

PRE-WORKSHOP CONCEPTS

Souls of Science: Personal Narrative Workshop

This document outlines key ideas from science communication literature that have informed the development of this workshop. Reference these ideas to build context around the purpose of building personal narratives in science communication as a means of building trust with audiences.

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Science Communication at a Glance

- Science communication is the process of **informing** and **engaging** the public about scientific research, often using a variety of communication tools and approaches.
- Science communication is **evolving** as we engage in different social and digital forms.
- Research on science communication is progressing as well, though the complexities of these spaces mean that new methods of communicating science are **emerging**.
- We're seeing a shift away from a '**Knowledge Deficit**' approach.
 - Instead of simply exposing audiences to more information to help them 'learn,' we're realizing that more nuanced methods are required to help people **relate to** and **integrate** science.
 - The knowledge deficit model is limited and lacking a dynamic perspective towards audiences and practitioners alike (Nisbit, 2009; Seethaler et al., 2019; Simis et al., 2016; Trench, 2008)
 - Not all people learn the same way. Science topics can be complex and require careful attention to each situation (Bubela et al., 2009)
- Why is science communication important? Communicating important research can cut through the vastness of our internet spaces, navigate highly saturated social media platforms, help us address challenging climate problems and health crises, and inform cultural and social dialogues. This can help ensure science is **valuable** and **accessible** to society.

Scientists' Motivations to Communicate Their Work

- Scientists are motivated to promote public understanding, provide, value, build interest and engagement with science, motivated to contribute to the bigger picture (Martín-Sempere et al., 2008)
- Science communicators are interested in advancing communication skills, growing social dynamics around science, engaging others, promoting appreciation for science, encouraging independent thought (Cerrato et al., 2018)
- Researchers' intentions to communicate are informed by their past efforts, values, abilities, perception of peer investment in science communication (Poliakoff and Webb, 2007)
- Promote positive public perceptions of science communication with clear **messages**, address audience **backgrounds**, promote trust, create ethical communication goals (Besley et al., 2015)

Building Trust in Science Communication

- Trust is a **willingness to be vulnerable as a result of anticipating positive outcomes**, demonstrated through behavior and expressions; it is dynamic and cannot be manufactured (Rousseau et al., 1998; Schultz, 2006)
- **Building trust is highly valuable and worthwhile on social media**
 - Science-related dialogues are more frequently occurring in digital spaces (Brossard, 2013; Su et al., 2015)
 - People get exposure to science within their existing use patterns instead of seeking it out; social media is normalized and trusted; Social spheres (on social media) can distill information well (Huber et al., 2019)
 - Science communicators can build buzz online through audience interactions around research (Liang et al., 2014)
 - Online spaces for dialogue with public and scientists can allow for openness and exploration (Bates et al., 2010)
 - Misinformation can diminish impact of beneficial research, trusted actors can correct the issues though it remains a case-by-case basis (Vraga and Bode, 2017)
- **Personal narratives exemplify an ideal trust building basis**
 - Scientists can share authentic personal experiences that demonstrate vulnerability and openness to connect with audiences
 - Sharing experiences and personal perspectives can supplement data when presenting an idea, helping to ground it (Hagmann et al., 2020)
 - Sharing personal narratives can form the basis for familiarity and a form of connection (parasocial or otherwise) in digital spaces, leading to trust

Role of Scientists in Science Communication

- **Big Picture:** A key component of science communication is the role of scientists to share and represent research. If scientists share their personal narratives, it may require a shift in their mindset and interaction.
- Scientists are advocates for their own research and ideal trustworthy representatives of facts and integrity, but **is it fair to ask them to take on the role of educating the public?**
 - Many already have their hands full with research, lack the flexibility to engage in science communication, may have no experience or training with communication, or simply lack interest in this role. Time towards communication is time away from research (Langan et al., 2019)
 - We can start by providing **training and support** for those who are interested, willing, and able to engage in communicating research (Baram-Tsabari and Lewenstein, 2017)
 - Scientists can act as **information gatekeepers**, stewards, liaisons of science in social media spaces, can verify information (Weingart and Guenther, 2016)
 - Science communicators should **understand digital landscapes**, develop strong presence online (Bik and Goldstein, 2013)
 - **Scientists can fill the knowledge deficit ‘gap’** by acting as communicators through media outlets to convey research (Hans Peters, 2013)
 - Consider a **two-way dialogue model** that features discussions and promotes shared learning (Reincke et al., 2020)
 - Researchers can **promote knowledge sharing** by being involved in community dialogues about life, collaboration, culture (Bolton and Young-Robertson, 2020)
- **Adding personal identities to science communication builds representation and dialogues.**
 - Current shift to build inclusive science communication by addressing structural barriers and longstanding limitations to equity and inclusion (Feliu-Mojer, 2020)
 - First-person accounts of science provide link between researchers and audiences (Neeley et al., 2020)

- o Narrative formats overcome structural obstacles to science equity and access, and promote inclusion (Neeley et al., 2020)

