

Review of: "Visual Science Communication: The next generation scientific poster"

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Potential competing interests: No potential competing interests to declare.

Strengths of the article Scientific posters have a long history as a means of communicating to specialists in the field, non-specialist scientists and non-scientists. Hence, improving the capacity of posters to convey information and insight is definitely worthwhile. The facets of visual communication, in relation to information transfer, are clearly outlined as a prelude to a description of the interactive scientific poster. The use of an example from ocean research is well done. The text is well organised and well written. Overall, the article serves well to demonstrate the value of interactive scientific posters as a desirable innovation, with the goal of informing audiences in a more effective way.

Comment 1 Only the advantages of an interactive scientific poster are discussed. Could there be disadvantages? I don't know, but possibilities include information overload that obscures key ideas, the cost, effort and learning required to produce such posters, and inequalities between scientific teams with the resources to create elaborate posters and those without such resources. Visualisations can improve understanding, but they might also be used in misleading ways.

Comment 2 The authors adopt one particular perspective within the field of science communication, namely that what's involved is experts conveying information to non-experts. This is the dominant conception. It is positivist: scientific knowledge is transmitted, in distorted and simplified form, to the public. This conception has been subject to critique within the field. (See for example Massimiano Bucchi, *Science and the Media*, for a discussion of a constructivist model.) One aspect of the dominant conception is that communication has the goal building public support for scientific research, thus serving as public relations. The authors seem to assume this when saying, "Modern and contemporary technology contributes to a perception of actuality and progressiveness of research." Typically, unsavoury aspects of research are omitted or glossed over. An example is possible military applications of oceanographic research, or the influence of corporations and governments on research agendas at the expense of the public interest. In general, this conception of science communication lacks a critical view of the driving forces behind research, assuming they are all high-minded and benevolent, and thus offers a partial view of the reality of the research enterprise which includes empire building, bitter priority disputes, exploitation of junior researchers, and suppression of dissent. The dominant conception also assumes communication is one-directional, from experts to non-experts, and thus helps maintain scientific research as a domain separate from citizen participation. I make these comments not to suggest significant revisions to the paper but to point to a different perspective.

Two specific points

* Reference is made to “ocean literacy.” This should be explained, with examples.

* “Social media also gave rise to a discussion about the truth of scientific findings and general skepticism about scientific facts.” This is a sweeping statement with an implicit judgement. Is there general scepticism about the speed of light or continental drift? Discussions about the truth of scientific findings predated social media. More importantly, scepticism about scientific facts is sometimes warranted, for example of clinical trials of pharmaceutical drugs: see Sergio Sismondo’s book *Ghost-managed Medicine*. It might be argued that at times it is sensible to “distrust in scientific data” and that, to help decide whether trust is warranted, to examine the role of vested interests.

Final comment

I do not believe in ratings, only in providing comments for improvement. However, I can't post this comment without making a rating. Therefore, please disregard the rating that I ticked.