of Plant Physiologists includes ideas on fonts and colors as well as a list of materials. This also includes a link to advice on how to give a great talk.

Better Posters
This blog by Dr Zen Faulkes, a biologist at University of Texas-Pan American, offers a wealth of design tips, interviews and links to examples from professional conferences.

Tutorials for specific design software

Almost any good graphic design program can be used to create a poster. Here are links and how-to tips for the most popular:

Microsoft PowerPoint (Open Office Impress)
http://faculty.washington.edu/robinet/poster.html

Adobe InDesign
http://www.hsl.unc.edu/services/tutorials/poster_design/InDesign_pages/Indesign1getstarted.htm

Adobe Illustrator
www.science.smith.edu/resources/ poster_printing/docs/AI_QuickRef.pdf

LaTeX
http://nxg.me.uk/docs/posters/

OmniGraffle
http://www.omnigroup.com/applications/omnigraffle/

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