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# Teaching controversial environmental issues: neutrality and balance in the reality of the classroom

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*Background*
Environmental issues are frequently controversial and involve conflicting interests and values. Much environmental education literature explicitly encourages teachers to promote pro-environmental attitudes and behaviours amongst their students, despite evidence that teacher support for such a policy is ambiguous at best. The literature on teaching controversial issues provides conflicting advice for teachers, though many authors advocate the adoption of a neutral or balanced approach. However, there has to date been little research into the strategies which teachers actually adopt in teaching about controversial environmental issues.
*Purpose*
This research aimed to address the gap in the literature by investigating the beliefs and practices of three experienced geography teachers teaching controversial environmental issues in English secondary schools. The study draws upon both interview data and transcripts of classroom interaction.
*Sample*
Three experienced teachers delivering an A-level geography course (Schools Council 16–19) were selected and studied, along with a specific group of their students (aged between 16 and 18 years). A non-interventionist approach was preferred; therefore it was necessary to find classrooms where controversial environmental issues were already being taught. This particular geography course was selected primarily because of its strong focus on environmental topics, and experienced teachers were selected in order to provide a richer depth of practice to draw on.
*Design and methods*
The research utilized a multi-site, instrumental case-study approach, involving the study of three different cases, each illustrating the research focus (of teaching controversial environmental issues) in a different school. The three cases were studied sequentially over the course of two years, and involved spending a total of 5–6 weeks at each site. Within each case study, a series of lessons was observed and semi-structured interviews carried out with teachers and selected students from each class. The lessons were recorded on audio tape using a lapel radio-microphone worn by the teacher.
*Results*
In line with much of the literature, the findings reveal that these teachers believed they should adopt a 'neutral' or 'balanced' approach to teaching controversial environmental issues. However, in the reality of the classroom, such an approach proved unsustainable and the teachers experienced significant difficulties in enacting their beliefs. A detailed analysis of classroom interactions demonstrates that the influence of their own attitudes was greater than they either intended or, in all probability, realized.

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*Conclusions*
The analysis suggests that teachers have to choose between explicitly or implicitly expressing their attitudes (through questioning or by control of students' turns in discussion). The study also demonstrates how—through looking in detail at classroom interactions—it is possible to make visible this aspect of the 'hidden curriculum'.

Keywords: *Environmental education; Controversial issues; Hidden curriculum; Classroom practices; Teachers' attitudes; Teachers' beliefs*

## Introduction

Environmental education (and, more recently, education for sustainable development) plays a key part in the curriculum of UK secondary schools, particularly in geography and science. However, environmental issues are frequently controversial and involve conflicting interests and values. They are poorly understood in the general population and, even amongst the scientific community, there may be debate about the causes and effects of environmental problems, or even about the existence of some problems (Stevenson, 1987). This provides a problem for teachers, who have the daunting task of presenting extremely complex and emotive issues to their students in a coherent and unbiased manner. Unsurprisingly perhaps, teachers are often accused of failing at this task, and of indoctrinating children with simplistic 'green slogans', rather than teaching a deeper understanding of the complexity of the issues (Storm, 1990–1; Jickling, 1992; Aldrich-Moodie & Kwong, 1997). To compound these problems, much environmental education literature explicitly encourages teachers to promote pro-environmental attitudes and behaviours amongst their students (e.g. NCC, 1990; CCW, 1992), despite evidence that teacher support for such a policy is ambiguous at best (Lee, 1993; Ballantyne, 1999; Cotton, 2006). Moreover, the 1996 Education Act explicitly prohibits 'the promotion of partisan political views in the teaching of any subject in the school' (GB, Statutes, 1996, Section 406).

The literature on teaching about controversial issues provides some guidance for teachers, mainly focusing on three key aspects of teaching strategy: neutrality, balance and commitment. The Humanities Curriculum Project, one of the first areas to give controversial issues serious consideration, advocated 'procedural neutrality'—in which the teacher acts as a neutral chair of classroom discussions—in order that teachers did not use their position of authority to promote their own opinions (Schools Council and Nuffield Humanities Project, 1970). An alternative option entails presenting a 'balanced' picture, in which the teacher offers students 'a range of alternative viewpoints' (Stradling *et al.*, 1984), a position that is reflected in the 1996 Education Act in England. Under this legislation, teachers are required to ensure that 'where political issues are brought to the attention of pupils . . . they are offered a balanced presentation of opposing views' (GB, Statutes, 1996, Section 407). The final position, that of 'commitment', appears very strongly in the environmental education literature, in which teachers are encouraged to act as agents of change by, for example, 'promoting positive attitudes towards the environment' (NCC, 1990, p. 6). However, even within this document, there is little conceptual clarity, as

teachers are advised in the next sentence to encourage 'independence of thought' amongst their students, a seemingly contradictory statement.

