

## Around the world: Teaching medical writing to doctors and scientists

### Brazil

Prompted by my interest in the difficulties to get published faced by non-native English-speaking science authors, I designed a course in scientific writing for researchers at the Federal University of Rio de Janeiro (UFRJ) [1]. This multidisciplinary course has been offered privately to potential authors for the last 4 years. One of the professors who attended last year is an editor of a Brazilian medical journal. After completing the course, he recognised the difficulty postgraduate students in the general surgery programme have in writing manuscripts in English. Together with the head of general surgery, also an editor of a Brazilian journal, he set new goals for the programme, which included developing the medical writing skills of postgraduates.

Current pressure on Brazilian scientists to get published, especially in prestigious international journals, acted as a wake-up call. Irrespective of the field, research productivity is a factor contributing to the assessment of academic performance of Brazilian postgraduate programmes. Academic performance is assessed by CAPES (Coordination for the Advancement of Higher Education Staff), which mostly focuses on postgraduate education and accreditation. For a research institution to be top ranked (scores range from 1 to 7), publication in the journals listed by CAPES is a factor. The ranking made by CAPES are also considered by other funding agencies, especially because of the Brazilian 'performance-based funding system'. Therefore, the universities at large are under pressure, and several postgraduate programmes in public universities demand that PhD students be authors of at least one international publication prior to defending their theses.

This is one of the issues that have motivated the general surgery programme to rethink its academic curriculum and encourage a cultural change in students' views of the importance of acquiring skills in medical writing. An academic writing policy is being implemented that includes medical writing as a credit course. The first course, which I'll teach this year, will be targeted at postgraduates who already have a good command of English. This group will be determined by a placement test, an academic essay. I'm very enthusiastic about this opportunity, especially because assessing the writing skills of postgraduate students in the sciences is part of my PhD!

I'm now planning this course, which will focus on scientific discourse in English. After some specific sections on

language and style, I'll draw upon academic/medical writing conventions, hedging in medical writing, academic register, plagiarism and cultural issues in scientific/medical writing, rhetorical moves in the research paper (with a hands-on training), and responding to reviewers' comments. I'm planning to discuss citation practices and questions of format through reading assignments and sample articles.

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1. Vasconcelos S M R. Correlating English proficiency to international publication rates for Brazilian scientists. *The Write Stuff* 2006; 15 (1) 49.

### China

Most Chinese doctors lack medical writing training and English writing ability but more and more they are realizing the importance of English medical writing, because they want to publish papers not only in Chinese medical journals but also in international journals. To publish at least one or two English papers has become a requirement in top medical schools before you can get a PhD degree, or before the doctors can get an academic promotion to senior levels in hospitals affiliated with a medical school. A couple of top medical schools are starting to set English medical writing courses as an integral part of their graduate school (Masters and PhD programme) curriculum.

A Chinese translation version of *Chest* journal, published by The Everwell Corporation, was launched in 2004 ([www.chestjournal.org.cn](http://www.chestjournal.org.cn)). *Pediatrics China* is another translation journal we are publishing. Readers often asked us for help with their English medical writing. We therefore took the initiative to organize medical writing workshops which are offered privately to physicians and are sometimes sponsored by pharmaceutical companies and institutions.

Topics include:

*Before you begin to write:*

- Clinical research protocol design and development
- Introductory statistical methods
- Clinical epidemiology
- Good Clinical Practice (GCP)
- How to choose the right journal and getting published in top journals
- Uniform requirements for biomedical manuscripts
- Understanding rules that must be observed to increase acceptance

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- Decide on authorship
- Plagiarism and copyright, acceptable secondary publication
- Reading and understanding instructions of the journal planned to submit

*Preparing your manuscript*

- Word choice
- Sentence structure
- Paragraph structure and emphasis
- Structure of paper

*Submission*

- Writing cover letter and preparing submission forms
- Informed consent and animal rights issues
- Analysing letters from the editor-in-chief
- Techniques of answering reviewers

