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Sustainability in Secondary Education in England: An Ethnographic Study

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Sustainability in Secondary Education in England: An Ethnographic Study

by

Ciaran Francis O'Sullivan

A thesis submitted to Plymouth University
in partial fulfilment for the degree of
Doctor of Philosophy

Plymouth Institute of Education

2014

Abstract

Ciaran Francis O'Sullivan

Sustainability in Secondary Education in England: An Ethnographic Study

This research sets out to establish both the extent to which and the ways in which English Secondary schools have a school culture focusing upon sustainability. I visited three case study schools for six weeks each: these were carefully selected to represent a range of progress towards becoming sustainable schools. I visited two other 'benchmark' schools for two days each: these were chosen on the recommendations of school sustainability experts, and visiting them helped me judge the progress my case-study schools had made. I took an ethnographic approach to the research, conducting about 80 interviews with various members of my three case study schools, also consulting school documents and undertaking observations of lessons and other aspects of school life.

I discovered that the case-study schools had generally made little progress on sustainability, with most school members unaware or uncertain of the basic principles of sustainability. The schools focused much more on students' examination results and behaviour than sustainability. Leadership structures and formal student involvement in leadership at the case study schools were not conducive to sustainability. Links between campus operations and the taught curriculum were mostly absent, and where sustainability was included in lessons, it tended to be largely theoretical, with few references to its impact on the students and daily life.

In the light of the case-study findings and a wide-ranging literature review, a series of recommendations are made, both for secondary schools and for national education policy. These relate, for example, to patterns of school leadership, to the Continuing Professional Development (CPD) of school leaders and teachers, to strengthening the role of sustainability in both the formal and informal curriculum, and to ensuring that students emerge better equipped for a world in which sustainability agendas will be of increasing importance.

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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Work submitted for this research degree at the Plymouth University has not formed part of any other degree either at Plymouth University or at another establishment.

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Ethical Dilemmas: criticising participants
- June 2012 **ISSR Conference**, Plymouth University
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Poster Presentation
- May 2012 **Human Geography PhD Presentation Day**, Plymouth University
What Kind of Culture is Conducive to a Sustainable School?
- April 2012 **Discourse, Power, Resistance**, Plymouth University
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Chapter 1: Introduction, Research Aims and Methods

1.1 Thesis Introduction

“A new report by the Intergovernmental Panel on Climate Change (IPCC) shows that global emissions of greenhouse gases have risen to unprecedented levels despite a growing number of policies to reduce climate change” (IPCC, 2014).

Three days after the release of this IPCC report, the BBC reported that, in the UK, the world’s sixth most prosperous economy, over 1 million free food parcels were distributed in 2013 (BBC.co.uk, 2014). It is widely recognised, at all levels of society, that humanity faces a growing crisis in terms of global climate, habitat degradation, poverty, resource shortages, and inequality. The causes of these problems are not precisely defined or quantified, but most commentators point to the destructive effect of humanity’s actions (Royal Society, 2012; UNSGHP, 2012; IPCC, 2013).

Although the scale, cause and even existence of a problem is not universally recognised, core UK government departments acknowledge it in publication:

“The past 20 years have seen a growing realisation that the current model of development is unsustainable...Our way of life is placing an increasing environmental burden on the planet through:
the consequences of unavoidable climate change;
increasing stress on resources and environmental systems from the way we produce, consume and waste resources;
increasing loss of biodiversity, from the rainforest to fish stocks.

We are also living in a world where over a billion people live on less than a dollar a day, more than 800 million are malnourished, and over two and a half billion lack access to adequate sanitation.....Unless we reconcile these contradictions, we face a less certain and less secure future. It is in our long-term best interests to make a decisive move towards more sustainable development” (Defra, 2011).

This quote comes from a UK government document advocating the use of a way of thinking and acting – namely sustainability – which takes a long-term

view and attempts to consider together the economic, environmental and societal effect of actions and thus make the best judgement on which course to take. Sustainable development is a widely recognised approach to the problems we all face: many call for education to take a role in helping us all to change the way we live so that we can exist harmoniously with the planet instead of depleting it (Bowers, 2001; Sterling, 2001; Orr, 2004). These views and values are neatly encapsulated by UNECE Expert Group (2013, p.52):

“Transformation of educational systems...is essential because our current systems have not supported sustainable models of development.....change is needed to ensure that the system provides education that predisposes learners to consider sustainability across their life choices.”

Both education and sustainability are contested fields: not surprisingly, therefore, the combination of the two is further contentious. Orr (2004, p.5) argues that education has previously made problems worse rather than improving the situation:

“The truth is that without significant precautions, education can equip people merely to be more effective vandals of the earth. If one listens carefully, it may even be possible to hear the Creation groan every year in late May when another batch of smart, degree-holding, but ecologically illiterate, *Homo sapiens* who are eager to succeed are launched into the biosphere.”

The literature on sustainability, including Ofsted reports (2003, 2008, 2009) suggests that education in England has still not properly accommodated the ideas of sustainability, despite a number of pieces of government policy guidance outlining how it should be dealt with by schools (DfES, 2003, 2006; Ofsted; 2003, 2008, 2009, 2010; DCSF/TDA, 2010). Many publications from academics (Sterling, 2001; Scott, 2002; Orr, 2004; Cotton, 2006; Huckle, 2009; Winter & Cotton, 2012 etc.) and from NGOs (Harris, 2008; Symons, 2008; Gayford, 2009 etc.) have examined different aspects of education and sustainability, to provide the understanding of sustainability and education we

need to change the situation. However, my investigations indicate that no previous research has looked at institutional culture as a lens through which to examine the extent of schools' engagement with sustainability.

This thesis examines secondary schools' approaches to sustainability, exploring the ways in which school culture could focus upon sustainability, and suggests ways in which schools might be able to engage more fully. Education policy in England differs from that in the other parts of the UK (Martin *et al.*, 2013; see Section 2.3 below), so I have focused only on English schools. My research is timely, in that education in England is undergoing changes on a large scale, at a structural level, some of which provide schools with more freedom to choose what and how they teach (Ellwood, 2013; Williams, 2013). Furthermore, we are currently in the last year of the UN Decade of Education for Sustainable Development (DESD; Chalkley *et al.*, 2009), supporting ten years of work to promote sustainability in education. This is therefore an especially appropriate time to present a thesis on the extent and nature of schools' engagement with sustainability.

1.2 Research Aims and Contribution:

Given the importance of sustainability education and my desire to talk to people in schools (primarily staff and students) about their own experiences, I established a set of aims for my research, which are encapsulated by the following questions:

- What kinds of approaches are English secondary schools taking with respect to sustainability?
- To what extent does sustainability feature as part of these schools' culture and values?

- Based on the research evidence from this thesis, what steps could be taken to strengthen and improve sustainability education in English secondary schools?

I conducted an intensive study of three case-study secondary schools with a view to obtaining deeper understandings of the nature and extent of their engagement with sustainability and making recommendations for future action. In meeting these aims, the thesis provides an original contribution to knowledge, informing and critiquing policy and practice. No previous study of Education for Sustainable Development (ESD) in English schools has used the ethnographic, case-study approach adopted here, with its capacity for providing rich and deep insights. Similarly, no previous study has deployed the models of a sustainable school and of school culture used in this thesis as a way to gauge institutional progress.

1.3 Definition of Key Terms

This section discusses briefly the terms ‘sustainable development’ and ‘sustainability’ and the links between these and schools, which are key areas for this thesis. More discussion of these topics, and of the idea of institutional culture, which I also refer to across this thesis, can be found in Sections 2.2-2.6.

