SMJ Letters

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Letter to the editor

On the importance of early scientific training in scientific writing

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Abstract: Scientific writing is a core competency that is trained from early on in most subjects and usually culminates in a qualification thesis. This training includes essential skills like literature searching, structuring a scientific work, reading and evaluating research methods and findings, and presenting one's own research. By the time Master's degree holders enter the academic field, they are often well-prepared for academic work. The importance of rigorous scientific training from an early stage cannot be overstated, as the main mode of scientific communication remains the publication of findings in specialized journals. Guidance on writing scientific publications is available, and scientific proficiency is often gained through practice. The Student Medical Journal is offering a platform for early-stage students to present their work to the scientific community and serve as a critical experience for students embarking on academia.

Keywords:
Scientific Training; How to; Research; Scientific Writing

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In both Bachelor's and Master's degree programs, scientific writing as core competency of academic work is developed early on, often beginning with seminar papers and culminating in qualification thesis such as Bachelor's or Master's thesis.

This training includes essential skills such as literature searching, structuring a scientific paper, reading and evaluating research methods and findings, and presenting one's own research. By the time Master's degree holders enter the field – e.g. as doctoral candidates – they are typically well-prepared for academic work. This is a notable distinction from medical degrees, where in Germany for instance, students can begin doctoral research during their studies without having completed an academic thesis or developed comprehensive scientific research and communication skills prior to that.

Given the rise of publication-based dissertations, the importance of rigorous scientific training from an early stage cannot be overstated. [1] In addition to presentations and posters, the main mode of scientific communication remains the publication of findings in specialized journals. The centrality of "scientific writing" as a skill is evident from the existence of entire career paths dedicated to it (e.g., "Scientific/Medical Writer"). This skillset requires: (1) the development of communication skills to convey complex ideas and concepts clearly, concisely, and precisely; (2) critical thinking and analytical abilities to evaluate information and draw logical conclusions; (3) familiarity with the IMRDC (Introduction, Methods, Results, Discussion, Conclusion) format; (4) an understanding of the relevant literature and proper referencing practices; (5) a commitment to precision and objectivity; and (6) an awareness that journal requirements, such as thematic focus, article types, citation styles, and reporting standards can vary relevantly across journals.

Fortunately, there is substantial guidance available on writing scientific publications. For example, Kotz and Cals wrote a helpful series, "Effective Writing and Publishing Scientific Papers," Parts I-XII, in the Journal of Clinical Epidemiology [2-13], and journals such as the BMC provide additional resources [14]. Furthermore, scientific proficiency is often gained through practice: the more presentations one hears and delivers, and the more articles one reads and writes, the more adept one becomes at navigating the nuances of scientific communication. Regular engagement in the "arena of ideas" – whether by presenting theories, findings, or hypotheses – enables students to grow from feedback, develop a scientific profile, and ultimately become experts in their fields. In addition, scientific publications are also relevant for further academic qualification e.g. as part of a habilitation.

The Student Medical Journal addresses these relevant gaps in scientific training by offering early-stage Bachelor's and Master's students a platform to present their work to the scientific community. It also serves as a first critical experience for medical students embarking on academic research. Both opportunities are new, innovative, and deserving of support from the established scientific community.

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