

A call for lay abstracts in journals, theses, and dissertations

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The growing mistrust of science and scientists is approaching a crisis level. Philipp-Muller et al. (2022) wrote that “From vaccination refusal to climate change denial, anti-science views are threatening humanity”. Many reasons exist for the public’s distrust of science, but one reason is the general failure of academic researchers to write about their findings in a way that can be comprehended by a lay audience. Part of this problem is a failure of the graduate education process. When professors are training graduate students to be researchers, they instruct them how to write for scientists in their own field, but give no practical guidance for writing about their findings for the public. Thus, untrained professors continue to produce untrained graduate students in the importance of writing for the lay public. This is unfortunate because support for academic research often comes from private sources, which could likely be augmented if donors understood what is being done and why it is important.

The need for public engagement in federally funded research began over a decade ago, when the “America COMPETES Reauthorization Act of 2010” required NSF-funded projects to have a broader impacts criterion (https://www.nsf.gov/od/oia/publications/Broader_Impacts.pdf). From my personal experience, this resulted in a steep learning curve for faculty historically unprepared to address a lay audience; many considered the broader impact criterion a mere nuisance. However, it is now a stringently applied criterion in proposal evaluation and success and has resulted in Principal Investigators engaging those who are skilled in science communication. A few journals have followed suit in requiring lay abstracts. The *Proceedings of the National Academy of Sciences* requires a “Significance” section and provides this guidance: “Explain the significance of the research at a level understandable to an undergraduate-educated scientist outside their field of specialty.” The journal *Ornithology* requires a lay summary in which authors explain their research with the general public in mind, provides answers to how their results address the big question(s), and minimizes use of jargon, scientific and technical terms, and acronyms. The journal *Autism Research* requires a lay abstract to “to inform the non-scientific community of important findings.” Many other journals have similar requirements. The Entomological Society of America publishes nine journals and has a website “How to promote your published paper”, but none of the journals require a lay abstract.

Stricker et al. (2020) noted that “in two psychological peer-reviewed journals, author-written PLS [Plain Language Summary] are easier to read than scientific abstracts. We hope that this finding aids in strengthening the role of study authors as “public communicators” of their research.” Stoll et al. (2022) provide a review of variation in implementing PLSs. There can be little doubt that lay abstracts serve a valuable function. However, overall the niche for lay abstracts appears mostly unfilled. Given public perception of science, there should no longer be such omissions in journal publications.

Furthermore, to get at the root of the problem, university graduate programs should provide training for graduate students in writing for the general public. This might entail a seminar course, and a requirement that all theses and dissertations include a lay abstract. These abstracts would also be a way to inform alumni, donors, current students, and other interested parties about the research being done by our scientists of the future. From a student's perspective, it is likely that whatever their career path, it will be an obligation to inform the public about what they are studying, why, and what they have learned.

Lastly, lay abstracts in journal articles and graduate theses and dissertations should result in a scientifically better informed public and counter the growing distrust the public has in the scientific community.

References

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