Whilst both neutrality and balance appear to make sense in the context of teachers' desire to avoid indoctrination, they have also been heavily criticized in the literature. For example, Carrington and Troyna (1988) note that balance is a problematic concept, and may be very difficult to attain. Oulton *et al.* (2004b) argue that the requirement to maintain balance is 'unhelpful', as perfect balance is probably impossible to achieve. The procedural neutrality approach has also been heavily criticized by, for example, Ashton and Watson (1998), who argue that teachers should enter into dialogue with the students in order to demonstrate that their views are being taken seriously, or to counter 'massive prejudice' if this exists. They also express 'serious doubts about the possibility of not conveying points of view, however hard one may try to avoid doing so' (Ashton & Watson, 1998, p. 188).

Although much of the controversial issues literature advocates the adoption of a neutral or balanced approach, there is some degree of support for 'commitment' of various kinds. Kelly (1986) proposes 'committed impartiality', in which teachers are able to express their own views, but should explicitly encourage students to critique and evaluate them alongside other positions. Ashton and Watson (1998) advocate 'critical affirmation', whereby students are actively encouraged to take on board the views of others, and Oulton *et al.* (2004b, p. 417) suggest that 'teachers should make their position explicit at the start of the exercise so that pupils are aware of potential bias'. However, given the constraints of the 1996 Education Act discussed previously, it is not at all clear how teachers should proceed.

## The current study

A review of the literature in this area reveals that there has been little research into the strategies that teachers adopt in teaching about controversial environmental issues. Much existing research in environmental education has involved either large-scale surveys of teachers' attitudes (e.g. Lee, 1993; Tomlins & Froud, 1994; Ballantyne, 1999; Grace & Sharp, 2000), students' attitudes (e.g. Richmond & Morgan, 1977; Hausbeck *et al.*, 1992; Morris & Schagen, 1995) or classroom interventions that attempt to change students' attitudes (e.g. Yount & Horton, 1992; Showers & Shrigley, 1995; Uzzell, 1999). These studies have provided little insight into teachers' beliefs and normal classroom behaviours. The few recent studies which have investigated teachers' beliefs about teaching controversial issues in other curriculum areas have largely neglected to incorporate classroom observation, being reliant instead on *post hoc* reports of behaviour (e.g. Cross & Price, 1996; Oulton *et al.*, 2004b).

This study aimed to provide an alternative perspective by investigating the beliefs and practices of three experienced teachers in English secondary schools, drawing upon both interview data and transcripts of classroom interaction. An A-level geography course (Schools Council 16 – 19) was selected because of its strong focus on environmental topics, and particularly the more controversial aspects, in the hope that it would provide plentiful opportunities for observing such issues being taught (see Table 1 for some examples of issues studied). A non-interventionist approach was

Table 1. Details of research participants, and controversial issues being taught

| | Teacher 1: Mary | Teacher 2: Sam | Teacher 3: Chris |
|---|---|---|---|
| Position in school | Head of Geography | Geography teacher | Geography teacher |
| Years' teaching | 24 | 4 | 25 |
| Gender | Female | Female | Male |
| School size | 2000 | 1000 | 1000 |
| School situation | Rural | Urban | Rural |
| Year group studied | 12 | 13 | 12 |
| Example of controversial issue | Indigenous people's land rights in the rainforest | The role of NGOs in governing Antarctica | Reconciling the needs of conservation and tourism in National Parks |

preferred, since the research aim was to focus on current practice rather than on a limiting view of 'ideal' practice; therefore it was necessary to find classrooms where controversial environmental issues were already being taught. Observations took place from the start of the topic in order to determine—as far as possible—pupils' prior learning. Class sizes ranged from 11 to 18 pupils, and the age range was between 16 and 18 years.

The research utilized a multi-site, instrumental case-study approach, involving the study of three different cases, each illustrating the research focus (of teaching controversial environmental issues) in a different school. The three cases were studied sequentially over the course of two years, and involved spending a total of 5–6 weeks at each site (Table 1 provides some brief biographical details about the teachers involved). Within each case study a series of lessons was observed and semi-structured interviews carried out with teachers and selected students from each class. The lessons were recorded on audio tape, using a lapel radio-microphone worn by the teacher. The lesson observations provided a background of shared experiences that enabled specific incidents within lessons to be discussed with both the teacher and students. This constrains respondents to 'concentrate on real and shared events rather than imagined reconstructions' and provides 'means for a limited check... on the teachers' accounts of what had happened' (Brown & McIntyre, 1993, p. 36). In addition, the classroom observations in this study served another purpose, that of providing supplementary data on the teaching strategies selected by the teacher, and the teachers' and students' contributions to classroom discussions. This corresponds to Menzel's request for an outside observer's account of a social episode, alongside the explanations that participants themselves give (Menzel, 1978), to provide a deeper understanding of the situation.