Narratives as Communication Devices

- Stories are one of the most **fundamental pieces of human interaction**. Over centuries, we've integrated stories as deeply meaningful and impactful tools in society. Stories can be used to convey science, though this is still a critical point of research.
- Stories help overcome the deficit model by integrating science into everyday culture, reaching toward human qualities and connections, where emotion, learning, and value can be accessed (Davies et al., 2019; Jones and Peterson, 2017; Jones and Anderson Crow, 2017)
- **The Narrative paradigm: stories are part of human nature and shaped by our experiences.**
 - We can view all people as storytellers; all communication comes through the form of a story
 - Argues that stories are more convincing than arguments
 - Stories are not objective, but based around authors' experiences, values, perspectives (Fisher, 1985)
- Stories are a vessel to share discoveries, create a dialogue, promote retention and personal associations with science (Hecker et al., 2018)
- Stories can target an audience's interest through voice, action and resolution (Downs, 2014)
- **Transportation theory:** narratives can **immerse** audiences, create intimacy with topic (Green, 2008)
- **Transportation** can arise from positive or negative topics, immersion comes from how a narrative is built, audiences can explore an immersive narrative to make connections (Green et al., 2004)
- Narratives can **captivate and inform** simultaneously, can have a strong persuasive effect, and can have ethical implications for their use (Dahlstrom, 2012)
- Sharing scientific information through a narrative is different than sharing your personal perspective of being a scientist-- we are focusing on the latter

What are Personal Narratives?

- Personal narratives are **representations of a person's life experience**, purpose, fulfillment, expression, and interactions.
- We can view stories as tools to share scientists' stories, show their personalities, and give them a voice—all of which comes before any science discussion
- Sharing stories about scientists is useful for science communication, but needs more research on applications and limits more broadly (ethics) (Muindi et al., 2020)
- **Narrative Identity**: the process of building a sense of personal continuity to make sense of the world, which is told through internal story dialogue (McAdams, 2001; 2013; 2008)
- Life can be viewed as a **series of narrative threads** with each thread being a different role in life, phase in time, perspective, or series of events; this helps build a personal life narrative without trying to account for every detail (Lumsden, 2013)
- Similarly, different 'arcs' of life shape perspectives or decisions; a phase in time or an experience can have a natural beginning and conclusion

Engaging Your Audiences

- When stories are meaningful, they elicit **emotion and *affect* responses** from audiences, which can help them engage and connect to the characters or themes
 - ***Affect* is an emotional response**, either positive or negative, that plays a role in an audience's reception to a story (Nabi, 2014)
 - **The Affect Heuristic:** our automatic, physiological reactions influence emotions and determine how we react to information. First impressions set the tone for someone's perception of something and subsequent decisions (Slovic et al., 2007)
 - **Empathy is a result of an *affect* response**, a response from perceiving images or narratives that align with values (Pence, 2004)
 - **Narrative Empathy:** audiences can share an emotional connection to a character's emotions and experiences; this helps audiences invest and engage (Keen, 2006)
- When possible, **include the audience in the process of building stories** by creating common ideas, unifying factors, characters all people can connect with, and asking questions that involve them in the theme or topic
 - Co-creating narratives can help overcome difficult circumstances and share common experiences (Lea Gaydos, 2005)
 - Access audience's experiences as valuable contributions to a story (Lea Gaydos, 2005)
- **Create a lasting impact**
 - Shape your story around a key message, idea, or feeling that will elicit a reaction from the audience
 - Keep the structure simple, the ideas bite-sized, and the message clear
 - Open with an idea that evokes curiosity; be creative in framing the story, much like a journalist writes a compelling headline
 - End with a positive idea that inspires the audience to learn more (about you or your work)

Visualizing a Narrative

- Using images to represent narrative ideas can provide a **quick, effective, and strong connection** for audiences to engage with the story and the storyteller
- Visual communication can offer opportunities to connect with audiences in digital and social media spaces, helping to engage with ideas (Adami and Jewitt, 2016; Bock, 2017; Nie, 2017; Russmann and Svensson, 2017)
- **Applied Transportation theory:** combining images with narrative elements, like character and context, help transport audiences and build relationships in social media spaces like Instagram. For images to be impactful, they should be connected to other narrative components that give it significance (Lim and Childs, 2020)
- **Images will impact people differently;** the emotions that arise for the audience can be as important as the image's subject itself (Fairey and Orton, 2019)
- **Photographs can create space for dialogue** by allowing people to share feelings, reactions, and explore these and other ideas presented (Fairey and Orton, 2019)
- **Types of portraits of scientists can impact audience's perceptions** of a subject portrayed (Jacobi and Schiele, 1989)
 - Scientist working in a lab: perceived as focused, invested, credible
 - Scientist posed for standard portrait: power in eye contact, sense emotion
 - Scientists at home or in an intimate setting: sense of personality, human quality, authenticity, and individuality
- **Images can make or break an audience's perceptions of a subject.** Taking and sharing our own photographs can help to promote identity and ownership of experiences and help others overcome existing misconceptions of our experiences (Bowles, 2017)