

Formative Evaluation of Visual Content in News Stories for Use in Climate Change Campaigns

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Abstract: Formative Evaluation of Visual Content in News Stories for Use in Climate Change Campaigns

Three kinds of evaluation are incorporated into successful public communication campaigns: formative evaluation (preproduction research about the audience, and production testing/pretesting), process or program evaluation (how well were the campaign components actually implemented), and summative valuation (assessing effects and effectiveness). This paper focuses on formative evaluation, crucial to accurately assessing and achieving campaign message effectiveness (Dillard, Weber, & Renata, 2007).

As Atkin and Freimuth (2012, p. 55) write, “Formative research can help identify what types of content and style will attract audience attention, facilitate comprehension, elicit emotional reactions and elaborations, impart knowledge gain and skills acquisition, influence the formation or change of affective orientations such as beliefs and attitudes, and affect pertinent behavioral performance.”

A comprehensive formative evaluation process would guide the selection and testing of initial concepts (tentative message content and visual), developing test messages (in rough form, whether in print, audio, visual form, or media such as recordings, video, print, website, digital media, tailorable or personalizable interactive media, etc.), and assessing comprehension, strengths and weaknesses, personal relevance, and possible negative or controversial interpretations. Such evaluation may include a wide range of methodologies, such as focus group interviews, in-depth personal interviews, surveys, theater testing, readability testing, physiological responses, combinations of these, etc.

This presentation will focus on one aspect of the production testing aspect of formative evaluation for climate change campaigns. In particular, we apply a current research program that has established reliable coding of visual themes and frames in climate change news stories to provide a basis for clarifying choice of visual content in climate change campaigns. Campaign materials include visual aspects, in logos, posters, websites, press releases, print and video ads, etc. However, while recent research has begun identifying and understanding the kinds of visuals used in climate change news stories, we do not have a clear sense of how individual visual themes reinforce or detract from a central or overall visual frame. Nor do we understand the possible range of responses (whether attitude, knowledge, or behavior) to different specific visual frames. Further, visual frames that are not consistent and explicit in their desired message – that is, those that have conflicting themes – are likely to detract from a climate change campaign’s central message and goals.

We have previously reported on a content analysis of 350 images and accompanying captions and headlines that appeared in 200 randomly selected U.S. newspaper and magazine stories about climate change (AuthorA). Cluster analysis of the co-occurrences of 118 coded themes across the images (AuthorB), identified 15 frequently-observed visual frames that dominate visual communication about climate change in the U.S. prestige press, in order of being represented in most (34%) to fewest (6%) images: *government, politics, and negotiation* frame; *climate science, research, and scientists* frame; *monitoring and quantifying* frame; *temperature record*; *“regular” (sometimes vulnerable) people* frame; *food and agriculture* frame; *alternative*

energy and energy prices frame; industry impact on the environment frame; future climate, vulnerable landscapes, and adaptation frame; citizen leaders frame; wilderness and nature recreation frame; storms frame; impacts on polar animals and landscapes frame; view of globe from space frame; and energy efficiency frame.

This presentation will examine the strength and direction to which the four most frequent themes of (1) explicit references to climate change, (2) controversy, (3) uncertainty, and (4) art and mass media representations of the environment are associated with those dominant visual frames.

Here is an example of the preliminary analysis of topic (4). Recently, interest has been growing in artistic representations of climate change as a means of communication about the issue. Associations between the **art/entertainment/mass media representation of environment** theme and other climate change visual frames offers insight into the aspects of the climate issue that are typically made salient by artistic representations that appear in the news. This theme includes editorial news illustrations and representations of visual or performance art, film, or music focused on environmental issues. With the exception of editorial illustrations, this theme includes only instances in which environmental issues are viewed through a ‘double lens’ (i.e., the image is a presentation of a visual representation of the environment that was created by a third party for a purpose other than supporting the news story that the image accompanied). The art/entertainment/mass media theme was observed in 55 (16%) of the images examined, and was strongly positively associated with *ocean/coastal landscapes, future climate, sea level rise, and landscapes*, and *industry impact on the environment* frames – in other words, impacts or possible changes in the natural environment.

Interestingly, representations of the *government, politics, and negotiation* and the *climate science, research, and scientists* frames are negatively correlated with the art/entertainment/mass media theme, suggesting that artists who explore environmental issues and/or the editors and journalists who create and select imagery for news stories prefer impacted natural environments over complex social and technical phenomena such as politics and science as subjects for artistic work. Also, incorporating artistic portrayals as part of a climate change campaigns would do well to keep those distinct from both governmental/political, as well as climate science, visuals.

The full paper will provide prior theory and research context, methodology, in-depth discussion of results, and implications for climate change communication campaign design of how major visual frames are associated with specific themes portrayed in the visuals.

Atkin, C. K., & Freimuth, V. (2012). Guidelines for formative evaluation research in campaign design. In R. E. Rice & C. K. Atkin (Eds.), *Public communication campaigns* (4th ed., pp. 53-68). Thousand Oaks, CA: Sage.

Dillard, J. P., Weber, K. M., & Renata, G. V. (2007). The relationship between the perceived and actual effectiveness of persuasive messages: A meta-analysis with implications for formative campaign research. *Journal of Communication*, 57, 613-631.