Sustainable Development, in the sense that it is used throughout this thesis, is a relatively recent concept, having its foundations in environmentalism and the reaction to environmental crises in the 1970s and 1980s. Perhaps the best known definition of sustainable development is the first, provided in the document ‘Our Common Future’, often known as the Brundtland Report (UNWCED, 1987, p.24):

“development which meets the needs of the present without compromising the ability of future generations to meet their own needs”

This definition is referred to in the UK Government Sustainable Development Strategy (Defra, 2005, p.15) and is still used by the UK government (see e.g. Grober, 2012), but it is far from the only one used. Even over a decade and a half ago, there were more than 300 definitions (Dobson, 1996, in Jickling & Wals, 2008). A brief search of definitions shows how varied they are:

“Sustainable development involves safeguarding and utilising existing resources in a sustainable way. It is also about efficient resource utilisation and its enhancement, and the long-term management of and investment in human, social and material resources. Protecting natural resources and safeguarding health are essential to the development and prosperity of every society. *Sustainable development is itself sustained within a given society by the labour, know-how and creativity of its citizens*”. (Ministry of the Environment: Sweden, 2003; my emphasis)

“*Improving the quality of human life while living within the carrying capacity of supporting ecosystems*”. (IUCN/WWF/UNEP, 1991, p.10; my emphasis)

“Sustainable development means *encouraging economic growth* while protecting the environment and improving our quality of life - all without affecting the ability of future generations to do the same”. (Defra, 2013; my emphasis)

“Sustainable development recognises:

- the finite reserves of non-renewable resources and the importance of using them wisely and, where possible, substituting them with renewable resources
- the limits of natural life-supporting systems (ecosystems) to absorb the effects of human activities that produce pollution and waste
- the *linkages and interactions between environmental, social and economic factors* when making decisions, emphasising that all three factors must be taken into consideration if we are to achieve sustainable outcomes, particularly in the long term
- the well-being of current and future generations as a key consideration”. (Office of the Parliamentary Commissioner for the Environment: New Zealand, 2002; my emphasis)

Leaving aside commentary on the definitions and their relative strengths and weaknesses (for example, that they are generally anthropocentric), I have

italicised parts of the definitions to give some idea of the variety available. Most tend to emphasise the need to balance economic, environmental and social needs in terms of decision-making, policy and indeed, living one's life. This means that, despite public perceptions, sustainability is about much more than environmental issues like climate change: it is additionally about links with the local community and participatory practice (social sustainability), purchasing strategies (economic sustainability) and so on (Grierson & Hyland, 2011).

Various diagrammatic models of sustainable development are also used: Walshe (2013, p.227) notes that three typical models use the following diagrams to illustrate the relationship between economic needs, social needs and environmental needs (see Fig 1.1):

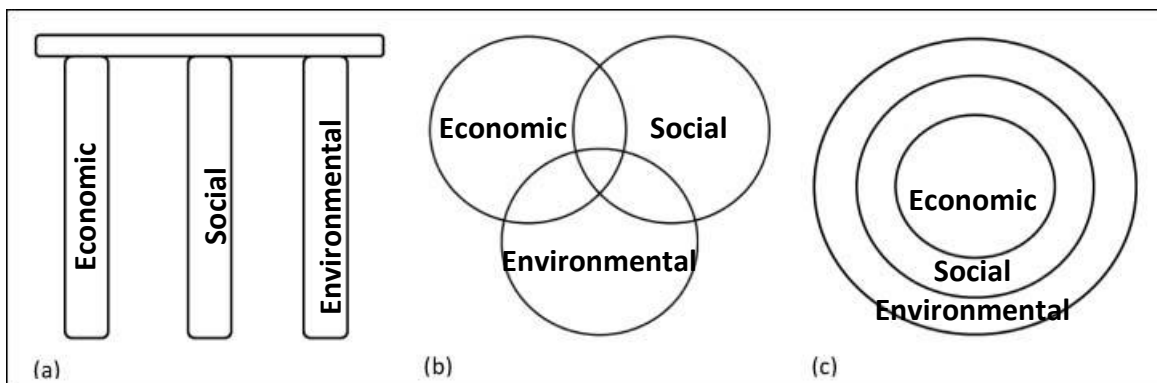


Figure 1.1: Three Models of Sustainability

Walshe (ibid) calls these “(a) the three pillars or three legs of a stool model; (b) the Venn diagram; and (c) the concentric circles model.” All three incorporate economic needs, environmental needs and social needs. However, there are differences between them: the first is intended to show the requirement for all three pillars (without one, the structure might collapse); the second is intended to show the complex overlap between economic, social and environmental needs, and the third to indicate the reliance of economic needs upon the society

in which they arise, and the dependence in turn of society on the environment in which it exists.

The differences between these models may be defined in terms of 'weak' and 'strong' sustainability (after Daly, 1992). Neumayer (2011, p.564) describes the difference:

“[weak sustainability] is built on the assumption that natural and other forms of capital are essentially substitutable and the only thing that matters is the total value of capital stock, which should be at least maintained or ideally added to for the sake of future generations. [Strong sustainability] rejects the notion of substitutability (of natural capital) and holds that certain forms of natural capital are critical and that their depletion cannot be compensated for by investment into other forms of capital, such as man-made (manufactured) and human capital”

With reference to the models in Figure 1.1, the first two might be judged to illustrate weak sustainability, in that overemphasis of one area could compensate for under-emphasis of another. The third model illustrates 'strong sustainability' because, without the outer two circles, the economic circle has no location in which to operate: environmental capital cannot be substituted by economic capital.

Both 'sustainability' and 'sustainable development' (SD) have been mentioned so far, but there is some debate over the use of the word 'development' in this context. Although they are not interchangeable, I have used 'sustainability' rather than 'sustainable development' in the rest of this thesis (where I am not quoting a direct use of SD), on the basis that some critics argue that including 'development' implies a bias towards economic considerations, an anthropocentric view of sustainability and or a mistaken belief that there are no limits to the growth of humanity. I have already used the term 'Education for Sustainable Development' (ESD), as this is a widely-used short-hand term for

sustainability education, but a similar debate applies here too, and I have used 'sustainability education' hereafter where ESD or another alternative title is not specifically used in the particular context under discussion.

In terms of the way that sustainability is used in schools, WWF-UK (2009) found in their study of the experiences of education professionals that *economic* interpretations of sustainability were over-emphasised in schools in general, and I found that, in the schools that I visited, the term sustainability was used in policy documents as shorthand for the institutions' *financial sustainability* (part of the economic dimension), and the social and environmental aspects tended to be omitted. This is a misunderstanding of sustainability, as sustainability requires schools to think in terms of their context, not just themselves.

Huckle (2009, p.70) suggests that the emphasis on economic considerations is part of a wider emphasis in government policy: "Education...policy in England...places emphasis on the neoliberal themes of choice, institutional diversity and collaboration": therefore, it is not surprising that schools' policies focus only on economic considerations (including their students' employability) rather than sustainability as a whole. Whilst there is a distinction to be made between 'financial' ('balancing the books') and 'economic' (a broader definition, potentially encompassing ethical purchasing and patronising local businesses, educating students for the 'Green Economy' and so on), the schools I visited, tended *specifically* to use the term sustainability in narrow economic terms, and especially the school's own financial sustainability. Studying the financial side of schools' activities in detail (such as funding formulae, budgetary allocation and audits) is nonetheless outside the remit of this research, as it is considered a highly technical matter, and tends to lie in the province of management and

accountancy. In considering schools as operating institutions, this thesis therefore gives more attention to the social dimensions (such as nurturing community links) and the environmental dimensions (such as encouraging recycling).

