of the earthquake was immense. It was felt throughout much of India and as far south as Chennai (Stacey Martin, Earth Observatory of Singapore).

Fears of a future large earthquake in western Nepal are on everyone's mind. The meagre historical record indicates that no contiguous great earthquake has immediately followed a Himalayan $M_w \geq 7.5$ earthquake, but immediacy is an elastic measure of time when it comes to forecasting earthquakes. For example, the 1950 $M_w = 8.6$ earthquake in Assam, India, was preceded by an apparently contiguous $M_w = 7.5$ earthquake just three years earlier.

The emerging view from the meeting was that although the mainshock nucleated near the anticipated location, it was not the long-awaited 'big one' in western Nepal. Given our unsettling lack of knowledge about the 2015 earthquake before it occurred, the best recommendation for Nepal's policymakers is to use this opportunity to reconstruct the entire damaged region incorporating earthquake-resistant construction, and to initiate ubiquitous retrofits of village dwellings throughout western Nepal. According to the expectation of workshop participants, another major earthquake to the west of Kathmandu is unavoidable. And this future quake could be much more powerful. ❐

Roger Bilham is in the Cooperative Institute for Research in Environmental Sciences and Department of Geological Sciences, University of Colorado, Boulder, Colorado 80309-0399, USA.
e-mail: bilham@colorado.edu

References

1. Bilham, R. *Himal Magazine* **7,** 26–30 (1994).
2. Bollinger, L. *et al. J. Geophys. Res.* **119,** 7123–7163 (2014).
3. Bilham, R. *Current Sci.* **69,** 101–128 (1995).
4. Wallace, K., Bilham, R., Blume, F., Gaur, V. K. & Gahalaut, V. *Geophys. Res. Lett.* **32,** L15307 (2005).
5. Martin S. & Szeliga, W. *Bull. Seism. Soc. Am.* **100,** 536–569 (2010).

EDUCATION

Literacy from writing

You haven't fully learned something until you've had to explain it. Many, if not most, science degree programmes recognize the importance of communication skills, both in terms of presentation ability and the implications for learning. For instance, the Swedish Higher Education Ordinance requires students to be able to communicate concepts from their main fields of study to a range of different audiences. Susanne Pelger and Pernilla Nilsson found that having students write popular science articles based on their degree research projects can help achieve this goal (*Res. Sci. Educ.* http://doi.org/57v; 2015).

Students who had completed research projects as part of their degree in biology or molecular biology were asked to write both a traditional account of their results, as well as a popular science-style piece aimed at a general audience. They were given guidance and feedback on both pieces. After the assignments were completed, the students were asked to fill in an open-ended questionnaire about what they learned from the experience, particularly writing the popular science piece. Just under half of the students opted to return the survey.

Of those who responded, most felt that the science writing piece had given them a broader perspective on their topic and how it relates to society. Several students specifically commented that explaining the concepts in simple terms led to a deeper understanding of their subject matter and the aims of their particular project, although this view was not shared by all the respondents. Others pointed out the similarities between this project and teaching.

© ART DIRECTORS & TRIP / ALAMY

Pelger and Nilsson also assessed the changes that were made between drafts of the popular science writing texts. They found that the later versions of many pieces demonstrated a greater use of multiple perspectives and an enhanced ability to reflect on the work and speculate on future directions or applications, all indicators of higher-order learning occurring throughout the project. Intriguingly, despite clear indicators of learning, only a few students specifically stated that they felt their understanding of the subject matter increased. The authors suggest this may mean that these students didn't make a connection between the ability to apply reasoning and reflection to their subject and their own understanding of the subject.

Whether the students recognized this as learning or not, many participants showed an increased grasp of reasoning and interpretation around their broader subject area during the course of the popular science writing project. The ability to construct clear and logical arguments that connect and build from various pieces of evidence is a hallmark of high-quality writing, regardless of whether it is a technical report or a blog post. It thus seems that challenging students to write in many styles can help to develop this vital skill.

ALICIA NEWTON