## Findings: the teachers' beliefs and practices

An analysis of the teachers' beliefs, reported in an earlier paper (Cotton, 2006), suggests that all three teachers were in favour of taking a balanced or neutral role in

their teaching about controversial environmental issues. By this means, they aimed to provide access to a diversity of views whilst, at the same time, to avoid stating their own views:

> I think it's important to give a balanced view and I'm not out there to turn them into green, banner-waving fundamentalist environmentalists... They've got to come to it themselves, I don't think we should be imposing our views on them. (T1)

The teachers used a variety of different resources and teaching activities in order to achieve a balanced coverage of the issues and provide access to a diversity of opinions. However, although all three teachers spoke in terms of 'balance', the stance chosen by them also appears to have similarities to the 'neutral teacher' role, emphasized by one teacher's comment that he hoped he had 'demonstrated neutrality' in his previous lesson. Echoing the findings of Cross and Price (1996), all the teachers believed that they should not impose their views on the students, and they were generally wary of expressing their own views in lessons:

> I don't want to prejudge the situation. I want them to come to their own viewpoints. And if they've exchanged their viewpoints, I might well say, 'Well that's interesting, now my viewpoint is ...'. But no, I haven't stood up and banged a gong and said: 'this is what I firmly believe!' (T3)

This combination of beliefs provided something of a dilemma for the teachers: how could they provide students with access to a diversity of views, whilst avoiding stating opinions themselves or becoming actively involved in argument and debate? The analysis of classroom observation data identified three main teaching strategies that the teachers used in order to enact their key beliefs, namely:

- *Strategy 1*: *Eliciting students' personal views*—this might be via 'open elicitation' (a question directed at the whole class), or 'closed elicitation' (in which the teacher elicits a specific view, either by nominating a specific student or requesting an alternative view).
- *Strategy 2*: *Enabling students to discuss their own views*—this strategy refers to occasions when the teacher allows students to discuss their own views about issues in a whole-class situation but with limited input from the teacher.
- *Strategy 3*: *Challenging students' views*—this strategy refers to occasions when the teacher challenges views of one or more students. The teacher may use questions or statements, but in either case the intent is to express a contrary view.

In the remainder of this paper, each of these strategies is illustrated, using examples from a single lesson in case study 2 (a discussion about the governance of Antarctica in a topic on 'Wilderness regions'). This lesson was selected because of its potential for illustrating all three strategies, though there are many other examples from each case study (see Fido, 1999).

### Example from case study 2: the role of NGOs in Antarctica

This extract starts with the teacher opening up discussion with a question aimed at *eliciting students' personal views* (strategy 1, lines 1 – 2):

1 T: OK, do you think, do you think that we can . . . it is the sole responsibility of these
2 different states? What about NGOs, what about non-government organizations?
3 Dan: I think they should have a major say in it as well.
4 T: Why?
5 Paul: Non-government, non-elected in other words?
6 Dan: Yeah, because they do sometimes have good qualities to point out.
7 Paul: They're unelected though . . .
8 Dan: [*Interrupting*] Yeah, but often they're . . .
9 T: Paul, Paul, make your point.
10 Paul: People like Greenpeace aren't representation of a whole thing, they're not
11 elected, they're just a business.

The question involves 'open elicitation'—all students are welcome to respond and the respondents are encouraged to explain their views. In this particular example, the question was the catalyst for a heated debate about the issue, involving a great deal of student interaction:

19 Jake: No, they don't have the facilities and the resources to, erm, have so much,
20 er . . . research stations as the government.
21 Lara: But they don't have darkened motives.
22 Jake: How do you know?
23 Paul: Not darkened motives! Of course, they do.
24 Vanessa: [*Jokingly*] They're not evil, Paul.
25 T: Vanessa, what were you saying? Why do you think they're needed?
26 Vanessa: [*Laughs*] I was just saying . . . Well, they give some protection to the . . . country.
27 T: Is that necessary here?
28 Vanessa: Well, yes . . .
29 Dan: Yes.
30 Vanessa: It'd be plundered otherwise.
31 T: Would it? According to the Treaty, they're not going to plunder it.
32 Vanessa: Yeah well!
33 Dan: No, that's only because Greenpeace have a say in the Treaty because they are sort of . . .
34 Paul: What? They have nothing to do with the Treaty.
35 Dan: Yes, they do, because they go into the meetings, they suggest . . .
36 Paul: Oh yeah, alright then. But they're just a limited company in Britain, no more
37 than that. They're not elected, they're not . . .
38 T: So . . .
39 Vanessa: It doesn't mean they're stupid and ignorant, Paul.
40 Paul: Well, it means that they shouldn't have the right to rule the world if they're non-elected.
41 Vanessa: We're not giving them the right to rule the world.
42 Dan: Paul, we're not giving you the right to rule the world!
43 Paul: What?
44 Jake: What? . . . Irrelevant, Dan [*laughs*].

In the ensuing debate students are able to *discuss their own views* (strategy 2, lines 19 – 24, 32 – 44) with each other, relatively free from teacher involvement. Student comments are not usually addressed to the teacher but to others in the class. Whilst this discussion developed from 'open elicitation', it involves a subtle shift in power away from the teacher on to the students as they control the direction and content of the interaction.

The teacher's subsequent involvement appears focused on encouraging students to express or explain their views, as she attempts to take on the role of neutral chair, later reiterating the question and asking for a show of hands to demonstrate whether they agree or disagree ('open elicitation', lines 72 – 74):

72 T: How many of you feel . . . let's do it right this time . . .
73 How many of you do feel that it's a good thing that Greenpeace are kind of on the
74 edge of all of this? Put your hands up [*Dan, Jake, Lara, Vanessa, Jenni agree*].
75 T: Paul's [*laughs*].
76 Jake: It's a good thing to have all these green things. They raise questions and make
77 the public aware and make sure that the, er, some of these things do . . . But to give
78 them as much power to have a huge right of say into something like this is ridiculous. It shouldn't be done!
79 T: Right, so you . . . ?
80 Jake: You should have them lobbying on the outside instead.
81 T: OK, so that's what you think their role is? And, Paul, what do you think of that?
82 'Cause you were kind of 'no' [*laughs*].
83 Paul: Well, they shouldn't have any power, obviously, but they can express their feelings.

