Caltech Engineering and Applied Science

Optimizing Figures for Presentations

By Dr. Robyn Javier
STEM Communication Specialist and Lecturer
Division of Engineering & Applied Science

Tools like PowerPoint make it *very* easy to thoughtlessly copy-paste figures into a slide deck. Unfortunately, this can obscure the point you're actually trying to make, decrease readability of your slides, and just generally overwhelm your audience. The purpose of this worksheet is to help you optimize the way you incorporate existing figures into your presentation, from both a strategy and design perspective.

Note: This is NOT a guide to designing new figures from scratch. For more about that, check out the Resources page on my website.

1. STRATEGIC PLANNING

Start by carefully considering the context in which you'll be using these figures by answering the strategic "TAG" questions (type, audience, goal) about your presentation.

What TYPE of presentation is it? *Consider format (e.g. poster, PPT), context (e.g., conference, group meeting, seminar), and expectations (e.g., time limit)*	
Who is the AUDIENCE? *Who are they (e.g., faculty, peers in your sub-field, broader scientific community, etc.) and what do they know / care about*	
What is your GOAL? *(e.g., to get feedback on your research findings, persuade people to support your proposal, etc.)*	

2. PURPOSE

Next, for each figure you want to include in your presentation, determine ***one specific purpose*** it will serve. Importantly, figures taken from other contexts (e.g. publications) often serve a different purpose than figures in presentations. The more specific you can be here, the better.

PURPOSE IN PRESENTATION: _____

_____

_____

_____

Examples:
"The purpose of this diagram is to explain the key elements of my experimental setup."
"The purpose of this graph is to demonstrate that our approach improved efficiency."
"The purpose of this set of images is to show that the model successfully reproduces real-world phenomena."

Example of what NOT to do: "The purpose of this graph is to show my results."
Solution: Get more specific (see good examples above)

3. CENTRAL MESSAGE

Now identify the ***one key takeaway*** you want the audience to get from the figure, expressed in one single sentence. If you're struggling to boil down the central message this much, you're probably not being specific enough about your purpose.

CENTRAL MESSAGE: _____

_____

_____

_____

Examples:
"The key elements of my experimental setup are a laser, a camera, and a clamp to hold the samples."
"The percent efficiency with our methodology was significantly greater than control across all tested frequencies."
"The model simulations display the same key features as the real-world observations."

4. ADAPTING FOR SLIDES

Finally it's time to get to your slides. Optimize each figure for a presentation format by considering the techniques below. Let the strategy, purpose, and central message you defined above guide you in this process. And most importantly, ***only show what you'll actually talk about during your presentation*** (remember, you can always use supplementary slides to include additional figures that might come up in questions).

Which technique(s) can you use to optimize the figure for your presentation?

- ☐ Crop out extraneous info (e.g., other panels of figure, caption, etc.)
- ☐ Mask unnecessary elements (e.g., figure panel letters, paragraphs of text, etc.)
- ☐ Focus by limiting the types of data shown
- ☐ Remove jargon (e.g., undefined acronyms, audience-inappropriate terminology, etc.)
- ☐ Add audience-accessible labels
- ☐ Simplify graphic elements (e.g., replace complex renderings with simple shapes)
- ☐ Increase text size (in original file or with text boxes in PowerPoint)
- ☐ Increase visibility for screen (e.g., thicker lines, higher contrast, etc.)
- ☐ Add emphasis (e.g., arrow, highlights, etc.)
- ☐ Adjust formatting to reinforce content structure
- ☐ Utilize builds / animations
- ☐ Other: _____

Examples:

A complex schematic of the experimental setup could be replaced with a few simple shapes showing only the key elements relevant to this presentation/audience.

A large multi-panel figure could be cropped to only show the efficiency graph, and the small axis labels could be replaced with easier-to-read text boxes.

An extensive set of images comparing model simulations and real-world observations could be curated to focus on just a few representative examples, and the slide could be organized as a clear side-by-side comparison with large labels "MODEL" and "REAL-WORLD" above the images.