1.4 Sustainability in Schools

A number of UK government policies, in the last decade in particular, have focused on the roles that education in general, and schools in particular, have to play in sustainability. The Sustainable Development Action Plan (DfES, 2003), Sustainable Schools consultation (DfES, 2006), Sustainable Schools strategy (DfES, 2006) and National Framework for Sustainable Schools (DCSF, 2008) began to solidify an approach. The Office for Standards in Education, Children's Services and Skills (Ofsted; 2003, 2008, 2009) has inspected work already being done in schools, and issued guidance to Inspectors regarding the evaluation of sustainability in schools (Ofsted, 2010) since their remit was expanded in September 2009 "to include an assessment of how effectively schools are working to support sustainable development" (DCSF/TDA, 2010, p.4).

All this is set against a background of growing general public awareness of the problems humanity faces in terms of climate change, energy and natural resource use, and of the suggested solutions provided by 'sustainability'. Education is particularly important to many of these solutions, a point made, for example, in the 2010 Ofsted Briefing on Sustainable Development for their Inspectors, which notes "the key role of education as a tool for achieving sustainability" (Ofsted, 2010, p.4; see also DCSF/TDA, 2010, p.4). It is worth noting, however, that education's role in guiding us towards sustainability is

disputed: some commentators assert that education is an end in itself, not the means to any end, including sustainability (Jickling, 1992; Scott, 2002), and others argue that education has previously had a *detrimental* effect on our progress towards sustainability (Orr, 2004). Nonetheless, if education has a role to play, it will need to be different from that which we see today (Sterling, 2001; Orr, 2004), and there is a further debate around the urgency of action required: will education help us gradually to change our ways only for this to be too late?

The sustainable schools initiatives described already in this section were all taken under the previous Labour government (1997-2010): their definitions of SD and the sustainable school have not been superseded by further definitions from the current coalition government (see Table 2.1; DCSF/TDA, 2010). According to these earlier policies, a sustainable school will be achieved by embedding sustainability into three areas: campus, curriculum and community (DCSF/TDA, 2010, p.5)¹. This can be achieved by schools focusing their work in eight areas, designated 'doorways' to sustainable development (DCSF/TDA, 2010, pp.4, 8; see also p.17 and Table 2.1 below).

The three Ofsted reports (2003, 2008, 2009) on sustainability in schools in the last few years have focused on the progress of schools towards the government's stated aim that all schools should be "sustainable schools by 2020" (Ofsted, 2008)². However, the focus of each report was slightly different: the first looked at examples of existing good practice and success; the second

¹ This is sometimes known as the '3 Cs' model, which is widely used in education in the UK (see, for example, Lipscombe, 2007): an interesting comparison may be made with the '4 Cs' model noted in Section 2.5.

² This claim is less prominent in current government literature, but is still cited widely in school, local authority and NGO literature on sustainability on schools. It does appear, for example, at <http://www.education.gov.uk/vocabularies/educationtermsandtags/6788>

took a more general view, from a larger sample, to see how far schools had progressed with work in this area; the third used a longitudinal approach (the others having been based on single visits on or around the same date) to explore the effects of ESD on pupils' awareness of sustainability issues and on associated improvements in "the broader life of the school" (Ofsted, 2009, p.1).

All three reports point out that, while there are examples of schools successfully adopting sustainable behaviour in terms of teaching, management, community involvement and so on, progress is very patchy; many schools still have 'a long way to go', and *secondary schools find particular difficulty in addressing the sustainability agenda* (see, for example, Ofsted, 2008, pp.4-5). Even schools which are seen as examples of good practice have these problems, while many others have not really addressed sustainability at all. Therefore, there is a need for research that has the potential to help inform improved practice both amongst secondary schools already on this pathway and those at the first stages, as well as to inform and raise debate generally.

1.5 Thesis Rationale

The Ofsted reports referred to above made it clear to me that it was important to investigate the problems secondary schools appeared to be having in engaging with sustainability. Although there are still major problems with approaches in primary and tertiary education, I believe that the greatest need for improvement is in the secondary sector. Relatively speaking, primary schools are 'better at sustainability', perhaps because they are smaller and take a cross-curricular approach (Ofsted, 2008). Similarly, Locke *et al.* (2009, p.27) suggest that good work is already being done in Universities and colleges: "Through both education and research, Higher Education Institutions play a significant role in

society's drive towards sustainability". Therefore, I chose to focus on secondary schools. This section briefly introduces previous research in this area (which is discussed more fully in Chapter 2) and summarises the methods and methodology I used (see also Chapter 3).

1.5.1 Scope and Limitations of Previous Studies

Although there are several other examples of research investigating schools' work in this general area, there also remain many 'gaps in knowledge'. Many studies have concentrated on one specific aspect of 'sustainable schools' or ESD: for example, teaching methods and resources, leadership of 'sustainable schools', teachers' attitudes to ESD, pupils' perceptions of ESD, 'the global dimension' (one aspect of sustainability) and so on (Winter, 2007; Harris, 2008; Symons, 2008; Gayford, 2009). However, it is in the nature of sustainability, 'sustainable schools' and ESD that they embrace and require the adoption of an holistic approach to education. Even the 2009 Ofsted report's twin foci of 'pupils' understanding' and impact on 'the broader life of the school', indicate that this area is *composed of multiple elements*. This is also suggested by the designation of ESD as a 'cross-curricular theme' (see Section 2.3 for further discussion of this designation) in literature produced by the previous government (including the National Curriculum). This guided my own approach.

Specific mention is made in numerous sources of the difficulty secondary schools have in approaching this area. One problem is the relative inflexibility of the National Curriculum, reconciling this with delivering a 'cross-curricular theme', and the flexibility needed to take a 'whole-school' approach. 'Culture', however it is defined, includes aspects of school life which are *outside* the taught curriculum, so I posited that perhaps change, where it is needed or

sought, may more readily be achieved through addressing the *culture* of the school, than just concentrating narrowly on what is formally taught. Hence the focus in this research is on taking an ethnographic approach encompassing multiple data sources, which includes examining the role of 'culture' in sustainable schools, looking at different aspects of the school in an holistic way. I discuss culture in detail in Section 2.6, but a simple definition of school culture is given by Maslowski (2006, p.9) who defines it as, "...the system of basic assumptions, norms and values, as well as the cultural artefacts, which are shared by school members and influence their functioning at school." Previous studies of sustainability in schools in the UK have not set out specifically to investigate the culture of schools, and one of my intentions in conducting this research was to do so.

Various approaches to encouraging ESD or institutional sustainability rely on focusing on several areas of sustainability in combination, and some of these approaches include 'culture' as *one of these foci* (e.g. the '4 Cs' model developed for Higher Education at Plymouth University Centre for Sustainable Futures: 'curriculum, campus, community, culture' (Selby, 2009, p.103)). The literature about schools' approaches to ESD, or elements of this work, sometimes includes a brief reference to the importance of the school 'ethos', 'the life of the school', a 'whole-school approach', and so on, often listing these areas alongside curriculum, community, campus, practice, action, and/or policies. Only rarely is culture explicitly mentioned, and then typically without a clear definition of what 'culture' is: sometimes it accompanies one or more of the concepts listed above, sometimes it appears to represent some or all of them in combination (Birney *et al.*, 2006; Jackson & WWF, 2007; Harris, 2008;

Symons, 2008; Birney & Reed, 2009; Gayford, 2009; Ofsted, 2009; WWF-UK, 2009).

1.5.2 Choice of Methodology

My selected methodology fits with my research aims: I chose to pursue an ethnographic approach, in fitting with the multiple facets and human focus of sustainability and the multiple levels at which culture in a school functions (Schein, 1990). Ethnography allows for the use of several methods and is flexible, working with the specific situation being studied (Walford, 2007). Hammersley & Atkinson (2007, p.1) describe ethnography as “first-hand empirical investigation” and “theoretical and comparative investigation of social organization and culture”, stressing that fieldwork is central to this form of research. This might typically involve participating in the daily lives of research participants over a period of time, listening and/or asking questions, reading documents and “generally gathering whatever data are available to throw light on the issues that are the *emerging* focus of inquiry” (Hammersley & Atkinson, 2007, p.3; my emphasis; see also Section 3.4). Using a variety of methods – documentary analysis, observations, and conducting group and solo interviews – allows the exploration of culture at various levels within the organisation.

