

Leveraging Information Literacy Lessons in Science Communication: Modification of the ACRL Framework for Information Literacy for Development of Science Outreach

This project was strongly influenced by PISA's Assessment and Analytical Framework for Science Literacy. This Framework describes three core competencies for science literacy:

- Explain phenomena scientifically (content literacy),
- Evaluate and design scientific inquiry, and
- Interpret data and evidence scientifically.

This project focuses on the second and third competencies and how they can be combined with information literacy concepts to improve both content literacy and overall science literacy.

Designing Outreach with Literacy in Mind

When designing literacy-based outreach, ask yourself: Does this resource...

1. Clearly establish credibility for the information presented?

Examples:

- Providing links to background sources or additional information
- Establishing the identity and credentials of the authors or information creators

2. Place this information in the context of other research, and/or establish its broader impacts?

3. Use accessible language and explain higher concepts for a varied audience?

[See this post from the 60°North Science Blog](#) about the use of jargon in science communication.

Accessibility isn't just about language and terminology; web resources should be designed for ease of use by people with disabilities. [W3C is a great resource](#) for web accessibility information and resources.

4. Provide support in additional languages?

Providing support in additional or multiple languages is one method of reaching out to audiences and communities that you might not otherwise be able to reach. [Canopy in the Clouds](#) is an example of a site that offers support in both English and Spanish.

5. Encourage "calls to action" or other uses of the knowledge presented?/Open a dialogue?

Examples:

- Comment or question boxes
- Panel discussions
- See [Lee et al \(2017\)](#) for a discussion on effective use of social media in science outreach and communication.

6. Elaborate on experimental methodology and explain when, where, and why particular strategies are used?

Connecting Information Literacy and Science Communication

The Association for College and Research Libraries (ACRL) *Framework for Information Literacy in Higher Education* is a set of threshold concepts used to guide information literacy instruction. While originally designed for use in college and university settings, the Framework is both flexible and adaptable, allowing for use outside of both libraries and higher education settings. The full text of the Framework can be found on [ACRL's website](#). Below, you'll find the modified frames used in this project.

Original ACRL Wording	Re-defined for Science Communication
<p>Authority is Constructed and Contextual Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required.</p>	<p>Recognizing Knowledge Sources Recognizing where knowledge comes from - and understanding how people know what they know - helps establish credibility for the information presented.</p>
<p>Information Has Value Information possesses several dimensions of value, including as a commodity, as a means of education, as a means to influence, and as a means of negotiating and understanding the world. Legal and socioeconomic interests influence information production and dissemination.</p>	<p>Information has Value Information is valuable in different ways: scientific information might benefit society through advancements in technology or infrastructure, improvements in quality of life, and influence future research and public policy.</p>
<p>Scholarship as Conversation Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations.</p>	<p>Outreach as Conversation "Outreach as Conversation" encourages open dialogue between scientists, communicators, stakeholders, and community members to both broaden understanding and reach.</p>
<p>Information Creation as a Process Information in any format is produced to convey a message and is shared via a selected delivery method. The iterative processes of researching, creating, revising, and disseminating information vary, and the resulting product reflects these differences.</p> <p>Research as Inquiry Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry in any field.</p> <p>Searching as Strategic Exploration Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops.</p>	<p>Research as an Explorative Process Research is an ongoing process that involves refining ideas, seeking out new methods, success, and failure.</p>