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**Croatia**

Our experience at the *Croatian Medical Journal (CMJ)*, a small scientific journal from the scientific periphery, has shown that language is not the main problem of articles submitted to our journal. Although the majority of articles come from transitional or developing countries, and from authors who are not native speakers of English, there are other, more substantial problems to deal with. In 12 years of experience, the *CMJ* editors have recognized four layers of the scientific article which present problems for authors [1]. The basic layer is planning and performing the study and the mistakes made in this stage can often be irreparable at the manuscript stage. Other layers are the narrative, scientific reporting style, and the language, all of which can be improved through the process of peer review and manuscript editing. This is why the *CMJ* staff decided to organize a course on planning and writing research articles. As our experience showed that planning is the weakest point of submitted articles, great attention is paid to planning the study and to study design. The course, which is open to physicians, residents, and postgraduate students, was first introduced in December 2002 and has been organized 20 times so far. Like the Danish course (see page 8 of this issue), it is conducted in the participants' mother tongue and has incited great interest not only in Croatia but also in some of our neighbouring countries.

We cannot systematically assess the effect of our teaching but we know that our pupils have subsequently published more articles and have advanced further in their career than their colleagues who did not receive such tutoring [2].

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1. Marusic A, Marusic M. Not only English: editing a small medical journal. *The Write Stuff*. 2005;14:11-3.
2. Marusic M, Markulin H, Lukic IK, Marusic A. Academic advancement of authors receiving tutoring from a medical journal. *Teach Learn Med*. 2006;18:126-9.

**Holland**

Most of the medical schools in Holland offer some sort of training in writing English. These courses are, however, often very limited because of low budgeting. In contrast, the Academic Medical Center (AMC) at the University of Amsterdam has long recognized the need to publish in English and the shortcomings that many of its PhD students have in writing. Several years ago, I was asked to help redesign a course to teach PhD researchers how to write citeable journal articles. This course is unique in that it offers the participants not only lecture sessions, but also considerable individual coaching and editing on their own articles. The course has been running for more than 2 years now and has received excellent evaluations from the participants and department heads. I regularly receive e-mails from past participants announcing the acceptance of their articles in renowned journals. We are now developing a course on oral presentation. You can read more about these courses at <http://www.amc.uva.nl/index.cfm?pid=1259> and <http://www.amc.uva.nl/index.cfm?pid=2855>

Utrecht is another enlightened university where a colleague has been working on a permanent contract for the past 11 years teaching English in the Department of Medical Genetics. This has opened up other freelance projects for her throughout the university. I have approached various medical schools, and other university departments, with proposals to start courses in scientific writing. Unfortunately, budgets and politics often stop these initiatives before they get started. Most of the universities now have what they call their 'language centre'. These are usually commercially oriented organizations within the university that try to sell courses, at a profit, within and outside the university. University policy usually dictates that all university departments must first approach the language centre for any language courses before looking elsewhere. Only if the language centre cannot deliver a course is a department allowed to hire a freelancer. And the language centres, of course, always say that they can provide a course in scientific writing, and then they look for a freelancer to give it.

This raises several problems. One, language centres usually have little experience with scientific writing, and they consider it to be just a grammar course with special words. Second, because they are commercially oriented, the language centres hire freelancers who are willing to work for very low pay. These are often beginners in the field and, again, they have little idea about what makes scientific communication effective. This also precludes any individual feedback and editing. Third, the medical schools and the students also have the idea that their problems are primarily English grammar.

Many people in Holland pride themselves on their English—they learn it at school and hear it all day on TV and radio. And, indeed, most of my students speak and write English at an upper intermediate level. At the PhD or

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professional level, however, they have problems getting their ideas on paper. Usually, their problems are not English problems, but communication problems. They do not know how to focus on their scientific messages, eliminate flab, and clearly show the value of their research—but this can apply to UK and US researches too.

