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Does Anyone Get Jargon?

How Specialized Scientific Terminology Impacts Accessibility and Communication

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Illustrated by Susan Robinson-Cloete

While technical and scientific jargon has the power to communicate a more precise and deep meaning, it can also alienate the general public from learning more about an important topic or discovery. But, the public is not alone in being scared off by specialized terminology — recent studies have found that scientists and experts within the field are less likely to read and cite papers that have more jargon in their title and introductory summary (known as an abstract). Simultaneously, using fewer non-jargon, “everyday” words in grant proposals actually correlates with increased funding, prompting the question: when, and how much, should jargon be used in science?

Jargon refers to particular words or phrases that are difficult for those that are not of the particular profession to understand. For example, “legal jargon” could refer to big, scary phrases like

“amicus curiae” or “dismissal with prejudice” sound like absolute hogwash to most of us, but allegedly mean something to those who work in law. Similarly, scientific jargon dominates science papers and education. This is for several reasons. While it is certainly easier to say “solute” than “the solid that was dissolved in the liquid,” the former is an unknown term for many without a background in science. However, as one discusses more complicated topics in science, the more precise nature of the word “solute” becomes critical to communicating effectively and understanding larger topics. Technical, specific language is deeply ingrained in how science is taught, communicated, and recorded, making a feature in nearly all published papers. Further, it is a sign belonging in a professional field — a sense that if you can speak the lingo, you may have a credible background, intelligence, and be a respected peer.

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The perception bias surrounding these fancy, inaccessible words extends to getting funding, or the money to conduct research, too. A recent study by Professor Markowitz analyzed approximately 20,000 proposals' abstracts submitted to the National Science Foundation (NSF) for funding, looking at which attributes resulted in success. They found that the papers that tended to be awarded more funding were longer than average, written with more verbal certainty, and contained fewer "common words" and more jargon. While perhaps unsurprising, this finding was somewhat ironic and contradictory for several reasons. Particularly because the NSF's public stance is "committed to writing new documents in plain language," recommending research proposals to use more common words so that the general public can understand what science research is being funded. Further, a study by Dr. Pennebaker and colleagues found that papers using fraudulent data tended to use more jargon and fewer common words. One would think that the NSF's push, coupled with the association between excessive jargon use and falsified and fabricated papers would push scientists away from intentionally filling papers with unnecessary technical terms. But, the NSF's call for simple, accessible language sharply diverges with the reality of which abstracts were given funding, and how much. It would seem that the complexity required to communicate science in a persuasive manner to receive funding overshadows the NSF's intention to move towards minimizing jargon.

Despite jargon's power in securing funding, the use of technical language has significant negative drawbacks with many audiences. For example, students, the general public, policymakers, and those newer to the field may find published research inaccessible and confusing. This can limit the viewership and impact of important new discoveries.

Recent research by Dr. Alejandro Martínez and Stefano Mammola analyzed the impact jargon in paper's abstracts and titles had on their reach and relevance, paying particular attention to more interdisciplinary subjects. They measured the impact of a papers by tracking the number of times the paper was cited in other published articles. Citations are often used as a tool to measure a researcher's productivity, academic success, and signify the importance and relevance of a study. Thus, it is critical for publications to communicate in the most effective manner possible to maximize their potential reach and impact.

It is no mean feat to be cited by another paper. Scientists filter through an average of over 1100 titles and 200 abstracts a year, but only end up reading 97 full texts, based on research done by Professor Mabe in 2002. In order to be a part of that coveted 97 papers and have a chance at being cited, texts need to have titles and abstracts that have careful stylistic features, lure in the reader, and have a clear message. Dr. Martínez and Mammola's teams analyzed over 21,000 manuscripts, and found that those that contained higher proportions of jargon in their titles and abstracts were cited less frequently. Using common jargon (such as "stalagmite") had a positive effect on the paper's citation odds, but using too much specialized terminology negatively impacted the paper's ability to communicate information with the public and fellow researchers. While the more-cited papers still had jargon, it was restricted to other parts of the paper, and not in overabundance. Decreasing the use of specialized terms is highly beneficial, as papers are more often retrieved through searches in databases. Using words more common in the field increases its retrievability, while a high frequency of specialized terms would make it less likely to appear in online searches. Naturally, the more retrievable a paper is in online search results, the more visible it is, and it is more likely to be read and cited.

There is certainly immense power in the ability of specialized terminology to communicate precisely and efficiently within a field. When used correctly, it can instill a sense of confidence, validity, and trustworthiness. This is reflected by the correlation of increased jargon usage in grant proposal abstracts and funding given by the NSF. However, it has significant drawbacks, alienating potential readers from gaining a deeper understanding of science. Overuse of uncommon jargon in titles and abstracts actually correlates with lower citation rates — suggesting that jargon can make an article inaccessible and unclear, even to fellow researchers. This hurts both parties involved, as the reader will be less likely to explore the potential useful information presented in the paper, and the author will have less of an impact. The need for the general public to understand science and studies is at a critical high as we wade through pandemics and climate change, and overuse of jargon is just one of the many unnecessary roadblocks. ● ● ●