Creating effective posters

Kathryn Tosney

A presentation that reveals ineffective and effective strategies for emphasizing your message
Creating effective posters

Many of your presentations are not talks:
They are posters

Are your posters effective?
Do they attract enthusiastic audiences?
Or, do they attract only competitors?

This presentation shows both positive and negative examples to help you increase your clarity and impact
Creating effective posters

This tutorial is also available online:

http://biology.lsa.umich.edu/research/labs/ktosney/file/PostersHome.html

Or access the link via my home page:
http://www-personal.umich.edu/~ktosney/
<table>
<thead>
<tr>
<th>What is a Poster?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A poster is not a research paper stuck to a board</td>
</tr>
<tr>
<td>An effective poster uses a visual grammar</td>
</tr>
</tbody>
</table>

**It doesn’t tell:**

**It SHOWS**

- It expresses your points in graphical terms
- It avoids visual chaos
  - no jagged edges
  - no multi-sized boards
- It guides the viewer by using a visual logic
  - an hierarchical structure
  - emphasis on the main points
- It displays the essential content—the messages—
  - in the title
  - in the main headings
  - in the graphics
- It indicates relative importance graphically
  - large type for each main point
  - small type for details
- Main headings explain
  - avoid uninformative headings like “results”
  - explicitly reveal the point
- All elements are visible from 4 feet away
Part one

How to Obscure Your Message

A set of eleven examples illustrate often-used design features that obscure your message
1. Design for your competitors

Be so opaque that only your most rabid competitors can follow your work.

Directives
omitted
• context
• interpretations
• conclusions

use
• jargon
• abbreviations

Consequences
maximum opacity
• highly esoteric
• few understand
• deters readers

you may need further ploys to deter highly-motivated competitors
2. Lay out in rows, left to right

Your viewers will move quickly past your poster and read only the top row

Viewers who read the top row will be unable to fight their way back to the beginning

Viewers will quietly proceed to the next poster, thus saving you the annoyance of an audience
3. Let them guess the sequence

Avoid clues that would help people follow your presentation

**Omit**
- numbers
- letters
- arrows
- logical sequence

**Or use**
- tiny numbers
- obscure placement
- Roman numerals
- Greek letters

**Spread panels randomly**
- let viewers hunt for the next section
- with luck, viewers will associate the wrong legend and figure and be unable to scoop you!
4. Emphasize text, not graphics

Use a publication-style format

Don’t show: tell!

- a publication-style format supplies every detail
- with luck, most people will have insufficient time to read your poster

- simply staple up your manuscript, to imply you will soon publish this work
- if you do use figures, omit legends
5. Be wordy, but avoid explanations

Avoid substance or explicit statements

**Omit the message**
- highlight methods with large typeface
- bury points in methods
- avoid interpretations
- never state conclusions
- avoid being explicit: refer to “the response” but never identify it

**Be wordy**
- use passive voice
- use complex sentences
- never use one word when you can use ten
- repeat text in legends
- explain everything--except the main point
6. Avoid emphasis

De-emphasize substance visually

Think small
- put main points in the tiniest type
- make all figures tiny
- on graphs, use thin lines
  - bars with patterns
  - grays, no color
  - detailed keys

Try for homogeneity
- mount each paragraph, heading and figure on its own board
- separate each board by the same space
- use the same size type for headings and text
7. Distract them visually

Try for utter chaos

Maximize variety
- panels different sizes
- panels different shapes
- panels fail to line up
  - many jagged edges
  - catch the eye
- many colors
  - purple, chartreuse
  - try to blind the innocent bystanders

Refer them elsewhere
- many cross-references
- group all figures
  - legends elsewhere
  - text elsewhere
  - refer to figs by #
- many abbreviations
- list definitions
  - in a separate place
  - fail to define the central term
8. Make text hard to read

Try to make text impenetrable

Start with tiny text
• use 10-12 point type
• only text without content—“results”—should be readable
• small text will exclude senior researchers with reading glasses
  • a bonus!

Then become arcane!
• use sans serif Helvetica
• center all type
• or use right-adjusted
• use only UPPER CASE
• use lines of text so long that readers lose their place
9. Never draw conclusions

Never specify real information

**Don’t commit yourself**
- avoid strong statements
- to conclude, repeat results
  - “Antibody abolishes the response”
  - NOT “X is essential to apoptosis”
- use a non-committal title
  - “Effect of X on Y” (insert relevant X, Y)

**Cover your ass**
- conclude: “This issue needs further study”
  - virtually everything needs further study, so you can’t be faulted
- if you are vague enough, no one will know why you did your study
10. Be methods-oriented

