

Effective Chemistry Communication

By David A. Ucko

Chemistry plays a critical role in such key areas as food and consumer products; climate change, energy, and the environment; and health and medicine. Yet many remain unaware of its impact on our lives. *Effective Chemistry Communication in Informal Environments*, a new report from the (U.S.) National Academies, seeks to enhance activities that foster engagement and learning outside the classroom. Funded by the (U.S.) National Science Foundation, it offers an evidence-based framework for communication, which is available also as a concise, practical guide. (See References.)

Although chemists are the primary audience and the focus is outreach, findings and recommendations can be applied by informal learning professionals:

1. Implement the five basic elements of the communication framework:

- a. Set communication goals and outcomes appropriate to your target participants, focusing on their needs, interests, and values.
- b. Identify available resources, including potential collaborators.
- c. Design the communication activity and how it will be evaluated.
- d. Carry out the activity, monitoring participant response and adjusting accordingly.
- e. Assess, reflect, and follow up, applying lessons learned to future improvements.

2. Share the framework with scientists. This framework affirms core practices common to science centers. If you share it with your partnering scientists, they can better appreciate the value of establishing an audience focus and setting goals, along with incorporating aspects of evaluation, appropriately scaled.

3. Apply findings from science communication. Key research findings from the science communication and public engagement literature may help science centers address controversial issues. For example, establishing audience trust requires not just warmth but also attention to research integrity; openness about political, financial, institutional, or other affiliations; and transparency about the motivations for communicating.

4. Apply insights from chemistry education. For example, animations and simulations are most effective when they display limited amounts of information, promote interactive engagement, and are used with activities that guide learner attention.

5. Help address research gaps. Identified areas include public perceptions and understanding of chemistry, use of digital media, and policy-related questions.

Furthermore, the report encourages chemists to collaborate with informal learning educators in planning and implementing outreach and broader impacts. As a result, it may stimulate greater interest in partnering with science centers and thereby help address the finding that chemistry in general is underrepresented in informal learning settings.

REFERENCES

- National Academies of Sciences, Engineering, and Medicine. (2016). *Communicating chemistry: A framework for sharing science: A practical evidence-based guide*. Washington, DC: The National Academies Press. Retrieved from www.nap.edu/catalog/23444.
- National Academies of Sciences, Engineering, and Medicine. (2016). *Effective chemistry communication in informal environments*. Washington, DC: The National Academies Press. Retrieved from www.nap.edu/catalog/21790.

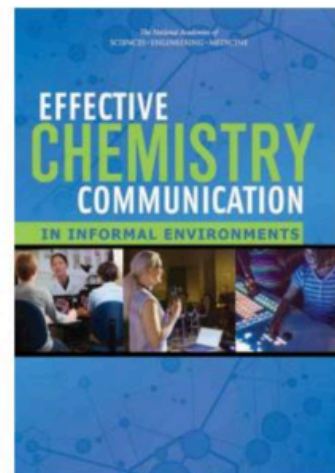


Image courtesy the National Academies

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