I have also selected a set of indicators (Scott, 2010), against which progress towards sustainable school status is compared. This places my study in the context of other academic work, especially as international indicators were also considered (State Government of South Australia, Department of Education and Children’s Services, 2007) on sustainable schools, and helps to enable comparability. Further details on methodology and methods used can be found in Chapter 3 of the thesis.

1.5.3 Sample

The case-study schools were chosen using several criteria. Only three schools were included, as ethnographic methods require the researcher to spend a significant period of time 'in the field' for them to be effective. One school thought already to be doing well in the area of sustainability was sought, so that others could be compared, to show any differences; two other schools were selected that were similar in other ways to the 'excelling' school – size, age provision, Ofsted grading (see Appendix 1), demographics and location. These two 'other' schools were chosen to represent one school early in its work in this area, and one which had made more progress but was still not 'excelling'.

Judgements about schools' 'excellence' (or lack of) were based on the recommendations of experts working in the area – academics, NGO workers and Local Government workers – and on sustainability-related awards, including those won as part of the Eco-Schools scheme (Eco-Schools, undated; Symons, 2008; Ofsted, 2010). See Chapter 3 for a fuller discussion of the merits and weaknesses of this choice. Before visiting my three chosen case-study schools, I conducted a small pilot at a local state secondary school; using the access I had to this school, I was able to assess how well my data collection and analysis methods worked. To give additional perspective *after* visiting my three case-study schools, I also made shorter visits to two schools that are considered to be national leaders in terms of sustainability. These two-day visits took place after the main research visits to participant schools so as to minimise any prejudicial effects upon my views of participant schools. The two 'benchmark' schools chosen have a national reputation in the field of

sustainability, are included in several reports from NGOs and Ofsted, and have been focusing on sustainability for longer than most secondary schools.

1.6 Chapter Synopsis

This research is valuable not only for its intrinsic interest – the idea of sustainable schools in this country is a relatively new one, and schools have been given the freedom to pursue quite different individual strategies towards becoming a sustainable school – but also for its potential to inform practice. Although methods used in one school to introduce sustainability into the culture of the school may not necessarily be directly transferable to another, illustrations of what has been successful may inspire practitioners to use something similar, or simply encourage them to find their own successful actions. Many schools are keen to address what they see as a vitally important issue, believing that education has an important part to play in the sustainability agenda, but lack the knowledge or experience to do so: an in-depth study of the work going on in other, similar schools could prove valuable to them. Taking an approach that includes looking at the culture of schools fits with the findings of Ofsted reports (2009; see Sections 1.1 and 1.4) into sustainability in schools and the views of many other commentators, as well as being aligned with the holistic sustainability philosophy.

Having provided a brief, scene-setting introduction, the second chapter explores in much greater detail the literature around sustainability education, sustainability in schools, and school culture, in order to situate the research in the wider academic context. Chapter 3 contains details of my research methods and methodology, including the pilot study I undertook before my three main visits and the two sustainability ‘benchmark’ school visits. Chapters 4-6

contain the details of my findings at the three case-study schools: one chapter is dedicated to each school, and the results of the initial round of analysis are discussed. Chapter 7 contains the results of further analysis, when results from the three case-study schools were compared, to construct an overall picture of what I found and to compare with the two 'benchmark' schools I visited. Chapter 8 contains conclusions, a summary of my findings, recommendations for schools, policymakers and future researchers, and reflections on my methodological and theoretical choices and on the strengths and limitations of the research as a whole.

Chapter 2: Literature Review

2.1 Chapter Introduction

Only four years ago, when I began this research, Martin *et al.* (2009, p.444) quoted Ofsted's assertion that "Sustainability is a hot topic these days" (Ofsted.gov.uk, 2009). The economic situation and a change of government have both brought new priorities in public life, education included, since then, but there is still today a great deal of interest in, and literature on, sustainability in education. The sheer amount of commentary, and the numerous perspectives, make a review of the literature on sustainability in education, even one that focuses on secondary education in England, a daunting task. In this chapter, I categorise and analyse the literature and relate it to my own study.

Matters are complicated considerably by the difficulty of reconciling apparently contradictory definitions and opinions around the area, and the language of sustainability is tricky. Scott & Gough (2003) note that 'sustainability' is a goal, and 'sustainable development' is a process; different academics use different terms for education's take on sustainability, but Scott & Gough's definitions perhaps explain why it is important for some commentators to differentiate between 'Education for Sustainable Development' (ESD) and 'Education for Sustainability' (EfS), for example. One could also add Scott's assertion (2002; my emphasis) that society cannot use education "instrumentally to *bring about* what it can only possibly *understand through* education" and Bonnett's criticism (2003) of the concept of sustainable development as anthropocentric, potentially anti-democratic, instrumental and almost meaningless: "As things stand, sustainable development has become something that *everyone* can subscribe to without too much inconvenience..." (Bonnett, 2003, p681;

emphasis in original). Clearly, any survey of the literature on sustainability and education will be challenging.

I also had the additional challenge of wishing to understand, *from the perspectives of my research participants*, what was happening, currently, in working schools. I clearly could not debate the semantics of sustainability and education with all of them, and decided to focus during my data collection on using the language I judged would be most accessible to interviewees. Although the 'average' school member was unlikely to have heard of sustainability, the language used in government literature available to staff, governors and parents was the most likely for them to have encountered. Therefore, I chose the Sustainable Schools Framework ('SSF'; DfES, 2006), a source originating from the Department for Education³ and Ofsted, as my source of terms of reference when dealing with schools.

To make it easier to review, I have categorised the literature on sustainability in education, splitting it into the following sections, echoed in the structure of the chapter:

- Theoretical approaches
- Policy context
- Sustainability in UK schools
- International context
- School and institutional culture

The second section is complicated slightly by the freedom of the Scottish, Welsh and Northern Irish Assemblies to pursue their own education policies.

³ Department for Education (DfE), Department for Education and Schools (DfES) and Department for Children, Schools and Families (DCSF) are all incarnations of the government department dealing with education in the last 15 years. I do not believe the differences between them are significant here.

As the UK National Commission for UNESCO noted in 2008 (p.11), “The UK and the three devolved administrations have distinct ESD policies in their formal education approaches”. Although education legislation is passed by the UK government, I will deal in Section 2.3 only with literature as *applied to the English* education system and English schools.

All of the five categories outlined above have necessarily somewhat ill-defined borders, and the literature I looked at consists mainly of occasionally overlapping but somewhat different sources: some literature inevitably falls into more than one category. The last section, on institutional culture, is slightly different to the others, dealing with a theoretical framework that has not been used like this in the context of sustainability in schools before. As such, this is an area where my PhD is innovative.

There is a great deal of literature that I could have considered for this chapter, and so considerable selectivity was required. I have also concentrated primarily on recent literature (since 2008 except where there is no newer comparable study), to focus on that literature deals specifically with secondary education (rather than all schooling), and to focus on sustainability education (rather than environmental education, for example). I aim to summarise and evaluate the literature within these five sections and show the considerable similarities and important differences between them. In doing so, this chapter will set the context for the rest of the thesis and justify the focus of my research, while also providing a critical account of the literature and the evidence it contains, against which my results can later be compared.

