Teachers as journalists?

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Abstract

I start by considering some of the similarities between journalists and science teachers in their work and then go on to examine three questions that are of importance in dealing with creationism in schools: Is the issue one that is worth dealing with? How might one deal with it? What does one hope to achieve by dealing with it? I conclude that (i) it is worth science teachers dealing with the issue of creationism in schools but only if they wish to; (ii) science teachers should not give the impression that the theory of evolution is scientifically controversial; (iii) while one is very unlikely to change the mind, as a result of school teaching, of someone who does not, on religious grounds, accept the theory of evolution, it is very worth presenting the scientific account of the theory and enabling students to review the evidence for it.

As Joachim Allgaier notes (Allgaier 2011), there are few studies of how science education issues are dealt with in newspapers and for this reason alone his paper 'Who is having a voice? Journalists' selection of sources in a creationism controversy in the UK press' is to be welcomed. Furthermore, for those, such as I, who are based in the UK and have an interest in how issues to do with creationism are dealt with in the media, it's good to have a cool, scholarly analysis of aspects of 'the Emmanuel College case' which excited considerable interest at the time; I was even 'phoned by Richard Dawkins who was keen to expose what he presumed was awful science teaching and suggested to me that the two of us visit the College with a camera crew.

In this commentary I would like to use Joachim Allgaier's paper as a springboard that allows me to examine some of the similarities and differences between the work of the journalists he studied and that of science teachers who have, day in and day out, like journalists, though to a lesser extent, to make decisions about how to react to and deal with new issues of topic interest. Like journalists, teachers operate under considerable time pressures and have preferred sources. They are also accountable, though to different bodies. I concentrate on three questions that are of importance in dealing with creationism in schools. First, is the issue one that is worth dealing with? Secondly, how might one deal with the issue? Thirdly, What does one hope to achieve by dealing with the issue?

Is the issue one that is worth dealing with?

Just as journalists have to decide what is worth reacting to and what is not, so do science teachers. Of course, to a large extent, the issues that science teachers deal with in their lessons are framed by the requirements of a syllabus / specification and the conventions of the discipline – physics teachers are likely to teach ray diagrams even if a syllabus treatment of light does not specify them. Nevertheless, teachers in general and science teachers in particular always have a certain freedom and in recent years science teachers in many countries, certainly in England, have become

especially likely to connect their classroom teaching to events in 'the real world'. In part – although good science teachers have always made links between the science they are teaching and the lives of their students – this is because such connections are encouraged by many curricula that encourage or require teachers to use contexts in their teaching (Gilbert 2006). In part too I suspect it springs from a realisation that science is all too often perceived by students as being of limited relevance (Osborne and Collins 2000; Reiss 2000), and so particular efforts are made to counteract this perception by making explicit the relevance of what is being taught.

For journalists the question of whether it is worth dealing with the issue of creationism is, I presume, helped by the fact that the science-religion question is one of those perennial areas that are always likely to excite strong passions and debate among some. As someone whose academic interests include the science-religion question, sex and bioethical topics such as genetic engineering and our use of animals, I am well aware that all of these frequently make for good copy.

For a science teacher, though, the issue of whether to deal with creationism is not so straightforward. There has been considerable criticism (e.g. British Centre for Science Education 2010) of courses and examinations that have explicitly dealt with creationism and intelligent design and the few examples that there were in England seem to have diminished, possibly disappeared altogether. At the same time, creationism and intelligent design are topical issues if only because of their frequent mention in the media (the UK has just had a lecture tour by Mike Behe, for instance) and the increasing efforts by a range of organisations – e.g. Truth in Science (2010) and the Centre for Intelligent Design (2010) – to get creationism and intelligent design into UK schools.

One can therefore imagine a hierarchy of ways in which science education might deal with the issue of creationism. At its simplest there seem to be four main possibilities:

- There is a requirement in a particular science course to address the issue

- Science teachers are free to decide whether or not to raise the issue with their students
- Science teachers only choose whether or not to address the issue if it is brought up by their students
- Science teachers do not address the issue under any circumstances.

My own view is that the second and third of these possibilities seem the most attractive (*sensu* appropriate – as discussed below). The first, that there is a requirement in a particular course to address the issue, runs into the problem that many science teachers simply do not feel comfortable addressing the issue of creationism. Only rarely is this an issue they have trained to deal with. In many countries, more and more demands are made on teachers (dealing with socio-scientific issues, teaching context-based science, enabling students to develop an understanding of aspects of the history and philosophy of science). Teaching about creationism is a bridge too far.

