

# Research explores ways to bridge gaps in science communication

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"Give me a break!" "Fake News!" "Blah Blah Blah..." These retorts are symptoms of a fundamental problem in science communication—new research from the Tepper School of Business shows that when we hear something that doesn't make sense to us, it's much easier to respond with derision than to work to understand what is being said. It's difficult to bridge these gaps in understanding because they are driven by

fundamental differences in values, perspectives, and knowledge bases. It means that debates escalate into arguments unless people work to build trust, respect, and common ground.

The paper, titled "Conflict Across Representational Gaps: Threats to and Opportunities for Improved Communication," was written by Laurie Weingart, the Richard M. and Margaret S. Cyert Professor of Organizational Behavior and Theory, and Matthew Cronin (Ph.D. 2004), now an associate professor at George Mason University.

Weingart and Cronin coined the term "rGaps," for representational gaps, to explain the source of such conflicts. R Gaps occur because people automatically make assumptions based on their [knowledge](#) and experience. When people's assumptions don't align, the two sides will literally, and often unknowingly, look at the same problem so differently that they end up talking past each other, unable to truly listen and learn, explains Weingart.

In the case of [science communication](#), a lack of shared technical understanding of the topic can further hamper efforts to communicate, according to the paper. The key is to try and find common ground instead of treating the other person as ignorant.

Experts often take their technical knowledge for granted, failing to realize how conclusions that are obvious to them may not be to someone without that knowledge. A parent who worries about vaccinating her child may provoke a negative reaction in the physician who sees the response as ignorant and irresponsible. A person who thinks [climate change](#) is a hoax may become the target of criticism from a scientist who knows otherwise.

"These debates represent significant rGaps," explains Weingart. "Each side believes they have good evidence, belief systems, and values. But

rather than explore each other's evidence, people try to defend their knowledge. As a result, the conversation will escalate into arguments and attacks. It's very hard to get back to the debate about what is evidence, what is factual."

Even though the parent and the climate-change skeptic are factually incorrect, their motivations and concern are legitimate. More effective science communicators show respect for those perspectives by learning why lay people are fearful so they can directly address those concerns. Both sides need to share and listen in order to close the rGap. And this process takes time and patience as learning is necessary for both parties.

Showing respect for the other's perspective will likely increase the trust that others will have in the information one is sharing. A scientist who incorporates understanding of the doubter's perspective into their message is more likely to convey that they have the doubter's best interest at heart—that they are not only an expert, but also can be relied on to recommend what is right.

Bridging the rGap is thus about being open to learning new kinds of knowledge, says Cronin. But people are not motivated to learn if their own values are criticized and they are afraid of being at a disadvantage.

"People's perspectives are their realities," he says. "It starts by giving more respect and legitimacy to the other person's concerns, and asking, 'What is the thing I would agree with there?'" Weingart adds, "And if this doesn't occur and people become insulted, they will likely double down on their opinions—or shut down completely."

The national discourse would start to improve "if we can start with the idea of more patience, and seek to understand before seeking to be understood," says Cronin. "But we need to be willing to learn from others. This is why trust and respect matter. We listen to the people we

trust and respect even when we disagree. And this must be a two-way street."

**More information:** Matthew A. Cronin et al., "Conflict across representational gaps: Threats to and opportunities for improved communication," *PNAS* (2019).

[www.pnas.org/cgi/doi/10.1073/pnas.1805866116](http://www.pnas.org/cgi/doi/10.1073/pnas.1805866116)

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