2.2 Theoretical Perspectives

The literature reviewed in this section exhibits broad agreement over the major issues affecting ESD: most authors start from the assumption that sustainability is necessary (although their definitions of sustainability might differ), and that education has a role to play in a change of lifestyle towards sustainability. The main differences between them concern firstly how to approach sustainability in education, and secondly the fundamental question of what education's purpose should be in our society. I will deal with those two issues in that order, moving from the specific to the more general: I believe that it is impossible to consider the first without considering the second.

2.2.1 Sustainability Education and the Purpose of Education

In terms of approaches to sustainability education, Vare & Scott (2007) comment on the long-running debate around the label 'ESD', giving a new perspective and exploring approaches to ESD at the same time. They differentiate between 'ESD 1' and 'ESD 2', which can be summarised as 'learning *about* sustainability' and 'learning *as* sustainability'. The latter term implies a much more holistic approach, with educational institutions including sustainability in all aspects of their operations. Vare & Scott suggest that *both* are necessary and that they are complementary approaches, but that there has been too much emphasis in UK education on 'ESD 1' up to this point (Vare & Scott, 2007). Similarly, Sterling distinguishes between 'Education *about* sustainability', 'Education *for* Sustainability' and 'Education *as* Sustainability' (Sterling, 2001, pp.60-61). Both sources make a link with ideas about learning similar to Argyris & Schon's (1978; see Section 2.6.4), suggesting that higher order learning is needed for ESD to succeed. Sterling describes his ideal, 'Education *as* Sustainability', as 'third-order learning', which needs a change in

the educational paradigm itself. This has implications for the purpose of education, and for pedagogy, but, as Sterling notes, “This response is the most difficult to achieve...” (Sterling, 2001, p.61).

It seems obvious that education, by its nature, results in change: learning something new means *we are changed* in some way. However, the idea that a government should decide what it thinks education should change behaviour *towards* is much more contentious. Scott is clear that he believes that education should not be ‘used’ in this way:

“schools exist to educate young people, and are not primarily agencies to drive sustainable development or any other social process” (Scott, 2009, p.38).

The 2010 UK National Commission for UNESCO report seems to express the same message, contrasting “campaigning/activism/awareness-raising/behaviour change” (which the report’s authors disapprove of) with “more open-ended...learning...learners need to be helped to come to their own understandings, values and commitments to action” (UK National Commission for UNESCO, 2010, p.43). However, there is an argument that sustainability education is a special case, in that it is a response to an immediate and serious crisis in environment, society and economy. Making this argument suggests that we need, as a species, to change the way we behave very rapidly, or risk, for example, serious and long-lasting climate change⁴.

Sterling (2011) takes a more nuanced position, suggesting that sustainability requires higher order learning which entails learning about our learning (see Birney *et al.* in Section 2.4 for a similar idea). Sterling suggests that we need to

⁴ Sterling (pers comm) likens the debate about how much ESD should aim to change behaviour to a car full of people arguing about what a road sign says as they drive past it and over a cliff: the signs are there, telling us we need to live sustainably, and to do so as soon as possible.

think about learning as a process that is about more than content, and aim for 'second order' learning, which involves the learner in questioning their assumptions and values, and even 'third order' learning, which requires a shift of the learner's entire worldview (Sterling, 2011). He argues that this is relevant and necessary at different levels: individual, organisational, community and societal. This suggests that we need a different educational system, as the one we have is more focused on transmissive learning (passing information to learners): we need a transformed education system capable of focusing on transformative learning (provoking a change in the learner's beliefs or even worldview): this has implications for pedagogy.

Scott & Gough (2003) also see tensions between the current education system and SD, suggesting that a tenet of the education system we have is consumer choice, which acts contrary to SD, as it focuses so heavily on economic considerations to the exclusion of environmental and societal ones. They suggest that advocates of ESD need to engage with opposing worldviews, and that:

"SD is unlikely ever to have more than a token presence in school...*unless* it can show convincingly that it is a means to improve the quality of education generally...according to those standards which the main stakeholders in education and learning, such as parents, teachers, pupils, government ministers and employers *have arrived at for themselves*" (Scott & Gough 2003, p.101, emphasis in original)

In Sterling's view, there is a problem with the education system itself because it is a product of a political system which is antithetical to SD. Winter (2008) suggests that individualism clashes with pro-environmental behaviour (which I believe could be expanded to 'pro-sustainability behaviour'), but fits with consumerism and the demands of the economy. She says that there is an assumption in society that materialism stands for freedom and progress (Winter,

2008). Perhaps Scott & Gough might agree that there is a need for a change of worldview in our society, but they differ in terms of how they think it can be achieved.

Returning specifically to the aims of education, whether one agrees that education can only be changed as part of a wider change in society or not, it has a key role in sustainability as an agent of change. Transformative learning is required, but Scott (2002) cautions that education empowers individuals without dictating *how* they use this power, so its results are unpredictable. This is a potential problem for advocates of sustainability education, especially those calling for a rapid change in behaviour provoked by sustainability education: if one promotes a change in beliefs, is it possible – or desirable – to direct that change? Bonnett (2003) warns that there is a conflict between democracy and ecological sustainability: if it is accepted that there are ecological imperatives (we need to act to prevent catastrophic climate change, whether this is a policy supported through the democratic process or not), any policy going against these imperatives would be disallowed, whatever its democratic legitimacy.

There is a similar tension in expectations of education, according to Scott. He suggests that schools function both to “socialise youngsters into social norms and citizen duties” *and* to encourage autonomy and critical thinking (Scott, 2002, p.9). However, Scott also acknowledges that “curriculum is always a selection from culture” (Scott, 2009, p.37), suggesting that there is no such thing as a ‘neutral’ school that ‘just educates’: they are all operating in a context and influenced by, among other things, government policy (in turn influenced by other factors in society). If this is the case, perhaps we could do worse than to continue to prescribe a curriculum for schools (one will have to be provided one

way or another) but to ensure that it is one that favours sustainability (see Sections 8.3.1-8.3.3).

A further complication is provided by the reality of trying to teach in schools. Scott (2002) notes that schools have other priorities; Winter (2008) points out that there are many other influences on young people besides school, which would also need to provide the right 'message' on sustainability. Cotton (2006) found that teachers who participated in her research were uneasy about promoting positive attitudes towards the environment (and, by extension, sustainability) in their pupils, despite an injunction to do so in the National Curriculum (NC).

Cotton found that teachers believed that schools are not the right place to pass on prescribed views on the environment, and that controversial environmental issues are difficult to deal with. She also explored at great length the varying arguments around this issue, cautioning that it may be impossible for teachers completely to avoid influencing their students' attitudes, that lesson content is inevitably selective, and that environmental issues *are political*, so taking a neutral point of view is difficult. Cotton also describes 'the realities of teaching': an overcrowded syllabus, administration responsibilities, and constraints outside teachers' control (Cotton, 2006). Winter & Firth (2007, p.345) also add that there is no evidence of a sufficient change in "thinking and action around ESD regarding practice in the secondary school curriculum". So, whatever the reason, the amount of change needed in teaching in secondary schools *has not happened yet*.

2.2.2 Sustainable Schools Indicators

A further important strand of academic commentary on ESD is the discussion of ways of assessing progress towards 'the sustainable school'.

Indicators or descriptors?

Huckle's (2006) paper on the work done to identify a possible indicator of progress for schools towards sustainability for inclusion in the UK Strategy for SD includes details of the six indicators which were proposed. All have problems in themselves, leading me to speculate on whether an indicator, as such, was a suitable tool for this research. Several of the indicators examined were rather quantitative in style, and Huckle points out the problems with those that test students' knowledge against a prescribed set of information – this set is impossible to define, and doing so goes against some of the central principles of sustainability (sustainability is more concerned with process than knowledge, and with the application of knowledge than the knowledge itself: indicators tended to focus on knowledge, possibly because this is simpler to test using standard methods like examinations and surveys). During the work Huckle was involved in, questionnaires were widely suggested, and problems specific to this form of testing were also identified (for example, phrasing questions to allow respondents to display their level of knowledge across a potentially very broad spectrum of knowledge is particularly difficult) (Huckle, 2006).

