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Communication in the Sciences: A Discourse Analysis of Biology Research Articles and Magazine Articles

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Abstract : Effective communication is widely regarded as an important aspect of any discipline. This particular study deals with written communication in science. Writing conventions and linguistic choices play a key role in conveying the message effectively to a target audience. Scientists are responsible for conveying their findings or research results not only to their discourse community but also to the general public. Recognizing appropriate linguistic choices is crucial since they vary depending on the target audience. The majority of scientists can communicate effectively with their discourse community, but public engagement seems more challenging to them. There is a lack of research into the language use of scientists, and in particular how it varies by discipline and audience (genre). A better understanding of the different linguistic conventions used in effective science writing by scientists for scientists and by scientists for the public will help to guide scientists who are familiar with their discourse community norms to write effectively for the public. This study investigates the differences and similarities of linguistic choices in biology articles written by scientists for their discourse community and biology magazine articles written by scientists and science communicators for the general public. This study is a part of a larger project investigating linguistic differences in different genres of science academic writing. The sample for this particular study is composed of 20 research articles from the journal Biological Reviews and 20 magazine articles from the magazine Australian Popular Science. Differences in the linguistic devices were analyzed using Hyland's metadiscourse model for academic writing proposed in 2005. The frequency of the usage of interactive resources (transitions, frame markers, endophoric markers, evidentials and code glosses) and interactional resources (hedges, boosters, attitude markers, self-mentions and engagement markers) were compared and contrasted using the NVivo textual analysis tool. The results clearly show the differences in the frequency of usage of interactional and interactive resources in the two disciplines under investigation. The findings of this study provide a reference guide for scientists and science writers to understand the differences in the linguistic choices between the two genres. This will be particularly helpful for scientists who are proficient at writing for their discourse community, but not for the public.

Keywords : discourse analysis, linguistic choices, metadiscourse, science writing
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