In this extract, the teacher also uses 'closed elicitation' (lines 81 – 82), in order to draw out a specific viewpoint from a student. Use of this strategy appears to reflect the teacher's desire not to get too involved in discussions, and provided her with a means of illuminating a diversity of views, all presented by the students themselves. For much of the next stage of the discussion, the teacher says little, intervening only briefly in an apparent attempt to encourage one of the students to expand her argument. The majority of the talk is dominated by the students.

However, as the argument between the students becomes more heated, the teacher's role appears to move towards one of 'referee', and she intervenes in the students' discussion to enable all sides to have their arguments heard, but does not offer support for either one or the other:

111 Jake: I was saying would she like the Green Party as being, er government? And she
112 shook her head.
113 Lara: No, no.
114 Jake: No, why not?
115 Lara: But that's totally irrelevant.
116 Jake: No, what's the difference?
117 Lara: Greenpeace is a different . . .
118 Jake: They're still fighting for conservation as they call it.
119 Lara: I know but they don't have very good ideas on education or . . .
120 Jake: Just because they're politicians. What's the difference between politicians and
121 a bunch of hippies?

122 T: Go on, Vanessa . . . shh . . .
123 Jake: It's ridiculous!
124 Vanessa: The point is . . . OK, right. You've got a continent that is totally natural,
125 yeah. It hasn't got any inhabitants . . .
126 Jake: Yeah, why should a body though, unelected . . .
127 T: No, let her finish, Jake . . . Jake, let her finish!
128 Vanessa: Yeah, right. So, it's totally uninhabited yeah, and you want to come in and
129 exploit it and take all the minerals out [*Jake: yeah*] and they want to conserve it [*Jake:*
130 *yeah*] . . . which is fair enough because . . . But, but then they don't have to have any
131 sort of political training [*unclear*]. Yeah, but they don't . . . nothing needs to be
132 politically run in Antarctica. They don't need to govern . . . No, but they don't you
133 see, they don't need to say, OK, right then, we'll give money, they have no idea how
to do that. That's a totally irrelevant issue.
134 Jake: Exactly, and why should we give a job such as running a continent into the
135 hands of amateurs? [*Confused uproar apparently from rest of class.*]
136 Vanessa: Yes, no but . . .
137 Jake: They haven't got the resources to, erm . . . run a continent!
138 Vanessa: Yeah, but it's a totally different . . .

Again, the majority of the discussion is between different students in the class, and comments are not directed through the teacher, as in most classroom interaction (e.g. the 'essential teaching exchange', described by Edwards and Westgate (1994)). In this extract, the students have a much wider range of roles than normal. Rather than being passive recipients of the teacher's knowledge or respondents to questions asked by the teacher, students ask questions of other students, answer questions posed by other students and several attempt to take on the role of expert usually reserved for the teacher.

Maintaining a neutral stance in the face of a heated debate proved less than straightforward, however. The teacher did subsequently get significantly more involved in this discussion, *challenging students' views* (strategy 3) by arguing, in particular, with Jake and Paul:

137 Jake: They haven't got the resources to, erm . . . run a continent!
138 Vanessa: Yeah, but it's a totally different . . .
139 T: Jake, are we saying run it, or are we just saying be part of the process?
140 Jake: To run a continent, to have power, to have power over a continent is . . . to
141 run a continent. It's exactly the same thing.
142 Vanessa: Yes, but it's a continent with no people on it.
143 Jake: Well, there could be people. That's the whole point. It's land.
144 Paul: You're making a decision to preserve it without consulting . . .
145 Vanessa: Well, no, but Britain has got millions of people on it and you'd have to
146 run the people as well as land if you had . . .
147 Jake: And you're running the people, the people who are trying to exploit it, you're
148 running them and saying, no, you can't do this, blah blah blah!
149 T: No, but are people saying that they are going to have the ultimate say? They're
150 not saying they're going to have the ultimate say. They just want them to be part of
the process . . .
151 Jake: Yeah, they are part of the process . . .
152 T: . . . and have as much say . . .
153 Jake: . . . in their lobbying process. But you don't want them to have . . .
154 T: But they're not really, though, are they? They're not . . . they're part of the

155 process in lobbying but they haven't got as much power as Argentina, Britain and the rest.
156 Jake: It's like putting a green dictatorship in to letting them have a say. It's exactly
157 the same! They're not voted in . . .