Huckle lists seven basic problems with using indicators, suggesting that the process had only limited value, and that he himself questioned the worth of anything that might result (Huckle, 2006). In the context of my research, I chose to use textual descriptors, being more subtle, and, I felt, more suited to the complicated idea of sustainable development. Descriptors, giving schools

an idea of where they might be on their journey towards ‘the sustainable school’, seemed potentially a more positive tool, addressing what was being done or was in place, rather than what was not. Also, ‘the sustainable school’, as a concept, encompasses more than just *what* pupils have learnt, and is at least partly about *how* they have learnt: descriptors include that aspect of the situation, whereas indicators tend to look at outcomes, not process – what has been learnt, not necessarily how.

Potential sustainable schools descriptors

Scott (2010) discusses four sets of descriptors: those used by Ofsted (2009) in guidance to their Inspectors, as to what they should look for in schools; Gayford’s (2009) detailed descriptors of the sustainable school from the perspective of the pupil across two areas, ‘Content/Knowledge’ and ‘Process Abilities’; Webster & Johnson’s (2009); and Scott’s own (2008). Each of these models describes four levels at which a school may be operating, and through which a school may move, on the way to becoming a sustainable school. Scott argues that his (2008) model, and that of Webster, are both actually heuristics⁵, and therefore not fit for purpose as descriptors in this form.

The Australian Sustainable Schools Initiative – South Australia (AuSSI-SA; see Section 2.5) has created a model with many similarities to those Scott discusses (State Government of South Australia Department of Education and Children’s Services, 2007). This model describes five facets of sustainable schools: ‘Learning’, ‘Managing’ and ‘Community’, ‘Understanding’, and ‘Culture’. It is not made explicit that ‘Culture’ is more important than the other four facets

⁵ A heuristic being, by definition, a ‘common sense’ model and one that is designed to provoke the reader to further thought, rather than a model based in research and for use in a practical sense.

of the model, but it does appear to be central to it, literally and figuratively, which is particularly relevant from the point of view of my own interest in culture. Each of the five facets is broken down into three factors, and the full model then describes how each of these factors may be evidenced, via indicators, across four levels (as with the models Scott describes). As the AuSSI-SA document refers specifically to the curriculum in South Australia, I have *not* used it as the main model against which to compare data from the schools I studied, judging it to be less appropriate to use in the context of English schools.

From his own work, drawing also from Webster's similar set of descriptors, Scott (2010) goes on to describe a fuller set of descriptors, building on the work of Meadows (1988), which was in turn built upon that of Daly (1973). Scott argues that leadership is the most important factor in a sustainable school (interesting in the light of Sections 2.4 and 2.6.4), before then introducing the idea of 'capital' – human, social, natural and built – and the question of what education is for. He then describes, in detail, a model, again with four levels – 'Initial Exploration', 'Some Assimilation', 'More Strategy' and 'Towards Restorative' – but this time across three areas of 'the sustainable school' – 'Leadership', 'Human & Social Capital', and 'Natural & Built Capital'. It is interesting that Scott labels these four levels (i.e. not just calling them '1', '2', '3' and '4', for example), trying to avoid a set of judgemental labels like the old Ofsted model ('Inadequate', 'Satisfactory', 'Good' and 'Outstanding').

An alternative point of view is put by Sterling (in Huckle, 2006) and Vare (in Scott, 2009): both suggest that the best – perhaps one could say the 'purest' – indicator would be that a school was able to draw up its own set of indicators. It seems to me that this fits perfectly with the ideas of sustainability – specific to

context, showing knowledge and how to apply this knowledge – but relies on there being a sufficient fund of skills and knowledge in schools to draw up such a sophisticated document (as is described in the AuSSI-SA document mentioned above). At a later date, it could be ideal to use this idea, but at the moment, it is impracticable.

To date, only the Ofsted (2009) model mentioned above has actually been used to assess the situation in schools. I chose to use Scott's (2010) model as a way to conduct a broad assessment of the extent to which my three case-study schools had engaged in becoming sustainable schools (see Chapters 4-8). This model is more thorough than the other models he describes, but still reasonably practical, and it has the benefits for my work of addressing the whole school holistically and of fitting with my research methods, where a wide variety of sources are used.

2.3 Policy Context

This section discusses literature from, and about, government policy on sustainability in secondary schools. Currently, several issues influence the 'landscape' in which sustainability education must operate. A central idea in the present government's education policy is the promotion of Academies and the creation of Free Schools⁶: numbers of Academies particularly have grown quickly recently (Gov.uk, 2012). Both types of school are exempt from having to follow the National Curriculum (NC), which potentially allows them the freedom to address sustainability more thoroughly even where it is absent from the NC, although this potential difference is minimised by the necessity for pupils at Academies and Free Schools to take the same GCSE examinations as pupils at

⁶ See <https://www.gov.uk/types-of-school/>.

state schools. The coalition government's policy does not seem to favour an emphasis on sustainability; however, mooted changes to the National Curriculum which would have excluded climate change from Key Stage 3 (KS3)⁷ almost entirely (Jowitt, 2013) do at least seem to have been abandoned for the time being (Dyster, 2013).

Specific education policy around sustainability is currently ambiguous (or "patchy" as Martin *et al.* (2013, p.1533) describe it), with any momentum built up under the previous government being lost. Sustainability can be found in four National Curriculum KS3 & KS4 subjects at present: Science, Geography, Citizenship, Design & Technology⁸ (Religious Education might also be included in this list in a very loose sense: see Appendix 2). The present content largely focuses on climate change, and appears to be weaker on aspects of social sustainability such as inclusion and community cohesion. As there are differences between the way these subjects are taught, and between the various Examination Boards through which curricula and assessment are handled, students gain different amounts and experiences of exposure to sustainability in their taught lessons. Generally, Science is a compulsory subject for students in KS3 & KS4, but the other subjects listed above become optional in KS4. KS5 ('A' Levels) tends to vary more from school to school, in terms of subjects offered for study. In fact students can have very different experiences of sustainability in school, not only because they choose to study different subjects, but also because schools choose different examination boards and these boards have different curricula. Also, schools can choose to

⁷ For more details of the 'Key Stages' into which education in England is categorised, see Appendix 1. I use KS as an abbreviation for Key Stage throughout my thesis from here.

⁸ This subject is called by slightly different names at different institutions: it is known as 'Technology' at one of my case-study schools, for example. I have used the specific name given by the school in question, or used 'Design & Technology' where no specific school is being considered.

offer different qualifications, different teachers provide different lessons, and there are differences in students' experiences of other parts of school life, such as Citizenship and Personal, Social and Health Education (PSHE) lessons (which tend to vary in content and format between schools), assemblies, extra-curricular clubs and so on.

It is worth clarifying here that there is a difference between sustainability education policy in England and in the other regions of the UK: Wales, Scotland and Northern Ireland. Each of these three 'devolved' regions has power to legislate in the area of education, and add to UK government policy on SD, with the result that they have taken somewhat different approaches. I have focused in my thesis on England, as all the schools I visited were there, and although sustainability enjoys a basically similar status in Northern Ireland and England, it has been a *higher* priority in Wales and Scotland. In Wales, SD is a central part of national policy, albeit that ESD has become a lower priority in schools since 2010; in Scotland, it is still a high priority:

“...encouragement of ESD through policy in [the UK] has become less prominent. The exception is Scotland where the devolved government has placed a much greater emphasis on social equity and the environment as key policy targets...Here ESD is seen by the government as playing an important strategic role in implementing its policy objectives” (Martin *et al.*, 2013, p.1536).

