

Novel to Known: Utilizing Systematic Metaphor Analysis Methodology

Dr. Nellie Hill, Kansas State University

Introduction

Systematic metaphor analysis is a qualitative method by which to investigate metaphors used in discourse to communicate the science of agriculture. Results offer insight into current influences on public opinion regarding such topics (Broad, 2020; Delbaere et al., 2020; O'Keefe et al., 2015; Shew et al., 2018; Schmitt, 2015).

Scientists and science communicators rely on metaphors to communicate intangible observations and results to the public (Kövecses, 2020). The metaphors they choose shape public opinion on the topic, necessitating investigation (Kövecses, 2018).

Metaphors help make science more accessible to the public because metaphors connect everyday experiences with abstract concepts (Taylor & Dewsbury, 2018).

Metaphorical communication allows the audience to connect two seemingly dissimilar ideas by transferring the characteristics of a source domain to a target domain; one thing is another (Andriessen & Gubbin, 2009).

Results to Date

A relatively novel methodology, see Broad et al. (2020) and Hill (2020) for examples of applying the steps of systematic metaphor analysis to agricultural topics.

Broad et al. (2020) analyzed interviews, presentation decks, and news articles to identify the dominant metaphors for discussing substitutes for animal meat: Meat is made and the market for alternative meats.

Hill (2020) analyzed U.S. online news articles to identify metaphors used to describe the product and process of gene-editing applications in agriculture (see main panel).

Researchers, as well as science and agricultural communicators, can use results to access public discourse as well as test metaphors for influence on behavioral outcomes (Broad, 2020; Hill, 2020).

Advice to Others

Utilize the standards of rigor assigned to qualitative research.

Keep an audit trail, establish a peer review process, utilize a peer review process, reflexivity, and referential adequacy (Ary et al., 2010; Creswell, 2007; Schmitt, 2005).

Plenty of time should be allotted for the research team can deliberately, and without haste, step through systematic metaphor analysis.

Costs/Resources Needed

This methodology can be executed at no cost to the researcher.

Access to a database of content for analysis is necessary. This can range from a news article repository to a collection of interview transcripts.

Peer reviewers must be provided with background literature to develop their knowledge of the topic before assisting with analysis.

How It Works

Systematic metaphor analysis consists of seven steps:

1. Identify the target topic for metaphor analysis
2. Collect broad background knowledge and metaphors regarding the topic
3. Sample a selection of text on the target topic
4. Identify passages related to the target topic
5. Identify metaphors within passages related to the target topic
6. Group metaphors by underlying metaphorical concept
7. Determine the frequency of each metaphorical concept within the text (Schmitt, 2015)

Example from Hill (2020):

1. Product and process of gene-editing applications in agriculture
2. Academic journal articles, popular press articles, explanatory videos, and interviews with a plant scientist specializing in gene-editing
3. Boolean search query resulted in 26 articles from four online news media sources: *The New York Times*, *Washington Post*, *The Atlantic*, and *The Associated Press*
- 4.&5. Example passage, "It's like a **find-replace function** in the genome of these animals," said Scott Fahrenkrug, the chief executive of Recombinetics, based in St. Paul" (Harmon, 2015, para.9).
- 6 & 7. A text editor (55), tool (53), creation (28), targeting (9), a coding program (8), math (3), a fighter (2)

Scan for abstract

