

CONTINUING PROFESSIONAL DEVELOPMENT: EVOLUTION, COMPLEXITY AND VARIETY OF SCIENCE COMMUNICATION TRAINING NEEDS

How training can fix the existential crisis in science journalism

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Abstract

Science Journalism has been through a huge transition period in the past two decades as digital outlets compete with print media — and that transition is continuing. It's left many science journalists unsure of their place in this new ecosystem and unsure of how best to use the new tools they have been presented with, such as social media. Now is an important time for training in this sector to ensure that journalists — and the publications they work for — can find their place again. There is also a real need for training for new writers — to bridge the gap between their degree and their first job as a journalist.

Keywords

Professionalism, professional development and training in science communication; Science and media; Science writing

There is perhaps no field of science communication that has been affected more by the rise of the internet than science journalism. Just two decades ago, when many of today's writers were starting their careers, anyone wishing to write about science for a popular audience had three main options: work as a newspaper science correspondent, write for a science magazine, or write a book. That was it. Today's writers have many more options, writing for digital-only outlets like IFL Science and BuzzFeed and the digital outputs of existing media. This transition online is a reflection of what has happened in journalism as a whole. Thurman, Cornia and Kunert [2016] estimate that there are now 30,000 journalists in the UK working wholly or partially online.

But science writers also face new competition from scientists themselves, as well as readers, professionals and amateurs who are "simultaneously science content producers and audiences." [Fahy and Nisbet, 2011]. This competition has led to declining circulations and contractions in the number of editorial staff on publications. At the same time, the remaining staff are having to work in new ways. They have a new toolkit to use — social media platforms, blogging platforms, website content management systems, to name a few. The digital revolution has also changed the way science is communicated from being one-way traffic from writer to reader, to a "pluralistic, participatory and social" exchange of stories and opinions [Fahy and Nisbet, 2011].

All this has left many science writers facing a slow-burning existential crisis, unsure of their place in this new ecosystem in which they have lost their monopoly on science news. Some are also unfamiliar with the digital tools they are expected to now employ and, in particular, unfamiliar with the unwritten etiquette of social media and how best to use it to raise their profile and engage with their readers. Such a shift creates an obvious need for training in using the tools and language of this new ecosystem, but also — and most importantly — to help its inhabitants find their place in it.

Unclear path to employment

A yet to be published survey of science journalists working for British print and digital publications shows they are all graduates, and most have science degrees. So while there is no formal requirement for a degree to work in the industry, it is in line with Frith and Meech [2007] assertion that journalism has become "... in effect a career for graduates" and Thurman, Cornia and Kunert [2016] declaration that journalism is now "fully academised". But after gaining a first degree, the route into professional science writing, either as a staff member or regular freelancer, becomes decidedly hazy — in the UK at least. While some writers have science communication or journalism postgraduate qualifications, many do not and so pick up the skills of science writing on the job. This contrasts with Bauer et al.'s Global Science Journalism Report [2013], which indicated that most science writers around the world had journalism training of some sort, although even here, just 26% said they specifically had science journalism training.

In this new ecosystem, traditional journalistic skills, such as being able to spot a good story — having a 'news sense' in other words — and being able to build and maintain contacts that provide new exclusive stories are still highly sought after skills. As is the foundational skill of science writing — the ability to translate the 'raw material', new discoveries, into clear, engaging and accurate stories. It is reassuring that those who have risen to prominence since this new ecosystem came into being, such as Ed Yong and Brian Switek, have built their careers primarily on their talent for this foundational skill.

Multiplatform skills

But today's media ecosystem does require new technical skills. Staff members of many publications are expected to be able to produce video and audio content (for outputs such as vodcasts and podcasts) as well as words. Though it would be easy to overstate the significance of 'multiplatform journalism'. Bauer et al. [2013] found that globally, 35% of science journalists never use podcasts and 38% never produce video content. Similarly, Thurman, Cornia and Kunert [2016] found that 54% of British journalists work in a single medium, and "about a third" work across two.

