

Should children be learning about climate change?

Stephen Scoffham

Children have lots of different ideas about climate change. *'It is something in Antarctica'* said one Year Five child when he was asked what he thought. *'The Earth gets really hot and starts to crack,'* said another. *'It's when you don't close the door and all the hot air goes out,'* declared a third. In just one group of nine year olds, pupils' perceptions of climate change ranged from balanced scientific explanations to egocentric accounts and apocalyptic fears. The child who talked about the Earth *'blowing up in about 30 years'* was working in the same class as the pupil who talked about how pollution creates too much carbon dioxide which then heats the atmosphere *'like a blanket'*. Some pupils displayed considerable knowledge but the majority exhibited a mixture of confusion and ignorance.

It is hardly surprising that children are confused about climate change. Adults are too. The number of climate sceptics had increased enormously over the last decade and a recent survey has found that a fifth of the UK population now don't think that climate change is happening at all (Hope 2013). Yet the evidence for climate change is unequivocal. The amount of carbon dioxide in the atmosphere has increased from a background level of around 280 parts per million in 1800, when the Industrial Revolution started, to nearly 400 parts per million today. Around the globe temperatures have risen the best part of one degree centigrade in the past century and they are predicted to rise much further in years to come (IPCC 2013). Glaciers and ice sheets are retreating in almost every part of the world and unpredictable weather events appear to be becoming more common. In the last six months alone (October 2013-March 2014) there has been unusually heavy rainfall in the UK, a heat-wave in Australia and snow has fallen on the pyramids in Egypt. Meanwhile the drought in California continues.

Why are scientific knowledge and public perceptions so divergent? One possible reason is that there are powerful vested interests involved and that the oil industry in particular sees global warming as a threat to its business. At the same time there have been a spate of media reports which appear to be designed to cloud and confuse the issues. It is also the case that global warming is an unwelcome message. Reducing carbon emissions involves huge costs and the impact on life styles and aspirations is likely to be considerable. Some people are hopeful that technology will come up with solutions. Quick fixes are appealing, particularly if the alternative is to make personal sacrifices. Others are tempted to deny there is a problem in the first place and are deliberately looking the other way. Global warming raises many unsettling questions: exploring them can be a disturbing process.

Discuss what you think about global warming and what is causing it? Can you recall where your ideas came from? How might your life be affected, both positively and negatively, by the changes resulting from global warming?

It is often assumed that global warming is a scientific problem and that scientists will know the answers to it. While scientists may be able to explore and explain the processes involved, the challenges presented by global warming require multiple perspectives and involve a range of disciplines. There are also strong political, social, economic and moral dimensions. This suggests it is

unlikely there will be simple solutions or definite answers. The web of inter-connections and feedback loops which combine to create global climate, mean that an intervention in one part of the system is bound to have unexpected consequences or knock-on effects elsewhere. In such circumstances the validity of a solution depends not so much on what happens but on who devises it and the criteria against which it is judged. Furthermore, any intervention is liable to have the effect of changing the nature of the problem itself. 'Wicked problems' of this kind are long term, ill-defined and untestable. They have been contrasted with 'tame problems' which are largely linear in form and susceptible to tests that can be repeated (Rittel and Webber 1974). For many, people living with uncertainty is a challenge which they find difficult to accept.

Understanding global warming also involves psychological dimensions. The way that we struggle with the complex mix of desires, anxieties, defences and needs which punctuate our lives is reflected in the way that we respond to the environment. Psychodynamic theory concentrates especially on how we internalise the helplessness which we experience in the first weeks of life. It postulates a number of models such as 'splitting', 'projection' and 'infantile omnipotence' to account for how we become socialised through a prolonged process of careful nurturing. However, in situations of acute anxiety even apparently balanced adults may revert to the strategies that they used as babies. Sander and Conway (2013) suggest that global warming can provoke such anxieties because we know that at some deep level our survival is at stake and that we are dependent on forces we are unable to control. Furthermore, they speculate that extreme positions, either for or against climate change, show parallels with infantile thinking and the delusion that we can manipulate the forces which threaten to overwhelm us.