**Emphasize methods, not message**

<table>
<thead>
<tr>
<th>Be thorough</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• identify every method</td>
<td>• show your main concern</td>
</tr>
<tr>
<td>• in great detail</td>
<td>• is with methods</td>
</tr>
<tr>
<td>• emphasize methods</td>
<td>• not with concepts</td>
</tr>
<tr>
<td>• identify methods (not results)</td>
<td>• many job offers!!</td>
</tr>
<tr>
<td>in all headings</td>
<td>• as a technician...</td>
</tr>
<tr>
<td>• to conclude, again</td>
<td>• some lab heads like hands without a</td>
</tr>
<tr>
<td>emphasize the methods used to obtain the results</td>
<td>thinking head attached</td>
</tr>
</tbody>
</table>

Even the conclusion or summary should emphasize the methods.
11. Give a detailed tour

Be compulsively complete

Read every line
- read all the text
- trace each graph line
- dwell on the approach
  - every method
  - every step
- be biographical
  - it's about YOU!
  - don’t reveal purpose

Hints
- speak in a hesitant tone
  - a whisper is ideal
- stand with your back to your audience
  - many people will be able to escape
  - you may have to hold onto people’s arms
Part two

How to Emphasize Your Message

A set of eleven examples illustrate design features that will emphasize your message
1. Design for three audiences

- Rabid competitors
  - come anyway
  - need no effort to attract
  - not your main audience!

- Workers in your area
  - your main audience
  - attracted by
    - accessible poster
    - need context

- Workers outside your general area
  - bonus audience
  - need explanation of the problem and solution
  - attracted by
    - accessible message
  - will provide links to distant fields

Attract more than your competitors
2. Layout in column format

Your audience reads left to right

Smooth traffic
If the poster is organized in columns then viewers can view all of a column before they move to the next column

Avoid gridlock
If the poster is organized in rows, viewers must fight their way back to the beginning
3. Indicate the sequence

Supply clues

Use
- numbers
- letters
- arrows
- logical sequence

Be visual
- sequences are easier to follow if panels are ordered visually
- panels in regular columns are easier to follow than panels placed asymmetrically
4. Use visual grammar

Use a graphic hierarchy

Show, don’t tell
• use figures
• use graphs
• visuals should dominate the poster visually

Visually reflect the relative importance
• if it is important,
  • make it BIG
• type size proportional to importance
  • title: largest
  • heading: medium
  • text: smaller
5. The essential is in large type

Take-home messages in big headings

<table>
<thead>
<tr>
<th>Be explicit</th>
<th>Message, not categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>• headings emphasize experimental logic</td>
<td>• headings identify THE results explicitly, rather than merely indicating “results are below”</td>
</tr>
<tr>
<td>• identify results explicitly</td>
<td>• forego the temptation to classify results by methods alone</td>
</tr>
<tr>
<td>• instead of “results” say “transgenics grow extra feet”</td>
<td></td>
</tr>
<tr>
<td>• instead of “in situ” say “X is expressed only in Y cells”</td>
<td></td>
</tr>
</tbody>
</table>
6. Emphasize material visually

- Graphic elements should dominate

Think graphic
- graphics, cartoons, figures, not tables
- color to emphasize
- color to link words and images
- bold lines, color to distinguish differences

Think accessible
- formats that don’t require keys
- explanations directly on the figures
- minimize abbreviations
- no cross-references
7. Avoid visual distraction

Organize information visually

Maximize order
• panels similar sizes
• panels similar shapes
• panels line up
• elements grouped
  • heading, figure, text form a single, conceptual unit

Color for emphasis
• use color for emphasis
• color consistent
  • if your molecule is red in one panel, make it red in all
• muted or neutral background
8. Make text readable

Readability criteria
- title, major headings
  - readable at 6 feet
  - attract viewer
- supporting material
  - readable at 4 feet
- details
  - kept to a minimum
  - readable at 3 feet

For readability
- keep text compact
- single-space text
- space between units
- not right-adjusted
- use both upper and lower case
9. Differentiate data, summaries and conclusions

Step beyond merely stating results

Commit yourself
• **summaries** only restate results
• **conclusions** interpret and tell significance
  • do not just repeat the results
  • state your interpretations

Be bold and explicit
• make the strongest statements your data will support
• don’t soft-peddle exciting findings
• make the title as explicit as you can
10. Keep it simple

• Keep things simple
• Don’t clutter your slides
• Avoid too much jargon
• Keep your main points
• Keep it simple

Simplify
• details detract
• simple messages are most memorable
• mock-up your poster
• dump details
• omit all you can
• edit all text
• simplify verbiage

Edit ruthlessly

Supply details verbally
• if the methods are really innovative, prepare handouts
• carry your newest, hottest data in a folder to share with the elite
11. Use the graphics when you talk

Focus on the evidence: the graphics

Don’t read it: use it as a visual aid
- face your audience
- tell them the context
  - the big problem
  - why it is important
  - your answer to it
- as you talk, point to and look at the graphics

Practice an effective and efficient talk
- a 5-min talk
- a 2-min synopsis
- effectively use the graphic evidence
- practice handling questions mid-stream
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