The teacher challenges Jake's view that Greenpeace should not be involved in governing Antarctica, with repeated questions (lines 139, 149 – 150, 154 – 155). The teacher's questions suggest disagreement with the previous comments but do so without explicitly refuting them. Her open questions, which she used at the start of the discussion, have rapidly changed into rhetorical questions, indicating that her initial 'neutral' stance had proved difficult to maintain. Jake responds by defending his view, and explaining his position in more detail. This occurs on a number of occasions, apparently in response to the domination of the argument by Jake and Paul, whose confident articulation of their views is preventing other students from effectively expressing opposing positions. In much of the discussion, there is no doubt that the teacher is providing arguments in support of the view that Greenpeace should have a role in the management of Antarctica. Her questions are rhetorical, even to the extent that she provides answers to two of them herself (lines 149 – 50, 154 – 5). By this means, she disputes Jake's view and supports Vanessa's, but she does not explicitly say that any of the students are wrong. Later still in the argument, this strategy is seen again—in this example, the teacher actually silences Vanessa in order that she can challenge Jake and Paul herself, and appears to be arguing quite strongly:

187 T: But you've just said they have to have a government. Vanessa, hold on! They have
188 to have a government, yeah? And you were also saying about you can't let anyone in,
189 it just turns into a dictatorship, it's almost like you need election. But you've got lots
190 of countries there which weren't elected to be there by anybody . . .
191 Jake: No, I'm not talking about that . . .
192 T: Hold on, let me finish! Let me finish! They weren't elected to be there, and have
193 you actually got a government set up there?
194 Jake: Well, they were elected!
195 T: . . . Or have you got lots of different systems of government?
196 Jake: Well, they were all elected!
197 T: No. You've got 42 signatories now, that's not the original people that signed the
198 Treaty, they weren't elected in, they just came along and they said we want to be on
199 the signatories, and basically anybody can be.
200 Jake: They've got to be at the UN and they've got to be invited. That's what the thing said!
201 T: Right. Why, then, cannot . . . 'cause I think . . . I'm not saying, and I'm not saying
202 I believe this, I'm just posing this as a question: why can't you have, erm—if an
203 NGO, not just Greenpeace—perhaps another kind of Green Party, perhaps the South Oceans
204 Coalition—come along and say can we be a signatory on it? We don't want to be any
205 more powerful than anyone else, we don't want to have a dictatorship and say we are
206 going to have the final say or be an overseer, but can we have as much clout as all the others in Antarctica?
207 Paul: Well, if they were elected by the people of the world like all the world
208 governments are, then, yes, but they won't be. I mean how can you have an

209 organization like Greenpeace that's got . . . things all over the world? So it's not one country . . . so what you do is get . . .
210 T: But isn't that the whole purpose of Antarctica? To have representatives from all
211 over the world? To have someone that's not just interested in their country?
212 Paul: The world's people, they, right, so the British people have a British
213 government, they elect them every five years, so every government around the world
214 is usually elected and even if it isn't, it represents the majority of the people. And so
215 then they, these people . . . the government are the representatives of the people and
216 they go to Antarctica and they make decisions, right? So that's totally fair and totally elected . . .

Here, the teacher starts using statements as well as questions to challenge Jake and Paul's views (lines 189–190, 197–199). She explicitly distances herself from the argument she is putting forward in some depth—that Greenpeace have as much right as a government to request to be a signatory on the Antarctic Treaty (lines 201–206), because they have representatives all over the world (lines 210–211)—by stating that it is not necessarily her own view (lines 201–202), indicating that she realizes that she has been arguing quite firmly in favour of one particular viewpoint.

The teacher then makes one more attempt to withdraw from the argument, by eliciting an opposing view from another student (lines 220–1):

217 T: Isn't Greenpeace a world organization, doesn't that have representatives?
218 Paul: They're not elected, they're the minority of the people, and they're just a
219 business like any other, OK. They fund raise, they're not . . .
220 T: Lara, do you agree with that? . . . Do you think they can't be there because they're
221 not elected, they haven't been elected in their role?
222 Lara: I, yeah, I do think they should be there.
223 Paul: What? Well they don't represent the majority of the people. They shouldn't
224 have any power unless they're voted in.
225 Lara: No, but a lot of people support them [*laughter*].

In this case, she is eliciting a specific view from a student whom she knows will present a dissenting voice, since she is aware from earlier discussion that Lara is in disagreement with Paul over this issue. However, Lara is unable to provide a convincing response, and the teacher appears to become increasingly frustrated with the views expressed by Jake and Paul. Both sides become more heated:

232 Paul: Well, if they're just a lobby group, then they shouldn't have any power in
233 Antarctica then. And if they want power in Antarctica . . .
234 Dan: They should have power in Antarctica because they're doing the right thing . . .
235 T: So do you think—if you look at these pictures in a minute—all these people that
236 turned up to the Earth Summit, that were lobbying, that weren't elected. Are you
237 saying they shouldn't be heard, they don't count?
238 Jake: No, that's our bloody point!
239 Paul: They're there to lobby. That's why you have democracy, and you have all the
240 political parties who were elected and you have lobby groups like the people who
241 represent the gunmen, the shooting lobbyists [*laughter*] and the people who represent
242 each of these minority groups and they try and lobby government. If they've got
243 some money, they bribe the government. It's like in America, the gun lobby in
244 America got so much money that they can just pay a senator to pay for his election

245 campaign, and then when the senator doesn't do anything about increasing the
246 gun laws so that you can have more guns, then they start to sort of...
247 T: So that's right, is it? That's right?
248 Jake: It's democracy!
249 Paul: It's reality!
250 Jake: It's democracy.
251 T: Right, so basically you're saying that's reality, therefore it's right?
252 Jake: The world isn't perfect, it's not right.
253 T: That's... yeah, that's like saying...
254 Dan: But that's why Greenpeace should be [*unclear*]...
255 T: Surely, Jake, that's saying, 'sod the Third World, the world's not fair, that's just
256 the way it is'.

