De-jargonizing program helps decode science speak

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Credit: Petr Kratochvil/Public Domain

Science is fascinating to many, but sentences that are full of expert-level terms and description can scare away even the most passionate readers. Can scientists learn to talk about their research without using too many technical terms? One of the obstacles to avoiding jargon is that scientists suffer from "the curse of knowledge" – they simply do not remember not knowing what they now know as experts.

To help scientists recognize which words are jargon and should be avoided or explained when engaging with the public, researchers at the Technion-Israel Institute of Technology and HIT–Holon Institute of Technology have created a program that automatically identifies terms the average person may not know. In a recent paper published in *PLOS One*, the free of charge and scientist-friendly De-Jargonizer hosted at scienceandpublic.com is introduced. Once a text is uploaded or pasted, the algorithm color codes words in the text as either frequent or intermediate level general vocabulary, or jargon. This is based on frequency of the words on an internet news site, designed and written for the public. The corpus will be updated periodically, and can be expanded to include other sources and languages.

"The De-Jargonizer provides a grim glimpse at the current level of jargon in scientific writing," says Technion Prof. Ayelet Baram-Tsabari.

When the authors compared 5,000 pairs of lay summaries, written for a wide audience, and their corresponding academic abstracts published in the journals *PLOS Computational Biology* and *PLOS Genetics*. Results showed that lay summaries indeed include less jargon (10 percent) than academic abstracts (14 percent) on average; however, research previously showed that for adequate comprehension, readers need to be familiar with 98 percent of the words. Therefore, the recommended level of unfamiliar words, i.e. jargon, is 2 percent—much lower than the percentage found in the lay summaries.

"The scientists intuitively understand they need to use less jargon when speaking with the public than to their peers", says Baram-Tsabari, "but using so many unfamiliar words excludes the very people they are trying to engage."

The program is designed to help scientists and science communication instructors improve and adapt vocabulary use when communicating with

non-experts. Also, professionals in medicine could use it to evaluate text level for communication with patients. Overall, the importance of such a tool is to aid in making science and research accessible to the public, to support informed citizenship and more productive dialogue in these complex times for science in society.

More information: Tzipora Rakedzon et al. Automatic jargon identifier for scientists engaging with the public and science communication educators, *PLOS ONE* (2017). DOI: 10.1371/journal.pone.0181742

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