



Science-Communication Skills in a Nutshell

Basic science-communication skills:

- Use appropriate language, address readability, use basic explanations as appropriate, avoid jargon, acknowledge prior knowledge (or lack of specific necessary knowledge).
- Select appropriate content: engaging, interesting, relevant to particular audience.
- Include scientific information, as well as nature of science, scientific method, implications.
- Organize presentation well, using good pedagogical and communication techniques: main theme, framing¹, scaffolding², repetition.

Intermediate science-communication skills:

- Use aspects of style creatively: humor, emotions, anecdotes, local references.
- Develop analogic strategies for explaining complex topics.
- Use complex narrative tools as appropriate, such as character development, conflict, and resolution.

Advanced science-communication skills:

- Acknowledge and show respect to multiple worldviews.

¹Frames organize central ideas, defining a controversy to resonate with core values and assumptions. They pare down complex issues by giving some aspects greater emphasis. They allow citizens to rapidly identify why an issue matters, who might be responsible, and what should be done. Example: Climate change as an issue of religious morality and public accountability rather than one of scientific uncertainty and economic burden. [Adapted from "Framing Science," by Matthew C. Nisbet & Chris Mooney, *Science*, vol. 316, no. 5821, p. 56, 6 April 2007]

²Scaffolds are intentional, temporary, flexible structures built to match the audience's developmental stage. Example: References and linkages to commonplace occurrences, such as events from listeners' daily lives or current issues in the news. [Adapted from "Scaffolding for English Learners: What's a Science Teacher to Do?" by Tomás Galguera, *Full Option Science System Newsletter* #21, Spring 2003.]

Adapted from "An Instrument for Assessing Scientists' Written Skills in Public Communication of Science," by Ayelet Baram-Tsabari (Technion-Israel Institute of Technology, Haifa, Israel) & Bruce V. Lewenstein (Cornell Univ., Ithaca, NY, USA), *Science Communication*, Feb. 2013, vol. 35, no. 1, pp. 56-85.