At the end of the extract, the teacher has one final attempt to convince these students, before agreeing to differ:

305 T: But they will have a say through their lobbying.
306 Paul: Yeah, well, lobbying you can always ignore it [*laughter*]!
307 T: Yeah, and isn't that the point? That's... that's the crux of it. In the end, they can be
308 ignored. So in the end you could have different aims being pursued and you
309 haven't ... really got anyone overseeing to ensure that the treaties are successful,
310 you're just hoping that everybody has good intentions really, aren't you? That's what
311 you're basing the success of Antarctica on—that in the end you can trust all these countries to have good intentions.
312 Jake: Yeah, but that's what you say if you want Greenpeace in there—you're gonna
313 have to trust them to keep their... to keep on their aims...
314 T: Yeah, but, you know... their aims are more blatant aren't they? They are
315 basically environmental. That is their basic aim, isn't it? [*Silence*] You don't have to
316 agree with me Jake [*laughs*]! You couldn't bear to!

## Discussion

In a paper of this length, it is possible only to provide a fleeting glimpse of the type of discussions that were observed during the course of this study. However, this extract does illustrate a number of interesting issues in relation to the literature. First, the data seem to indicate that the ideal of taking a balanced or neutral position in lessons about controversial issues is problematic. All three teachers studied experienced significant difficulties enacting their beliefs about maintaining balance and neutrality in the reality of the classroom. The extract cited here shows the teacher using a number of highly inventive strategies in an attempt to avoid expressing her own opinions on the subject, but ultimately, she was not entirely successful in this aim, as the interview data affirm:

> I think [Greenpeace] have got a very, very important role to play, definitely. Even if it's just that it's keeping other countries on their toes, you know. I think their presence has got to be felt, people have got to know they're there... I don't think they should have more clout than an individual country, but I think they should have as much as one country. [*So not just lobbying?*] Yeah, more than that. And I think perhaps that came out a bit, in the questioning as well. (T2)

The question then arises: Why did this teacher find it so difficult not to express her own views? One plausible explanation is that the teacher's aims of non-involvement were thwarted by the student responses to the issue. For example, if the students all hold very similar views, there is a limit to the diversity of responses that can be obtained via elicitation or student discussion. In another extract recorded in this study, just one student expressed an opposing view to the others, and the teacher had to work very hard to encourage this student to explain her view:

> I think generally they do tend to have fairly similar points of view, with perhaps the odd person that stands out, although it depends on the class . . . The sixth form tend to be a little bit more conscious of what's going on and what's happening in the environment. But you still do tend to get a situation where the majority of the class will go the one way, and a couple of the people who are quite confident in what they feel—or feel particularly strongly about it—may speak up. (T2)

Another problem (illustrated in the extract cited above) is the tendency for a small number of students to express their views forcefully, thereby discouraging other students from expressing contrary views. The teacher's increased involvement in highly charged discussions was supported by many students, who felt that a certain degree of teacher control was necessary to prevent the discussion being dominated by the inevitable forthright students, and to maintain the lesson's focus. The depth of feeling sometimes aroused by classroom discussions was described by several students as 'aggressive', which was seen as an advantage by some but a problem by others:

> The discussion . . . was pretty memorable, quite aggressive, I quite enjoyed myself. (Jake)

Jake, one of the dominant students in the discussion cited here, explained that he deliberately took up controversial positions in the discussion to 'wind up people'. He justified his stance as opening up new arguments in a debate in which students commonly had fairly similar viewpoints, but his stance was not universally popular. Another student (Dan) described him as 'bossy and over-talkative', and Lara's view was that 'we just got really side-tracked'. When a small number of students dominate the discussions (as was frequently seen), the neutral teacher is unable to provide opportunities for all students to get involved, since they appear to be unwilling to take on their apparently knowledgeable opponents.

However, there may be deeper reasons for the teacher's inability to remain neutral in the face of a discussion about a controversial issue. If the argumentative nature of attitudes is considered, the possibility of a discussion about controversial issues in which one party does not express any attitudes appears an impossibility. According to Billig, the very nature of attitudes places them as positions in a debate:

> Holding a view on a social issue involves taking an argumentative stance in relation to counter-views . . . In this sense one would expect the discourse of views to be an argumentative discourse. (Billig, 1991, p. 171)

If this description of social attitudes is accepted, it appears implausible that teachers could teach about a controversial issue without in some way expressing aspects of their own attitudes about that issue. Controversial issues, by definition, involve conflicting attitudes or values, and their rhetorical nature suggests that teacher neutrality is likely to be impractical and unhelpful in exposing students to the full range of viewpoints.