Can you think of different examples of denial? Do you think it makes sense think of climate change in these terms?

The English national curriculum for primary schools is curiously silent on the subject of global warming. There is no explicit mention of it in the Programmes of Studies for science or geography or any other subject for that matter. This reflects a very conscious choice as the government received many submissions on this topic during the consultation process. It would seem that global warming, arguably the meta-narrative of the twenty first century, is not deemed suitable to be designated as a primary school topic.

Primary school children are well aware that climate change is occurring and they have understandable anxieties about it. Teaching children about what is happening in the world around them can empower pupils and build their capabilities for the future. Alexander's review of the primary curriculum confirms that the children 'want to learn about global warming' (2010 p65) and that 'pessimism turned to hope' where 'schools had decided to replace unfocussed fear by factual information and practical strategies for energy reduction and sustainability' (2010 p189). Similarly, Hicks (2012) sets out a powerful vision of how and why education should be helping young people face the future with as much confidence as possible if they are to discharge their wider role in society. Working together with others, often in practical and participatory learning situations, appears to be particularly effective in promoting positive engagement. A spirit of hope and optimism does not have to be based on bland optimism.

But the argument for teaching children about climate change goes deeper than this. If we accept a commitment to inclusive values we accept a commitment to the well-being of future generations. It

is already apparent that global warming is undermining the quality of lives of millions of people around the world, particularly those who are poor or marginalised. Booth and Ainscow (2010) argue that 'ecological literacy' is, quite simply, the most fundamental aim of education. And they believe that this should grow out of an understanding and respect for nature, out of building our sense of identity and belonging, rather than a fear of catastrophe.

Global climate change is one of a number of pressing problems which have come to the fore in the twenty first century as the planet comes under increasing strain. The depletion of natural resources the loss of biodiversity and the degradation of soils and habitats are other examples of what has come to be termed the 'environment crisis'. Yet rather than focusing exclusively on the environment, perhaps we should also be exploring the values that we hold and the narratives which underpin our lives. Lovelock (2007) argues convincingly that nature will always find a balance. The question is whether we will have the wisdom to find ways to live within our means before we irreversibly undermine the planet that supports us.

References

- Alexander, R. (2010) *Children, Their World, Their Education*, London: Routledge
- Booth, T. and Ainscow, M. (2010) *Index for Inclusion*, Bristol, Centre for Studies on Inclusive Education
- Hicks, D. (2012) *Sustainable Schools, Sustainable Futures*, Godalming: World WWF
- Hope, M. (2013) 'Poll Appears To Show Growth in Climate Skepticism – But what kind is it?' *The Carbon Brief*, available at <http://www.carbonbrief.org/blog/2013/09/poll-appears-to-show-growth-in-climate-skepticism-but-what-kind-is-it/> (Last accessed 2.4.2014)
- IPPC (2013) *Summary for Policy Makers: Fifth assessment report of the intergovernmental panel on climate change*, Cambridge: Cambridge University Press
- Lovelock, J. (2007) *The Revenge of Gaia*, London: Penguin
- Rittel, H, and Webber, M. (1974) 'Dilemmas in a General Theory of Planning' In *Policy Sciences*, 4, 155-169 Elsevier: Amsterdam
- Sander, J. and Conway, P. (2013) *Psychological Approaches With Sustainable and Global Learning (Think Global Thinkpiece)*, London: Development Education Association

To explore climate change, environmental issues and the implications for education in greater depth go to: <http://www.canterbury.ac.uk/exploring-sustainability/>

Stephen Scoffham is an advisor/consultant for school atlases and the author of many primary school geography texts. His interests include creativity, sustainability, environmental education and global perspectives. A Principal Lecturer in the Faculty of Education, Canterbury Christ Church University, UK, Stephen is currently Director of the *Futures Initiative* which aims to develop sustainability perspectives in all areas of the University's academic life. Stephen is also Honorary Publications' Officer for the Geographical Association and a trustee of a local development education centre (WEDG).