Unlike in England, the Scottish Parliament also published an Action Plan for the DESD (Scottish Executive, 2006).

There was no overall policy framework for ESD in English schools until the launch of the Sustainable Schools strategy in 2006⁹ (DfES, 2006), which,

⁹ Although there is a tradition stretching back more than three decades of *Environmental Education*, including government policy, that pre-dates the Sustainable Schools Strategy.

according to the UK National Commission for UNESCO, consisted of the following arrangements:

“...the programme is not referred to specifically as ESD and is *optional* for schools. DCSF funds government offices in England’s nine regions annually to support the implementation of the Sustainable Schools strategy, and the government offices work with local authorities in their regions to implement the programme in local schools. The government offices have also created Sustainable Schools networks.” (UK National Commission for UNESCO, 2008, p.19; my emphasis)

The new strategy was also reflected in the school curriculum, with the Qualifications and Curriculum Authority (QCA), the body responsible for the UK NC, adding ‘global citizenship and sustainable development’ as a ‘cross-curricular dimension’. This status meant that it was *not* a statutory requirement for schools to cover sustainability or to show that they had, although it did fit with the idea that sustainability should be included in all aspects of schooling. The QCA, in 2007, also integrated sustainability issues into a new complete national curriculum for KS3, which focused less on subjects and more on overarching themes and generic skills (UK National Commission for UNESCO, 2008, p.19).

In order to assess the implementation of the Sustainable Schools strategy, two reports by Ofsted investigated the integration of sustainability into schools (primary and secondary) in England, after the establishment of the Sustainable Schools Framework (SSF), identifying problems in this area and noting examples of success (Ofsted, 2008, 2009). A number of themes emerge when the reports are considered together:

- Schools generally found sustainability hard to implement, with secondary schools struggling in particular. Where schools were deliberately addressing ESD, they tended to concentrate too much on the environmental aspect.

- Schools successfully including sustainability did so by incorporating it into the culture of their school, involving all staff and pupils.

These two points are central to the rationale for my research, and alerted me to the possibility of exploring the difficulty secondary schools had in particular, and the possible solution provided by school culture. The following were also described as being helpful if schools were successfully to include sustainability:

- Making sustainability an integral part of the curriculum; planning sustainability, or better, incorporating it into existing school plans; getting management commitment to sustainability; and engaging with the local community (Ofsted, 2003; 2008, 2009).

The idea of a 'whole-school' approach, involving the curriculum and the operation of the campus, and including the community locally and globally was outlined in the Sustainable Schools Framework (DfES, 2006). The Framework described eight 'Doorways' through which schools could address sustainability, suggesting that they should all be explored, and setting a target for all schools to become 'sustainable schools' by 2020. These 'Doorways' were as follows:

- Food and drink.
- Energy and water.
- Travel and traffic.
- Purchasing and waste.
- Buildings and grounds.
- Inclusion and participation.
- Local well-being.
- Global dimension.

The current government's emphasis on reducing their prescription of specific strategies for schools led to the SSF being suspended, but the idea of the sustainable school is now being referred to again, for example in the DfE publication "Top Tips For Sustainability In Schools" (DfE, 2012c)¹⁰. The SSF is still being used by those staff trying to address sustainability in schools (Nicholson, 2012), and the DfE website still refers to the 2020 target noted in the previous paragraph, so presumably this stands (DfE, 2013a).

I note that there is little emphasis in the list of 'Doorways' on the *educational* aspect of schooling, which is a major oversight, and another frequent criticism of the 'Doorways' is the absence of any mention of environmental conservation or increasing biodiversity. These criticisms persuaded me that I should find a more comprehensive way of assessing how far schools were addressing sustainability (see Section 2.2.2).

The problems identified by Ofsted (2008; 2009), above, are not the only negative criticism of the situation in English schools with regard to sustainability. Chatzifotiou (2002) and Winter (2007) both explicitly examine the links to ESD in the NC in England, concluding that there were severe problems at the time of writing. There has been relatively little change with regard to sustainability in the curriculum since, so it is worth briefly outlining their chief criticisms. Chatzifotiou makes a strong case that, although ESD can be found in the NC, it is only included as a non-statutory element. Where attainment targets are set, ESD is seen as an 'extra', and there is a lack of definitions in sections of the NC dealing with ESD: desired outcomes are described, but not how to achieve them. ESD receives just one dedicated paragraph and further mentions in only

¹⁰ Tellingly, the document cites the SSF as a framework schools might follow and refers the reader to the SEEd website – run by an NGO!

four subjects, Science, Geography, Design & Technology and Citizenship. In summary:

“...the language used to introduce ESD is confusing...the space it takes up does not reflect the importance it is claimed to have [and] the lack of attainment targets leads to a lack of due attention.” (Chatzifotiou, 2002, p.295)

As a result, Chatzifotiou says teachers feel confused about what to do with regard to ESD, and are disabled by the lack of definition and substance.

Winter’s study, more recent by five years, focuses on the secondary curriculum, and draws similar conclusions:

“...contemporary secondary school curriculum policies relating to ESD are rhetorical devices that will achieve little towards resolving global problems...the conceptualization of SD is itself fundamentally flawed and inevitably restricts the scope of possible policy solutions.” (Winter, 2007, p337)

She notes that “there is no one definitive ESD policy document” (Winter, 2007, p.340) and cites the 2005 Select Committee Report on Environmental Audit’s criticisms of a failure to implement ESD policies, a poor dissemination of information, the lack of a method for measuring progress, and a lack of leadership and of a commitment on the part of the (then) DfES (Environmental Audit Committee, 2005).

“There is no real priority attached to ESD, nor is it an aspect of the curriculum against which teachers and schools are judged, and it is little wonder that teachers are not comfortable teaching ESD.” (Environmental Audit Committee, 2005, Para. 80)

Winter’s explanation for this policy failure relies on her claim that there are fundamental flaws in the conceptualisation of SD and ESD by the government in the SSF legislation. She describes the conflicting effect of SD:

“[SD] postpones responsibility for radical lifestyle change and/or for environmental destruction to the future at the same time as declaring the protection of the future an important aim of its message!” (Winter, 2007, p352)

Table 2.1 displays some of the definitions used by the previous government in relation to sustainability and education. Although I note the strengths of some of these definitions (action is stressed, there is a hint at balance between environmental, economic and societal concerns, the difference between 'environmental' and 'sustainable' is pointed out), Chatzifotiou's criticism of vagueness still applies. "Sustainable Development is a way of thinking...in a profoundly different way" seems to me to lack any definition of what SD means in terms of *action*. Action *is* mentioned, but only in the context of encouraging behaviour change, rather than educating so that learners understand sustainability: this seems a rather limited view of how to achieve sustainability (i.e. by changing people's behaviour). Perhaps more problematic for schools is the fact that the definitions contain a relatively full description of a sustainable school, but accompanying documentation contains very little about *how to achieve this status*.

What is sustainable development?

Within the sustainable schools programme, sustainable development is defined as follows:

Sustainable development is a way of thinking about how we organise our lives and work – including our education system – so that we don't destroy our most precious resource, the planet. It means much more than recycling bottles or giving money to charity. It is about thinking and working in a profoundly different way.

What is education for sustainable development (ESD)?

Education for sustainable development (or learning for sustainable development) involves:

- the development of critical thinking about how we are living on the planet, and the encouragement of a questioning approach; and
- taking action to support sustainable development now by promoting changes in behaviour, shifts in habit, and new ways of thinking about how we live.

What is sustainability?