If this is the case, then perhaps it would be preferable for teachers to be open about their attitudes since the data presented here suggest that those attitudes will be expressed indirectly if an attempt is made to conceal them. For example, the strategy of closed elicitation was used in an attempt to intervene indirectly in discussions by utilizing the teachers' power to control turns in a discussion. This strategy has the potential to allow students to articulate counter-arguments and may be more effective in encouraging other students to reconsider their own attitudes than a challenge from the teacher. However, in practice, it may be difficult to encourage students to present a dissenting view against their confident opponents, and their arguments rarely provided a convincing challenge to the dominant students (note particularly lines 220–225, above). The teachers, when they did enter a discussion, tended to provide a much more effective challenge since their arguments were often more forthright and convincing. However, although the teachers aimed to limit personal involvement in the discussion, this strategy sometimes appeared to be used to support their own point of view, and being brought into use when a student had expressed an argument or opinion with which the teacher disagreed (as in the example above).

Bridges (1979) discusses a similar situation, arguing that a teacher apparently fulfilling the procedural function of chair of discussion may in fact also be controlling its content:

> The deliberately or unselfconsciously manipulative chairman may exhibit an obtuse blindness to the signals of those whose opinions he dislikes and an ever ready eye to the voice he approves of or the barely restrained comment which was what he would really have wanted to say himself... [Thus] formal procedural control over a discussion may be sufficient to allow such a chairman to produce the argument he wants. (Bridges, 1979)

In the current study, the use of closed elicitation ('does anyone disagree?') to challenge an opinion with which the teacher disagreed, did not appear to be a conscious strategy; rather it appeared to reflect a teacher's increased awareness that a statement they disagreed with was potentially controversial (and that others are likely to disagree with the speaker). However, whichever student has expressed the initial opinion is likely to perceive their answer as in some way 'wrong', since the rules of classroom discourse suggest that a repeated question by the teacher indicates an incorrect answer (Edwards & Westgate, 1994).

Another way in which the teacher's attitudes appear to be expressed indirectly is through the use of questions to challenge students' views. Questioning is the predominant technique in classrooms, and is deemed to 'stimulate student thought and discussion' (Dillon, 1982, p. 128). However, research evidence supporting this

claim is described as 'ambiguous, to say the least' (p. 129), and it may in fact actually limit students' thinking, and elicit minimal and constrained responses: 'by using questions teachers may unwittingly constrain expression of student thought, all the while hoping to enhance it' (Dillon, 1982, p. 140). In considering the use of questions in therapeutic situations, counsellors are warned that 'by asking a question, the chances of a true expression of feeling are restricted', and that 'questions can be threatening, paralysing, and interpreted as an attack' (Dillon, 1982, p. 138). Statements or silences are substituted for questions in this context, and are found to be effective in encouraging greater participation and longer responses.

This has interesting implications for the use of questions in the teaching of controversial environmental issues. Whilst questions are described as inappropriate for eliciting students' views, their use in some examples quoted here appears to serve a different function, much closer to that described by Dillon (1982). These questions encourage students to express opposing views, or persuade students to defend their own views (therefore they may in some sense be intended as an 'attack'!). This was illustrated even more forcibly in the first case study, as the extract below demonstrates:

18 T: Mmm . . . Well, they call it the Maring's forest because it belongs to the Marings, yeah.
19 Sarah: It doesn't belong to them, they just live there.
20 T: Ah, well, that could open up all sorts of debates, Sarah, couldn't it? If it doesn't
21 belong to them, to whom does it belong? And does that mean that indigenous people . . . ?
22 Sarah: It doesn't have to belong to anybody, they just use it.
23 [*Other pupil responses inaudible*]
24 T: And does that mean . . . does that mean that indigenous peoples have no land rights?
25 S: No.
26 T: By actually saying that, you've actually . . . touched on some of the main issues . . .

Questions such as these are essentially rhetorical, apparently designed to express disagreement with the previous statement, rather than asking for information. They allowed the teachers to maintain their ideal of neutrality by not explicitly arguing with the students, but, at the same time, enabling them to express strong (if indirect) disagreement. The students also seemed aware of the role of this type of questioning, describing it variously as 'sarcastic', 'spotting holes in their argument', 'making people question their arguments' and sometimes 'biased'. Although the teachers' challenging questions were often effective in eliciting a response from the students concerned, they may also have had the result of hardening up student attitudes, and limiting opportunities for more reflective thinking and consideration of different viewpoints.

None the less, in suggesting that teachers are likely to express their environmental attitudes in lessons, the intention is not to support the arguments of those who cite environmental education as an indoctrinatory practice. Certainly this study provides little evidence to suggest that students are exceptionally responsive to the underlying

messages which permeate the teaching. On the contrary, it seems that the influence of the teacher's views (certainly on students of this age group) may have been somewhat exaggerated, and there are indications that the more the teacher tries to impose her own views, the less successful this is likely to be. On a number of occasions, there is evidence that students refused to accept the teacher's version of the topic and they continually, and with some force, resisted her definition of the lesson content. It also appears that, on a number of occasions, students overestimated the degree of congruence between their own attitudes and those of their teacher. Each of the students interviewed about the extract above felt that the teacher really agreed with their views:

