

RESEARCH AND YOUNG PEOPLE

We Flew to Johannesburg

Martin Ashley interviews some young delegates to the Earth Summit

"You could have a separate lesson from science called environmental education where they learn about this."

Agnieszka Sassano and Lucy Bowerman are Y9 pupils, and their friend James de Souza is in Y10. All three attend Bishop Ullathorne RC School in Coventry. They might well be regarded as representative of the next generation of environmentalism, for each, in their own way, is committed to a pro-environmental life stance. Each of them will carry, probably for the rest of their lives, memories of the excitement of flying to Johannesburg in September 2002 as young delegates to the Earth Summit. Their trip was organised through the Catholic Youth Movement and Your Wake Up Call (see Environmental Education Vol. 70, pp34 - 36). It was supported to the tune of £4000 by Jaguar cars.



The three have had, as a result of their experience, more than their fifteen minutes of fame as minor media celebrities. Possibly they thought I would be just another reporter, in which case they were in for a shock! My visit turned out to be rather a different experience as the three were swallowed up by an academic research programme. The programme, which has been running for some time, is looking at the interaction between scientific understanding and values in the determination of life stances and behaviour toward the environment. The current context of air travel, cheap flights and the claim of the Earth Summit organisers that their event was carbon neutral provided the background.

We began with an exercise designed to clarify values positions and identify the level of understanding of environmental economics with regard to cheap flights. Where, I asked, would you most like to go on holiday next year? Agnieszka wanted to go back to South Africa. James fancied Egypt, ('to see the pyramids'), whilst Lucy set her sights on Australia or New Zealand ('they're really big and there are loads of shops'). Each agreed that they had chosen places that could only practically be flown to. Time for the good deal, then. "You have £500 to spend, and there are two possibilities. You could go on a regular flight with British Airways, costing about £3 - 400, or you could fly with a cheap airline for only about £100. You can keep the remainder of the £500 as spending money for when you get there."

James played the part of the 'rational consumer' and chose the cheap airline. "Why?" I asked. "So that you can make the most of your holiday," he replied with simple logic. Both the girls, however, opted for British Airways. Could this be evidence of a gender divide, with the boy exploiting the environment for his own pleasure, whilst the girls chose the informed and altruistic option? It would seem not from the following conversations. MA: "So why would you fly with British Airways?" Agnieszka: "They've got nice planes." MA: "Why are the other airlines cheaper?" Agnieszka: "They might lose your bags. The seats are dirty and you never know what you'll find in the food. They might be old cargo planes." MA: "And why would you fly with BA Lucy?" Lucy: "It's reliable, not like EasyJet. You don't know what's on the plane. They might have spat in your food. BA stewards are paid more and they look after you better....oooh, it's just another cheap scape."

Clearly there is something of interest here to market researchers who might be employed by these airlines. For our purposes, however, we have to consider that James displays no awareness of environmental economics and, ignorant of the related arguments, makes the perfectly rational judgement that keeps the cheap airlines flying. The girls do not show any awareness of environmental economics either, but are rather more inclined than James to exhibit a simple consumer prejudice against something that's cheap and, by implication, nasty. In all probability, it is James who has made the most realistic decision.

The conversation then moved on to science. "What causes climate change?" I asked. The young people conferred. "Pollution." "Is it global warming, ..is it...I think it is." "It's climate and it affects us." James then gave a more considered explanation, which was as follows. "I think it's when layers of pollution form and the pollution traps it underneath, causing the temperature to rise." Have you covered this in school?" I asked. "No," replied James. "A bit of it, but we haven't gone into any detail," replied Agnieszka. "Can any of

you name any greenhouse gases?" I asked. Agnieszka suggested hairspray, James suggested CO₂ and Lucy suggested CFCs in fridges. Clearly, there was some awareness here, so I pressed for an explanation of what greenhouse gases are and what they actually do. Agnieszka: "A gas that affects the climate." Lucy: "When all these CFC gases get to the ozone layer, the ozone starts to disintegrate." Agnieszka: "The Sun shines through really hard." MA: "Is that why the Earth warms up?" Agnieszka: "Yes....." Lucy: "That's why you shouldn't use them."

This conversation reveals nothing that is not already known by science education researchers. Classic features are the generalised use of the term "pollution" and the confusion of ozone depletion with the greenhouse effect. These misconceptions recur time and time again and have done so for many years. They have been identified by researchers, yet the outcomes of science education seem to remain unchanged. Significantly, an important earlier finding of my PhD research (Ashley, 1998) seemed to be upheld. This was that young people have some awareness of the 'oughts' of pro-environmental behaviour, but have arrived at this through sources other than school science. Scientific understanding of the justificatory reasons for the 'oughts' ranges from weak to non-existent. A fundamental question, to which there is still no conclusive answer, thus concerns weakness of will. If a person knows that they ought to act in a certain way to conserve the environment (or support sustainable development) but do not do so in practice, is this because they do not really value the environment, or because they do not understand the science, or a combination of both?

