How to design a scientific poster

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Resource Toolkit

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Note: This material serves as a guide for students in my seminars and does not claim to have general validity.
Outline

1. The Basics

2. 17 steps to a good poster

3. Dos and Don’ts
What is a poster (for)?

Posters ...

- ... are a means of communicating your research results in a **concise fashion**.
- ... combine the advantages of a **journal paper and a presentation**:
  - personal interaction
  - visual stimulation
  - ability to backtrack
  - documentation
- ... are a good way for **young researchers** to present their results at a conference.
- ... are only effective if they have been **carefully planned and designed**.
What is a good poster?

Attractive Design + Rigorous Research = Good Poster
The Basics

Timing
- 1 second – to catch the viewer’s attention
- 15 seconds – to understand the main message
- 5 minutes – to read the whole poster

Text vs. Graphics
- prefer graphics over text
- use white space

Direction – Direction – Direction
- use organization cues to guide readers through your poster
- use headings to help readers find your main points quickly
## Outline

1. The Basics  
2. 17 steps to a good poster  
3. Dos and Don’ts
Step 1: Technical preliminaries

- Learn to use a professional graphics engine such as
  - Adobe Illustrator
  - Freehand
  - CorelDraw

- Check the required format and size (often DIN A0)
- Define the margins

- Decide on the page orientation: *landscape is usually easier to read!*
Step 2: Crafting a storyline

- What is your main message?
- Why is it important? What is new about it?
- How are you going to support this message?

"Need to know" principle

*Only include the most relevant and striking results.*

*Leave out “nice to know” information.*
Step 3: Structure

- Heading
- Authors’ names and affiliations

Main part

1. Introduction
2. Research Design
3. Results
4. Conclusion

- Literature
- Acknowledgements*
- For further information*  

*optional
1. Introduction
   - Relevance
   - Context
   - Relation to published literature
   - Hypotheses (if appropriate)
   - Objective(s)

2. Research Design
   - Survey design and empirical basis
   - Representativeness
   - Relevant variables
   - Method of analysis

3. Results
   - Most important and striking findings
   - Preferably in graphic form
   - Only a summary, no interpretation!

4. Conclusion
   - Interpret and explain
   - Compare to the literature
   - Draw conclusions
Step 5: Layout

- Three columns for a landscape poster and two columns for a portrait poster are useful as a guideline.
- Organise the content according to the schema below:

```
Title & Authors

Important information

Less important information
```

- Leave plenty of white space: *less is more!*
Step 6: Information flow

- **use a column format** to make your poster easier to read
- **use white space creatively** to help define the flow of information
- **use "reader gravity"** which pulls the eye from top to bottom and left to right
Step 7: First sketch

Having considered the first five steps, now make a first sketch for your poster.

Consider the following points:

- Which part of your storyline goes in which section?
- How much space do you allocate for each section?
- Where do you place sections to maximise readability?
- Where do you place figures and tables?
Step 8: Title and authors

- Find a crisp and clear title
- Avoid hanging titles (= title: subtitle)

```
The elves in Middle Earth: a case study
```

- Use sentence-style capitalisation

```
Making great power identities in Russia
(Making Great Power Identities in Russia)
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- Include all authors and their affiliations

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Albus Dumbledore\textsuperscript{\textdia{\textdollar}}, Alan D. Sokal\textsuperscript{\textmu}
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Step 9: Headings

- Use a numbering system and generic headings to orient the reader
  1. Relevance
  2. Research Design
  3. Results
  ...

- Use sentence-style capitalisation
- The more important the heading, the larger the font size
- Tie headings together with the corresponding text body, for example by using boxes as frames

1. Relevance
Get your viewer interested in the issue while using the absolute minimum of background information and definitions. Quickly place your issue in the context of published, primary literature...
Step 10: Body text

- Use running text sparingly. Work with bullet points wherever possible.

2. Research Design

First, the research design and methods need to be described briefly. This includes an explanation of the independent and dependent variables used as well as a description of the survey design. Also address the question ...

- Keep sentences short.
- A paragraph should not have more than 50 words.
- Your main sections should not have more than 700 words.
- Use the active voice.
- Stay simple. Avoid unnecessary jargon.
Step 11: Typeface

- Use *italics* instead of *underlining* to emphasise points.
- Set line spacing to between 1 and 1.2.
- Use full justification for your running text. Use hyphenation to avoid gaps between words.
- Use a serif font like this for body text (e.g. Times New Roman)...

.. and a sans-serif font like this one for headings (e.g. Arial).

Posters are a visual medium. Do not use more than 50% of the available space for text.
Step 12: Font size

- Text should be *approximately* ...

25 points for the text body,

50 points for headings,

100 points for the title.

With the right font size, your poster should be easy to read when printed out on A4 paper.
Step 13: Graphics

- *Eliminate* chart junk to keep focus on data
- *Communicate* relationships rather than exact values.
- Label graphs *directly* instead of using legends.
- Use short *graph titles*

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Figure 1: Caption text
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- Number figures and set captions in italics.

Good graphics are simple and clean.
Step 14: Colours

- Stick to a theme of 2 or 3 colours in order not to confuse viewers.
- If you use multiple colors, use them in a consistent scheme.
- Use colours as background to frame parts of the poster that belong together.
- Use light, matte colours instead of bright ones.
Step 15: Literature

- Format your literature according to an accepted standard in your field, e.g. that used by a major journal


- You may set the references in smaller size than the rest of the text.
- Try not to have more than 10 citations.
- Check the citability of your sources. Many websites are not fit for citation.
Step 16: Review

- Edit all text to simplify verbiage, to reduce sentence complexity and to delete details.
- If it doesn't provide critical support for your main message, eliminate it!
- Have your colleagues or fellow students comment on a draft.

The one-minute evaluation
Give someone 60 seconds to look at the poster, then ask what they remember.
- Do they remember the main message?
- Have they overlooked a crucial aspect?

Edit! Edit! Edit ruthlessly!
Step 17: Presentation

- Prepare a short one-minute walk-through of your poster for interested audience, focusing on the graphics
- Tell viewers ...
  1. the context of your problem and why it is important (*Relevance*),
  2. your objective and what you did (*Research Design*),
  3. what you discovered (*Results*),
  4. what the answer means in terms of the context (*Conclusion*).

- Dress professionally!

*Material*

- Print out a supply of *miniature versions* of your poster on A4 paper and put them in an envelope hung on the poster.
- Bring *business cards* to hand out to people interested.
Outline

1. The Basics
2. 17 steps to a good poster
3. Dos and Don’ts
What you should do

Do...

- boil down your message. Make your argument crisp and punchy.
- reduce poster noise! Do away with any unnecessary and distracting information.
- If you include a photograph, add a thin gray or black border to make it more visually appealing.
Checklist: What you should avoid

Do *not* ...

- ... use any distracting background graphics.
- ... write with a light colour on a dark background.
- ... include the logos of your institution on the poster.
- ... include an abstract on your poster.
- ... use three-dimensional graphs unless presenting three-dimensional data.
Sources