> J: I think [the teacher] was helping to generate the argument more, which is good, keeping giving new questions in. And also, me and Paul are quite domineering and so I think we, sort of, hangover some people, 'cause she kind of gave a kind of stance with the other group, against us . . . I think it was a good way of generating ideas and bringing up new questions. I don't know whether she believed it or not, but I expect not! (CS2, Jake 2, 50 – 9)
> L: I think she'd agree with me to be honest . . . (CS2, Lara 2, 161)

Whilst this was not true of every case study, there was plentiful evidence of students in all contexts resisting the teacher's characterization of the issue. The implications of these findings may be that students avoid having to challenge or re-evaluate their own attitudes perhaps because they believe them to be more universally accepted than they actually are. Thus, the outcome of many discussions is that students' positions become more entrenched, rather than being obviously influenced by the teacher's views.

## Conclusion

Clearly, teaching controversial environmental issues raises a number of pedagogical challenges for teachers, and requires very different classroom management skills from those usually observed. The teachers in this study responded to these challenges in an imaginative manner, adapting teaching strategies to encourage student involvement in discussions and producing lively and interesting lessons. However, all of the teachers studied experienced great difficulty in implementing their beliefs about balance and neutrality, and the classroom data suggest that the influence of the teachers' own environmental attitudes was greater than they either intended or, in all probability, realized. Moreover, in line with the findings of Geddis (1991), there were occasions where the teachers' intent appeared to be persuasion rather than instruction. Their desire not to express their own views frequently led to the situation where these views were expressed indirectly in the form of questions, or by control of students' turns in discussion. Whilst these strategies enabled the teachers to avoid explicitly stating their views, such an indirect expression of attitudes may have been harder for the students to challenge than a direct argument presented by the teacher.

The findings of this study echo research in other areas of the curriculum that there is often an inconsistency between teachers' beliefs and practices: it appears that the very complexity of classroom life makes implementation of beliefs difficult (see review by Fang, 1996). However, there may be deeper causes for the problems encountered in teaching controversial issues, especially in the context of a belief system that relies on the primacy of contested concepts such as balance and neutrality. The analysis presented herein suggests that teachers have to choose between explicitly and implicitly expressing their attitudes, rather than the false dichotomy of advocating their views or concealing them from the students. With controversial issues, students need to be taught to examine critically the information they are given and the attitudes or values that have led to its production, and this requires teachers to be acutely aware of the beliefs and attitudes that underlie their own teaching. Whilst it is commonly stated that no teaching is value-free, teachers may be unaware of the ways in which their own attitudes and values are manifested and transmitted through their teaching practices. Environmental attitudes can be viewed as one aspect of the 'hidden curriculum' (Jackson, 1968), that part of the learning experience which is determined by the teacher's attitudes and behaviour rather than by a formal syllabus. Whilst most teachers will be aware of the existence of a 'hidden curriculum', they may not understand the forms in which it might be transmitted through their teaching. This study, through looking in detail at some of the interactions that occur between teachers and students in lessons on controversial environmental issues, has uncovered some possible routes through which the hidden curriculum may be made visible.

### *Limitations of the study and implications for future research and policy*

This research involved an investigation of three teachers and their classes, teaching a specific syllabus in state schools in the UK. By undertaking these case studies, it was possible to carry out a very detailed analysis of classroom discussions and the teachers' and students' perceptions of events, in a manner that is unprecedented in this field of research. However, given the size of the sample and the specific context in which students were studied, the findings discussed herein should be considered provisional in nature and would benefit from a wider investigation. More classroom-based research into the effect of using different teaching strategies for teaching controversial issues is urgently needed. Nevertheless, the findings from a recent large-scale study suggest that similar issues to those identified in this paper may be prevalent amongst teachers. Oulton *et al.* (2004a) claim that many teachers are under-prepared and feel constrained in their ability to handle the teaching of controversial issues. The majority of the 600 teachers they surveyed reported a lack of formal training in this aspect of their work and also claimed that the National Curriculum and non-statutory guidance do not provide clear advice on how to handle controversial issues. Only 12% of these teachers felt very well prepared to teach controversial issues.

The implications of these findings are that increased in-service and pre-service teacher education should be combined with moves towards developing clearer

policies and guidance for teachers in this area. Training and guidance could focus both on the nature of controversial issues and appropriate teaching strategies (including management of discussions about controversial issues), illustrating the problematic nature of taking a neutral or balanced position. If serious consideration of attitudes and values is desired, then this needs to be explicitly designed in the plan of the classroom discussion, for example, by providing a variety of resources for students to consider with structured questions to be asked of all materials. This may enable more considered responses to be aired rather than the quick-fire exchanges that were frequently seen in this study. Students should feel free to express their own views in a supportive environment where they will be listened to without fear of criticism, and where changing their position is encouraged. Explicit meta-cognitive instructions as to the purpose of these kinds of discussions and the rules of engagement may help students to listen seriously to others and reconsider their views rather than treating the whole event as an elaborate game or contest. Instead of putting the emphasis solely on teachers, pupils should be encouraged to critically evaluate information given, to identify potential sources of bias and to reflect upon their own views and biases in order to help them make decisions about complex controversial issues.

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