I asked Agnieszka, Lucy and James to repeat one of the tests from the original research. Could they rank cars, ships, trains and planes roughly in order of energy efficiency and CO₂ emission per unit of payload? Two out of three of them correctly identified planes as the least efficient or worst polluters, with cars in second place, whilst the other one put cars in the worst place but planes in the best. This reveals a level of awareness similar to the 400 Y6 and Y9 pupils that were originally questioned. It is a limited form of knowledge which seems to have been absorbed from a variety of unidentifiable sources, rather than to result from a planned and systematic curriculum. We next went through the basic science, pointing out concepts such as the fact that an aircraft must convert an enormous amount of energy simply to lift its passengers up into the sky before it goes anywhere, whereas a Y9 pupil is strong enough to move at least fifty people floating in a canal barge.

Judging by the fact that we had been talking well over an hour but that the three seemed fully engaged and very willing to go on, they were interested by these ideas. I moved the conversation on to asking whether, now that they understood a little more of the science, they would change their minds about how they would take their holidays. I put it to them that environmental considerations might suggest a holiday in Europe reached by train could be chosen in preference to a cheap flight to a supposedly exotic destination. Candidly, James admitted that he wouldn't change his

mind, whilst the others seemed unsure. I progressed the questioning to some basic economic theorising. MA: "If air fares went up, would fewer people fly?" All three: "Yes!" Lucy: "Most people wouldn't afford it." MA: "Is that what we want?". James: "Yes." Agnieszka: "That'll be good." MA: "So, James, would you *still* fly?" James: "Er....yeah." MA: "In your last newspaper interview, you said, Lucy, that 'we want to try to help the environment by raising awareness about preventing pollution by doing things like not dropping litter on the floor'. I agree with you that it's important not to drop litter, but if you could decide what you're taught at school, what would be more important, learning about not dropping litter or learning about controlling air travel?" Lucy: "Air!.....well..I don't know. They're both important."

In order to take the heat out of the immediate dilemma and pursue the idea about whether scientific understanding affects our behaviour, I asked about younger children and leaving lights on. MA: "Why do you think young children sometimes don't turn the lights off?" Lucy: "'Cos when they get older..." Agnieszka (interrupting) "'cos no one tells them." Lucy: "At school they should encourage it." James: "They should start them at a younger age." MA: "How would this help?" Lucy: "Energy saving." Agnieszka: "TVs on standby. If nobody left their TV on standby there would be one less power station in England." Lucy: "It saves *you* money." MA: "What would you say to a nine year old who says 'why should I?'" James: "Um...I don't know...say to a nine year old...to my brother...I'd ask him why and if it's worth it, the risks of it, how much it saves." Agnieszka: "Show him the bill. If it's too high you won't get your game boy."

Clearly there is, as we would expect from research undertaken some years ago by Jahoda, a basic understanding of economic concepts and the relationships between economics and behaviour. Similarly, there is an awareness that the wasteful use of energy is bad for the environment. Arguably these ideas owe little to direct, explicit teaching in school, and more to general impressions gained through the media and interactions with family and friends as well as a certain degree of cognitive maturation. The current curriculum is not structured so that science is taught in context and linked with geography, applied technology, economic understanding and such areas as moral and social development and the articulation of values.

I concluded the interview first of all by apologetically asking the pupils whether I'd given them a hard time. "Yes!" was the unanimous reply. MA: "You liked that?" "Yes, we had to think." MA: "Whose fault is it do you think that you don't know some of the stuff we've talked about?" Lucy: "The government's. There are good teachers, but they should teach more of this. Some people in my class don't know what biodiversity is, - or deforestation, or global warming. They haven't a clue." James: "You could have a separate lesson from science and call it environmental education, where they learn about this."

Conclusion

In many ways, James perhaps could have the last word in this article. Any further concluding thoughts seem superfluous. However, it is worth pointing out that in Agnieszka, Lucy and James, we have the kind of committed, caring young people that are needed if environmental issues are to remain a consideration in the future. We also have honest and open young people who are prepared to admit that their behaviour is often governed by the rational consumer principle. We all face conflicts between our environmental consciences and our desire for comfort or personal fulfilment. Those of us that are interested in the environment are often interested in travel and in visiting environments in different parts of the world. Almost inevitably, that means air travel. Is it realistic or desirable simply to campaign against air travel?

I would suggest not. Perhaps a more appropriate campaign might be one against the rhetoric of sustainable development. This article has exposed a fundamental and inescapable values question. Sustainable development means targets to reduce the growth in air traffic, probably implemented through economic incentives and basic policies such as the taxation of aviation fuel and a worldwide carbon emission levy on the airline industry. Conventional

economic development means largely the opposite. The values judgement that needs to be made is that of which comes first in the order of political priority. We have a clear answer to that question, which does rather relegate the current government's talk of sustainable development to the level of posturing and rhetoric.

The argument might be used that one country cannot act alone in the face of such a fundamentally global issue. This is undoubtedly true, but we need also to consider the nature of the school curriculum. The recent House of Commons Select Committee report that has dubbed science education "boring" and the continued vote against science education by young people choosing not to study it at "A" level are legitimate matters of concern for the readers of *Environmental Education*. Between the ages of 8 or 9 and 15 or 16, there is probably a unique window of opportunity in which early childhood values of delight in the world around us can be harnessed to a developing understanding of many of the concepts traditionally associated with science, technology, geography, economics and politics. That way, we might avoid the disparate extremes of rampant hedonistic consumerism and meaningless gestures about the importance of education for sustainable development. This requires a very different approach to the curriculum than the one we currently have. Perhaps James should have had the last word.

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