WRITING IN SCIENCE: A FUNDAMENTAL SKILL FOR SCIENTISTS

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The practice and development of science depends on effective communication, often involving the written word. A strong foundation on which writing should be based is a core process of scientific argument, namely: proposition; evidence; evaluation and conclusion. This core process is embedded in the traditional layout of scientific manuscripts that report primary research. Such core process of scientific argument also needs to be adhered to by writers collating and evaluating the published work of other scientists, for example, in authoritative reviews or in shorter articles highlighting recently published work. Other forms of scientific writing are carried out in a closed and confidential context, which also requires adherence to the core scientific argument. These include writing applications for grants or the peer review of manuscripts for publication or grant applications for funding, submitted by other authors. A particular need for precise argument and convincing logic applies when authors are responding to the comments of reviewers of articles submitted for publication, or to assessors of applications for funding. For all the above purposes, the writing must display a strong clarity of purpose and a high degree of precision in the words used. Moreover, the written work as a whole must be tailored at an appropriate level of detail (and choice of words) to optimally reach the intended wide audience or the smaller target group of particular people. Understanding the elements of written scientific communication and the various contexts in which it properly takes place are fundamental to the skill set of the scientist throughout his or her career.

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