



# Making Science Make Sense: *Applied Improvisation in Health and Life Sciences*

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## Workshop Series Overview

### Session 1, Connecting With Your Audience

Session one is designed to train learners to speak about their work effectively and responsively with multiple audiences, from peers and professors to family members and policymakers. The exercises, borrowed from improvisational theater, help learners practice connecting with an audience, paying dynamic attention to others, reading nonverbal cues, and responding to questions appropriately.

### Session 2: Distilling Your Message

Session two introduces principles of clear communication and features experiential exercises through which learners practice speaking clearly and vividly about science in ways lay audiences can understand and appreciate. Learners practice defining their communication goals, identifying main points, explaining meaning and context, responding to questions, and using storytelling techniques to enliven messages.

### Session 3: Media Training for Scientists

In the third session, learners practice the skills they learned in the previous sessions during a taped on-camera interviews with a journalist. Participants practice planning, developing, and delivering an engaging message about complex topics in an unscripted format. They work to answer explain their research and questions in a succinct format, when working with varied kinds of media and audiences.

## Conclusions

Applied improvisation training appears to be both an enjoyable and effective approach for coaching scientists in public communication. PhD students appear less receptive to the technique, perhaps because they have fewer opportunities to recognize the challenges of public communication or because they did not self-select into the workshop. Future research will explore the long-range effect of this training technique to study how well participants retain lessons from this experiential training. Additional research will also examine the optimal amount of training for improving communication technique.

## References

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Funk, C., & Rainie, L. (2015, January 29). Public and scientists' views on science and society. *Pew Research Center*. <http://www.pewinternet.org/2015/01/29/public-and-scientists-views-on-science-and-society/>

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## Why improv?

The applied improvisation approach moves STEM faculty toward understanding communication as a process of collaborative meaning-making, thus helping them to address the “curse of knowledge” by which experts easily forget the time when they were novices in their field (Bass, 2015). The experiential nature of these programs emphasize communication partnerships that equalize the power differentials between expert and learner. In addition, applied improvisation allows participants to experience and practice strong communication principles and techniques, while adapting in real time to feedback and coaching.

## Program Evaluation

As a result of attending this program, I:	Mean Scores		
	Combined	Faculty	Student
am aware of the importance of listening to understand my audience's needs	4.71	4.85	4.44
feel more confident in my ability to listen to audience concerns	4.46	4.61	4.18
know how stories help a speaker to connect with an audience	4.61	4.61	4.40
feel more confident in my ability to gauge audience responses and modify my communication plan to better meet their needs	4.33	4.34	4.20

N=54, on a five-point Likert scale where 5=strongly agree and 1=strongly disagree

## Sample Comments

What is the “take home message” from today's program?

“Communication is a two way street and you have responsibility not only in a speaker role but also a listener role to achieve efficient communication.”

“Distilling does not mean “dumbing down,” but identifying what is really important.”

“Be clear and focus on broad understanding without getting bogged down in details.”

## Overview

Both in and out of the classroom, scientists must speak in a way that generates excitement about their disciplines (Berrett, 2014). They also must communicate vividly to funders and policy makers about their work and why it matters. In every context, these experts must tell engaging stories, respond spontaneously to the needs of the moment, and explain their work in terms non-scientists can understand.

Yet recent survey research from the Pew Center indicates there are large differences between the public and scientists on a wide range of science-related topics (Funk & Rainie, 2015). In the same survey, 84% of the scientists who responded said that limited public knowledge about science was a “major problem” (Funk & Rainie, 2015).

## Our approach

In response to this need, some universities have turned to the skills and techniques of improvisational theater (Spolin, 1999) in order to help scientists to speak more spontaneously, responsively, and engagingly (Rossing & Hoffmann-Longtin, in press). At IU, we have implemented an applied improvisation professional development curriculum for STEM faculty and PhD students. The three-workshop series helps participants find common ground with and make stronger connections to their multiple audiences. They include content on improvisation skills such as presence and listening, acceptance, recognizing offers, and storytelling to help scientists translate their research in ways that engage their audiences.

Yes, and...

Accept all offers.

There are no mistakes.

Make your scene partner look good.