Many Dutch university courses are now taught in English because of the many foreign students that Holland attracts and wants to attract. If you look at the AMC course list (link above), you will see that most of them are in English. This does, however, put an extra burden on professors; they cannot be as free and creative in a second language, and they often have to oversimplify.

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### Iran

Iran is a country with a little over 40 medical schools and 110 accredited medical and health-related journals. Many of the medical journals in Iran are published in Farsi (Persian) with English abstracts but there are also journals published in English only, one of which (*Archives of Iranian Medicine*) is currently indexed in Medline.

Presently, academic promotion regulations require that a certain percentage of articles published by faculty members be published in English journals (national or international). This situation as well as a trend towards publishing in high impact factor journals has led to two major problems for academia in Iran. The first problem is that academia must become acquainted with the general principles of scientific writing and the other problem is to acquire adequate skills to write in English. Some steps, mostly through government initiatives, have been taken to alleviate the first problem. Interested individual academics in various universities and research institutes like myself, (associate professor of dermatology at Shiraz University of Medical Sciences, and member of the Iranian Commission on Medical Journals) and Dr Farrokh Habibzadeh [director-at-large of the World Association of Medical Editors (WAME) and an editorial consultant to the *Lancet*] have presented many scientific writing workshops throughout Iran. Others have also contributed and one can say that most of the academic staff, if not all, receive some form of training in this field. However, the second problem, that of achieving adequate English writing skills, has not been dealt with on a large scale within the country. English medical writing courses are not offered widely at universities and this has led to submissions of manuscripts with poor English. Various native English speakers or non-native speakers who have studied in English-speaking countries or have undergone a good training in English writing skills in Iran, are working with different journals inside the country to help edit texts of submitted English manuscripts. Also, some universities have set-up consultation centres where English text editing is offered to academia. There

are a few private organisations that offer assistance in English text editing and medical writing to their clients.

In conclusion, it seems that although there has been much movement in promoting the general principles of scientific writing amongst academia in Iran, more work needs to be carried out to upgrade English writing skills. It seems essential that while this progress is being made in the ranks of faculty members and researchers, a parallel initiative should be initiated at the level of medical and post-graduate students.

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### Japan

I have been involved with editing and translating medical texts from Japanese to English since 1970 when I first became associated with Tokyo Medical University. The International Medical Communications Center (IMCC) of Tokyo Medical University was first established 16 years ago with the express goal of promoting flow of information from our institution into the international literature. I started the first course that I know of in Japan specifically for English for Medical Purposes (EMP) about 27 years ago at another medical school before returning to Tokyo Medical University.

At the Tokyo Medical University, IMCC (<http://www.tokyo-med.ac.jp/imcc/index.html>), we teach at the undergraduate (6-year MD) and the graduate level. At the undergraduate level, we are implementing a new curriculum that includes a project that has been heavily funded by the Ministry of Education, specifically for EMP. The centrepiece of the course is for the third and fourth year students as they begin their organ system-based clinical lectures. We work in close cooperation with the clinicians responsible for each of the organ sections. Chapters contain the essential vocabulary identified by the clinician in English and Japanese. The second part of each organ section consists of clinical concepts which are written by the clinicians in Japanese. We translate them into English and make exercises concerning comprehension. There is also a patient-doctor interview related to each organ system, and the *New England Journal of Medicine* has given us its permission to use any introductions from original research papers, which are selected by the clinicians. We then produce exercises to confirm comprehension. Beginning a couple of years ago, in my capacity of Vice Chairman of the Japanese Society of Medical English Education, I proposed implementing an examination in competency in EMP. This year we will have our first pilot test in April and September, and a full system should be in operation by next year. Medical writing will be included in the exam for the highest level qualification, beginning in 2008.

