

The role of design in science communication

Science communication increasingly relies on the visual representation of complex messages and data. When a researcher publishes a study full of professional specialised concepts and jargon, the audience remains limited. Yet when that same idea is presented with a clear typographic layout and is supported with engaging visuals – such as infographics, diagrams, or dashboards – it has the potential to reach a far wider audience. As George Smiciklas highlights in his [book](#) *The Power of Infographics*, “scientific visualisations merge information and graphics to produce appealing images of data that boost a person's ability to quickly consume and understand content.”

Visuals are essential for making complex concepts digestible and memorable. According to an [article](#) by Impact Media Lab, visual elements are processed much faster than text, because our brains are pattern-seekers, and design evokes emotion. To capture an audience’s attention, the design must be simple and clear, and the message concise. Key tips for effective visuals include using colour intentionally to guide the eye, limiting distractions, and placing emphasis on the core message. Embedded text can improve recall, while simpler wording enhances enjoyment and accessibility. Typography also plays a crucial role: fonts should combine readability with character. Adjusting size, weight, and spacing can help highlight the most important information.

As designer Louis Charron, who specialises in scientific communication, [argues](#), “Design has the power to make us feel emotions through images, objects, spaces, sounds or interfaces. Design brings stories to life by giving them materiality.” For the public, grasping a concept often becomes easier when it is related to something familiar – so using visual metaphors and analogies is particularly helpful, for instance illustrating *energy flows* as rivers.

Storytelling is another powerful tool for making complex scientific information comprehensible. Logical sequences such as timelines, cause-and-effect structures, and narrative elements all help build understanding. Stories create emotional connections and have the power to transform unfamiliar ideas into familiar ones, and this is where design and storytelling intersect. As Charron explains, “Design has the power to make us feel emotions through images, objects, spaces, sounds or interfaces. Design brings stories to life by giving them materiality.”

Data storytelling has become increasingly widespread in recent years, across both research and journalism. It explains a sequence of events and layered content through visualisation. By combining narrative elements with appealing visuals data storytelling helps readers follow and grasp the meaning behind complex topics As Randy Krum notes

in his book [Cool Infographics](#), “Scientific visualizations are a type of graphic that communicates a complete story through a suite of interconnected visual cues, text, and imagery; they use contrast, movement, and symmetry to draw the eye through the key points of a larger narrative.”

Besides choosing the right means to communicate a finding, the design must also fit the platform – whether a website, infographic, presentation slide, or poster. Responsive layouts, animation, and interactive elements help sustain audience engagement. Naturally, scientists need to work together with design professionals and information technologists to create the visuals, data representations, or animations they have in mind. A recent [study](#) shows that even scientists unfamiliar with design can communicate more effectively across disciplines and to wider audiences when supported by visual tools. Although scientists and designers may speak different languages, collaboration between the two is key to reaching diverse audiences effectively.

Providing researchers with short workshops on information design, layout, and visual rhetoric can help them appreciate the role and impact of well-crafted visuals. Involving a designer early in the research process may also lead to more coherent outcomes. Institutions can support this by offering ready-made toolkits and templates (for posters, infographics, visual abstracts) and by setting up interdisciplinary teams that include designers to accommodate researchers’ visual communication needs.

In a world where scientific truths are often contested and attention is scarce, design serves as both translator and gateway in science communication. By investing in design – both in terms of skill and process – scientists can become more effective science communicators, ensuring their work is not only seen, but also understood and trusted.