

Reflection on the scientific communication to the government and public

 *Thi Mai Anh Tran*

Michigan Technological University

<https://orcid.org/0000-0001-8113-9087>

June 2, 2024

“In the age of information, things are buzzing all over the Earth. Humans have abundant information to keep them entertained all day, and even in The Bird Village, there is excitement in the air.”

– In “Titles of Nobility”; [The Kingfisher Story Collection](#) (2022)

[SCIENCE COMMUNICATION]

There were 30 of us in a conference room preparing to give a brief talk about our research. One by one, we stood up and shared what our studies were about and how our studies contributed to our communities, conserved threatened species, and maintained the resilience of human lifeways and the ecosystem. After the last of us finished his speed on the short-tailed fish research, we were expecting applause from the audience.

Then, one lady (A) stood up and asked 30 of us, “How many of you think other people can understand your research? Raise your hand?” No hands were raised. “How many of you think your research is important to be heard and understood?” All hands were raised. After a pause, A told us, “Now, I challenge you to find solutions to improve your communications when sharing scientific knowledge.”

Yes, as scientists, we spend most of our time researching and contributing to our society and a better future. And, as we think our research is important, we would love to have as many people as possible to understand our results. But what’s stopping us from communicating science?

Think about the common way scientists have been sharing their research, which is mainly limited through a particular style of writing (i.e., academic, being objective, including jargon) and formatting (i.e., original research, review paper, etc.) and specific channels (i.e., academic journal, scientific reports, etc.). On top of that, English is still the predominant language used to communicate research findings [1]. Now, think about how often scientific research is provided to the public and how non-English scholars can benefit relevant policymakers, practitioners, and their own communities. As we are now living in a world where almost everything is digitalized and globally connected, it is time for scientists to be creative and proactive in a way science should be disseminated, either through language inclusivity or communication channels [2].



Illustration: A common communication channel that scientists use to share their research findings. Photo by [Matthew Osborn](#) on [Unsplash](#).

Recently, 36 scientists from different parts of the world have called for more linguistically inclusive policies in academic publishing to address the language barriers [3]. These scholars started by surveying 736 journals and collected responses from 262 editors-in-chief in biological sciences to assess their linguistic inclusivity policies. After identifying predictors of inclusivity, they propose what practices are needed to improve inclusivity and overcome language barriers.

According to these authors, by 2021, less than 7% (51 out of 736) of journals allowed submissions in languages other than English. However, the permitted languages were still limited, mostly Spanish and French. Further, only 11% (81 out of 736) of journals offered

readers translation tools to read in languages other than English [3]. With journals listing English-language editing services in their guidelines, 58% of them directed authors to services that cost half the average income of PhD students [4]. This situation could hinder the participation and accessibility of non-English scholars from low-income countries, which limits the diversity of perspectives in scientific literature and slows the pace of innovation in general.

As for solutions, these authors proposed a set of actions, including revision of author guidelines, offering accessible English-editing services or usage of AI proofreading tools, implementing non-discriminatory policies and practices, and adopting double-blind peer review systems [3]. Regarding communication channels, scientists and scholars can reach the public through multiple platforms such as social media, blogs, and newspapers.

In another study conducted by Rainie et al. [5], nearly half of AAAS scientists (47%) used social media to communicate science. However, this channel has huge potential for misinformation and is not considered a reliable source [6]. As Rainie et al. reported, 87% of scientists believe that the public has some sort of interest in their specialty area [5]. However, many agree there is still a gap between scientists and the public [6,7].

To bridge this gap, Shugart and Racaniello [8] suggested scientists and scholars should seek out training and support and partner with relevant organizations to reach their audience. Building on this, I propose that researchers should be more active and creative in collaborating with government channels such as websites, national/local television, newspapers, and radio, which would be more effective for them in communicating their work and findings.

Back in the conference room, I told A about my intention to write for government websites in Vietnamese. She suggested that I could also write to editors in my community, telling them about my expertise and area of interest and expressing my desire to contribute. As her challenge inspired me, I extend it to you—to communicate science in your native language and make your expertise visible in your community—to serve and be a part of it.

** This post reflects on my participation at [SEEDS GIS](#), organized by the Ecological Society of America, from May 20 to May 25, 2024 [9]. Names in the text were intentionally hidden.*

References

[1] Gordin MD. (2017). Introduction: Hegemonic Languages and Science. *Isis*, **108**(3), 606–611. <https://www.journals.uchicago.edu/doi/10.1086/694164>

- [2] Vuong QH. (2023). *Mindsponge Theory*. Walter de Gruyter GmbH. <https://www.amazon.com/dp/BOC3WHZ2B3>
- [3] Arenas-Castro H., *et al.* (2024). Academic publishing requires linguistically inclusive policies. *Proceedings of the Royal Society B*, **291**(2018), 20232840. <https://royalsocietypublishing.org/doi/10.1098/rspb.2023.2840>
- [4] Ramirez-Castaneda V. (2020). Disadvantages in preparing and publishing scientific papers caused by the dominance of the English language in science: The case of Colombian researchers in biological sciences. *PLoS ONE*, **15**(9), e0238372. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0238372>
- [5] Rainie L, *et al.* (2015, Feb. 15). How scientists engage. <https://www.pewresearch.org/science/2015/02/15/how-scientists-engage/>
- [6] Hunter P. (2016). The communications gap between scientists and public. *EMBO Reports*, **17**(11), 1513–1515. <https://www.embopress.org/doi/full/10.15252/embr.201643379>
- [7] Peters HP. (2013). Gap between science and media revisited: Scientists as public communicators. *PNAS*, **110**, 14102-14109. <https://www.pnas.org/doi/full/10.1073/pnas.1212745110>
- [8] Shugart EC, Racaniello VR. (2015). Scientists: Engage the public! *mBio*, **6**(6), e01989-15. <https://journals.asm.org/doi/10.1128/mbio.01989-15>
- [9] ESA. (n.d.). SEEDS GIS. <https://www.esa.org/seeds/meetings/gis-graduate-workshop/>
- [10] Vuong QH. (2022). *The Kingfisher Story Collection*. <https://www.amazon.com/dp/BOBG2NNHY6>