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We have also contributed to a site devoted to education in medical writing ([www.ronbun.jp](http://www.ronbun.jp)). In addition, with Brian Harrison as the first editor, Hiromi Kobayashi and Eiko Harrison, we published a 3-book series on Medical English Communications in Japan. This year it should appear in Korean and I would like to get the English version out next year.

I was prompted to set up the communications centre by seeing medical investigators here, especially 37 years ago, extremely frustrated by their inability to break through the wall of the language barrier into international publication. I think the level of writing has improved enormously in Japan, but I do not know to what extent our courses have been of use. I have given lectures extensively throughout the country, mainly at universities, sponsored by various pharmaceutical companies, and these have generally centred on the Uniform Requirements ([www.icmje.org](http://www.icmje.org)), how to handle comments from referees, how to make oral presentations, and many of the topics you can see on our homepage.

The courses in writing in the graduate school only started last year. So, it is very hard to judge their impact. Most of the graduate students do not necessarily feel they have to publish in English although they are probably aware that Asia in general is becoming more and more caught up by the Impact Factor aspect of the various journals to a degree that is not seen in the West.

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## Reed-Elsevier's hypocrisy in selling arms and health

Do Reed Elsevier's priorities lie in promoting health or death and suffering? In an article published in the *Journal of the Royal Society of Medicine*, Richard Smith points out the absurdity of Reed Elsevier simultaneously promoting arms sales by running arms fairs and publishing health journals, which aim to improve health. He quotes the Global Burden of Disease Study which predicts that by 2020 deaths from war and violence will overtake deaths from infectious diseases. In suggesting how influence might be brought to bear on a company with a non-existent conscience, Smith points out that the scientific and medical part of Reed Elsevier's business is the most profitable and this is "because of the extraordinary value of the science it publishes. But the value of that research is created not by Reed Elsevier but by the scientists and academics who produce research, peer review it, and edit most of the journals". Smith suggests that if those researchers were to go elsewhere, the company would promptly pull out of its arms exhibitions, but who will take the lead?

<http://www.rsmprss.co.uk/KA07-02-09.pdf>

## Venezuela

I teach (English) medical reading and writing at the graduate school of medicine at the University of the Andes, Mérida, Venezuela. The medical graduates I teach are studying a specialty such as cardiology, internal medicine, urology, anaesthesiology, etc. The course is part of the university curriculum and is compulsory. If students do not pass the course with a minimum of 15/20, they cannot graduate in their specialty, but they do not receive a separate certificate/qualification for the course itself.

The course was an initiative from the university and started 25 years ago. Reading courses used to be offered at the undergraduate level in our medical school but they are not any more, for budgetary reasons, and, unlike some other schools (e.g. engineering), the graduate school of medicine does not require that entrants have a reading knowledge of English.

My course concentrates on reading comprehension of medical literature (75%) and on writing research articles (25%). The priority is reading because the students generally have a rather poor level of English. I wrote a 'medical reading textbook' that is used in several Latin and Central American (medical) universities. Recently I have noticed that more and more medical graduates have an English certificate obtained from other national universities' language centres. This means that they have passed an English for Medical Purposes (EMP) reading comprehension test. They are therefore able to read the scientific literature written in English before starting their graduate studies at our school of medicine and are exempted from the course I run.

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## Scientists and the lay press

In an article in the *Journal of Clinical Investigation*<sup>1</sup> the journal's science editor, Brooke Grindlinger, advocates that scientists should consider relations with the press part and parcel of their responsibilities. Scientists should present their work to show how it effects everyday life and use simple language devoid of jargon. Journalists in turn must gather the facts, present them accurately and remain aware of their social responsibility. An example of inaccurate reporting of one of the journal's research articles was given. The research in mice suggesting that marijuana use could lead to ectopic pregnancy and/or impaired fertility was interpreted in *Seed Magazine* as meaning that marijuana could be an effective contraceptive.

1. Grindlinger B. Can I quote you on that? *J Clin Invest* 2006;116(11):2832.