Anecdotal evidence from my experiences in the science journalism industry indicate that it is generally a working knowledge of video and audio production that are required; more advanced editing and production are handled by specialist staff. This echoes the findings of Brown and Collins [2010] whose study of US newspaper and TV staff, showed that the expectation of skills is not high.

Other technical skills are required too — the ability to use different social media platforms, to work with the content management system of websites, to ensure that

what is written online is search engine optimised and, often, to translate content from print onto other digital platforms, such as apps. Bauer et al. [2013] found that print stories, web stories and Facebook posts dominate the outputs of today's science journalists worldwide. Globally, twitter and blogs are less important, although there are likely to be large geographical differences here.

Then there are the 'soft skills' required in today's ecosystem — the ability to talk in front of camera and on podcasts, and the ability to negotiate the unwritten etiquette of using social media. Related to that, is the ability to build a social media profile, both individually and for the publication they work for, and the relationship between the two.

Transitional training

All of this points to two clear areas of training need — one for new writers, to bridge the gap between degree and the first job as a science writer and another for existing science writers, to ease the transition from the print-only to today's print and digital ecosystem.

My time in the science writing industry (in the UK) showed that editors are mainly interested in two factors when recruiting new science writers — whether as staff members or freelance writers. Can they write and can they produce *credible* evidence that they can write? It's this that acts as one of the greatest, if not *the* greatest frustrations for new writers: to get regular work you need to have articles printed with a reputable publication, but how do you get your first commissions if the editors of these publications want to see work that's already been printed? In many cases these days, the answer lies in work placements (often unpaid) that give an opportunity to write and picking up bits of writing work here and there (often poorly paid).

Given this hazy route of transition from degree to science writing job, there's a strong argument for short, sharp science writing training that is aimed at recent graduates and addresses some of the core skills — how to find stories and how to shape them into clear, engaging and accurate content. The high proportion of staff who work on a freelance basis (32% of the journalists surveyed in Bauer et al.'s global science journalism report were freelancers), indicates that pitching stories and selecting publications to pitch to would also be important skills to teach.

Media companies have little incentive to invest heavily in training of this kind when there is a ready supply of keen, bright graduates willing to take up vacancies. And recent graduates, looking to start their careers have neither the time nor the money to invest in training. So the training needs to involve little time and financial commitment — a new science writer 'boot camp' in today's training vernacular.

With existing staff — especially those who have been in the industry for some time — the training needs to give them the knowledge of the technical skills they need for the new, more complex ecosystem they now inhabit but also the required soft skills, such as social media etiquette and talking in front of camera. Given the fact that generally only a working knowledge is what's required here, again it seems the best fit would be a short course.

But there's also the question of helping existing writers reorient themselves in this new ecosystem; helping them and the publications they work for answer those existential questions. Here it gets trickier. Not least because finding a sustainable place in what has become an incredibly crowded ecosystem is not any easy thing to do.

Scarcity of credibility

Fahy and Nisbet [2011] identify new roles that science journalists have successfully adopted in this new digital ecosystem, such as that of curator — those who gather science news and present it in a structured format and the conduit, who explains the latest discoveries to non-specialists. There are successes from other fields of journalism where businesses have moved from print-only to thriving digital businesses that can be drawn on too. Here one of the main lessons appears to be that while news is not in short supply, trust is a "scarce resource" [Graham et al., 2015].

But still, finding a position in this new and changing ecosystem is complex and, to a large extent, a strategic question for publications rather than just the individuals who work within them. Yet those individuals can collectively make better decisions if they are better informed.

Given how new this print and digital ecosystem is and the specific characteristics of the science journalism industry, this is certainly an area where the cliché 'more research is needed' applies to help answer the existential questions those in the industry are facing. But given the soul searching that is currently taking place, researchers who can reduce the uncertainty with credible ideas based on solid research would undoubtedly find that those in the industry are willing to listen, whether what they are being told is via 'training' or consultancy.

My perspective here is admittedly very much UK centric, based on what I've witnessed in the industry over the past decade, what I've heard from others and what I have read. It would be interesting to know whether others — especially those outside the UK — recognise the picture I've painted and training needs highlighted or whether the changes in their science writing industries elsewhere are presenting other priorities.

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