The fourth, that science teachers do not address the issue under any circumstances, seems unduly restrictive. After all creationists make empirical claims about the world (notably that not all organisms share common ancestors and, in creationist Christianity and Judaism, though not in creationist Islam, that the world is much younger than deduced by science). Are we really saying that such claims lay outwith the compass of science?

The second and third possibilities, that science teachers are free to decide whether or not to introduce the issue with their students or only choose whether or not to address the issue if it is brought up by their students, seem to me both feasible and intellectually defensible. The second possibility allows, of course, for some science teachers to decide that they will address the issue of creationism in their class(es) without necessarily waiting for students to bring the matter up.

How might one deal with the issue?

Allgaier points out an interesting difference between educational and science correspondents. Educational correspondents in his study stressed the importance of 'balanced reporting' in the Emmanuel College controversy whereas the literature on science correspondents shows that they "occasionally show signs of deference towards science and scientists, limiting their ability to produce objective and balanced accounts" (p. xx). This, of course, is to imbue the words 'objective' and 'balanced' with particular meanings. I imagine that many science correspondents would reject outright the accusation that they are limited in their ability to produce 'objective accounts' as science, of course, regards itself as a paragon of objectivity.

Actually, as Daston and Galison (2007) convincingly argue, the notion of 'objectivity' is not quite as straightforward as is generally presumed in science. Even if we set aside the fact that what is meant by 'objectivity' has changed over time, there are times when, for instance, too rigid an adherence to reporting particular instances of phenomena (something normally considered to be truly objective) is less helpful to the reader than "trained judgement based on familiarity and experience" (p. 322).

As far as 'balance goes', this is of particular pertinence in teaching about evolution. 'Balance' can mean two rather different things. On the one hand it can mean a fair representation of the range of views held on an issue; on the other hand it can mean a fair representation of the range of views that can reasonably be held on an issue. In that single word 'reasonably' hangs a great deal. A reporter writing about racism might present a greater range of views than a teacher would when teaching in a school in part because a teacher might consider certain racist views to be unreasonable and, so, not worthy of representation. This is not to suggest that there are no value judgements in reporting – of course there are – but that the particular role that teachers have in the education of the young means that they will not infrequently exclude more from their teaching that a journalist might from their reporting.

With particular reference to creationism, the problems for science teachers are acute. 'Teach the controversy' has become a rallying cry in the USA and elsewhere and is generally used to refer to the argument that creationism and/or intelligent design should be presented as alternatives to the theory of evolution. In everyday language, of course, there clearly is controversy here so the dry seems attractive. However, science teachers may be reluctant to consider this a scientifically controversial matter on the grounds that there is overwhelming consensus within the scientific community that evolution is a well established scientific theory whereas creationism and intelligent design are not. For many science teachers, therefore, this means that it may be fine to teach about the controversy in other parts of the curriculum (e.g. citizenship, politics, history) but not in science.

What does one hope to achieve by dealing with the issue?

Finally, we can ask, what might science teachers hope to achieve by dealing with the issue of creationism by addressing it in science lessons? I have changed my aim when teaching about evolution to those who do not accept it for religious reasons. As I have argued elsewhere (Reiss 2009), people who do not accept the theory of evolution for religious reasons are unlikely to change their mind as the result of the sort of depth and extent of treatment one can give to the subject in school. Creationism is therefore best regarded not as a sot of straightforward scientific misconception – such as the notion that most of the mass of a plant comes from the soil or that objects left to themselves slow down – but as part of a worldview; part, therefore, of a rich, in part self-referencing, conception of reality that is internally consistent and has very considerable explanatory power and force.

For this reason, I feel it makes more sense for a science teacher when teaching about evolution to students who do not accept it for religious reasons not to seek to convert (the use of the word is intentional) them to the scientific way of understanding the biodiversity of life there and then. However, it is, I hold, the job of

science teachers to strive to communicate this scientific understanding to their students, not for the students necessarily to accept it but for them to understand it.

For me, this is also part of a wider aim of education, namely that, within certain limits, it is good for us to know about and understand what others think and why. (I say 'within certain limits' as one might not want to know or understand certain unacceptable thoughts and, in particular, one might not want young people to know or understand such thoughts.) The job of a science teacher is therefore to present a very particular way of understanding the world. For many science teachers, as for me, it is a most powerful and welcome way of understanding the world, a way that has proved quite extraordinarily intellectually fruitful and often of great benefit to us. But it is not the only way of understanding the world and that is why we have a diversity of school subjects. The way an artist, a historian or a mathematician, let alone a theologian, attempts to understand reality is quite different in method and scope from the way a scientist does.

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