The goal of sustainable development. A state of sustainability implies people living in harmony with the planet and among themselves rather than gradually eroding its resources or storing up future conflicts.

What is a sustainable school?

A sustainable school is one that empowers and educates young people for a sustainable future. Sustainable schools put care at the heart of their ethos, enabling pupils to care for themselves, for each other, and for the environment. They sit at the heart of their communities, acting as beacons of sustainability for local people. Many schools are attempting to become sustainable schools, but few, including the leading examples, would say that they have yet achieved this. The journey is necessarily a long one, and full of surprises, but all schools can get started or take the next step on their journey.

What is the National Framework for Sustainable Schools?

The National Framework for Sustainable Schools has been established by Government to help schools understand what they need to do to become sustainable schools by 2020.

The Framework is made up of three interlocking parts: a commitment to care; an integrated approach; and **eight doorways** or sustainability themes.

Table 2.1 Some UK Government Definitions Relating to Sustainable Development and Sustainability Education¹¹

John Huckle worked with the UK government on ESD, in that he was heavily involved in the process, organised by the Sustainable Development

¹¹ These definitions were all available from

<http://www.teachernet.gov.uk/sustainableschools/about/faqs.cfm>

This website is no longer operating, and following this url results in a redirection to the DfE webpage or the National Archive webpage. Neither contains this list of information. See pp.19-20 for details of the 'Eight Doorways'

Commission (SDC), of trying to find some way of measuring the success of ESD. He also comments on this gap in government policy, noting that the UK SD strategy (Defra, 2005) proposed “an indicator of the impact of formal learning on knowledge and awareness of sustainable development” (Huckle, 2006, p.1), and discusses types of indicator that might be appropriate. In his 2009 paper, Huckle reflects on the process of working on an indicator, which resulted in the adoption of the SSF, (rather than an indicator).

Huckle’s criticism of the SSF is that it was an abdication of responsibility by government, and relied on schools to rate themselves:

“The SDC proposal does not overcome issues of ESD content. It merely transfers decisions as to what is to count as relevant knowledge, skills and values to those who interpret the sustainable schools self-evaluation tool (‘s3’; Teachernet, 2009) and complete the self-assessment forms, and those who design the interview questions to be asked of pupils and who interpret the results” (Huckle, 2009, p.10)

This raises a wider question, which Huckle also explores: the apparent conflict between trying to evaluate ESD and the difficulty in prescribing skills or knowledge which make a learner competent in ESD. The usual way schools assess student learning in a subject is by testing against an established body of knowledge and/or skills. Huckle describes the reluctance of other ESD experts he worked with to allow the “socially critical content and pedagogy” he desired to be used in proposed indicators – *nor would they define a set of knowledge and skills*:

“They expressed a strong preference for approaches (action research and sustainable schools) that emphasise process over content or learning over teaching, and allow relevant knowledge, skills and values to be acquired whilst learning about sustainable development in specific contexts.” (Huckle, 2009, p.9)

Without a list of criteria against which to judge, however, assessing success in ESD is very difficult, and so identifying a suitable indicator also, in this case,

proved impossible. However, Huckle provides a possible solution: educate for process, not content. He suggests that it is reasonable to expect learners to be able to “to know, value and be able to do”, without requiring them to hold pre-determined *views* on sustainability (Huckle, 2009, p.5). The SSF was selected by the government, as a way of focusing on the idea of the sustainable school, as Huckle mentions above, but there seem to have been a range of opinions about how far it is necessary to include SD in education, how to do so, how measurable it is, and even *what the underpinning purpose of education is*.

This issue is exemplified in the 2009 Ofsted report, in references to successful sustainable schools “promoting clear changes of behaviour among parents and local residents” (Ofsted, 2009, p.16). The implication is that it is the purpose of education to change behaviour, and it is desirable for education not only to change the behaviour of learners, but also of the local community. If that *is* the case, the obvious question is, ‘who decides what is the ideal behaviour to change to?’ This relates back to Huckle’s observation of the unease of his ESD expert colleagues when considering what to measure success in ESD against (Huckle, 2009).

Winter (2007) and Huckle (2009) both suggest that government policy under the previous Labour governments did not take the idea of sustainability seriously. Huckle suggests that the SSF was chosen to “allow an ESD that is uncritical and consistent with New Labour’s agenda of weak ecological modernisation” (Huckle, 2009, p.10), and Winter claims that the government only paid ‘lip service’ to the idea of ESD (Winter, 2007). Arguably, the requirements of ESD and some of the other expectations for education in a capitalist society are in conflict at a fundamental level, (see Section 2.2). In addition, the *effects in*

schools of an approach to ESD that is, at best, only partially committed, are themselves interesting.

Winter (2007) again refers to the 2005 Select Committee Report on Environmental Audit (Environmental Audit Committee, 2005), which lists problems with ESD in schools in England, including:

“a genuine lack of knowledge about what this concept actually means’ on the part of teachers (Para. 72); its lack of status in schools (Para. 75); over-reliance on a web site for the dissemination of information (Para. 78); heavy teacher workloads (Para. 80); the suggestion that ESD is a complex and contested idea (Para. 80); the fragmentary form of ESD initiatives (Para. 76); and the proposal that teachers feel uncomfortable teaching it (Para. 80).” (Environmental Audit Committee, 2005)

In written evidence to the committee, Ofsted claimed that ESD was not seen as a priority in schools (Environmental Audit Committee, 2005). It seems likely that this report had some influence in the work on an indicator that resulted in the SSF and in the Ofsted reports on ESD in 2008 and 2009 (Ofsted, 2008; 2009): therefore ESD presumably had *some* value for the government. Other sources help to establish just how much of a priority. Two more government publications, in the form of the teachernet.gov.uk website and the document ‘Progress Summary for Mainstreaming Sustainable Schools’ (Groundwork UK, 2009), show a lack of definition in language around SD and ESD. For example, the Frequently Asked Questions section of teachernet.gov.uk had¹² the definition of SD given in Table 2.1. This is a vague definition (SD is a way of thinking, yes, but what ‘way’?), and is also in contrast to the definition from Scott & Gough (2003) in Section 2.1, for example. It would not be helpful to anyone

¹² ‘Had’ is correct, in that following the link to teachernet.gov.uk results in a re-direction, as the website “has now been decommissioned” according to the Department for Education. This was part of a general policy to reduce spending, but the choice to decommission this website indicates that ESD and the sustainable school were not considered to be important enough areas to continue funding, even of a website that was criticised by the 2005 Select Committee Report on Environmental Audit (Environmental Audit Committee, 2005) as insufficient in the first place.

from a school searching for guidance on what to do about ESD, and might simply confuse them further. Sustainable schools are also described as caring centres of the local community (see Table 2.1). Again, this sets out lofty aims, which are extremely vague. Clearly these are selected quotes, but *they are those which came closest to a definition*.

Perhaps more significant is the fact that the SSF was always a *voluntary* scheme: there was no element of enforcement in it. The usual method of assessing schools' performance in England is through Ofsted Inspections; 'Building a Sustainable Future' (TDA & DCSF, 2010, p.5) states that:

"In 2009, the scope of Ofsted inspections was widened to include an assessment of how effectively schools are working to support sustainable development..."

Guidance to Inspectors was published by Ofsted in 2010: the theme of influencing behaviour appears again (Ofsted, 2010), and 'Building a Sustainable Future' also contains a clue as to what the purpose of inspection is:

"The inspection process provides opportunities to influence behaviours and attitudes and promote sustainable development..."
(TDA & DCSF, 2010, p.14)

Furthermore, in terms of the National Curriculum (which *is* statutory, for all secondary schools except Academies, Free Schools and Privates Schools):

"Sustainable development is a statutory part of science, geography, citizenship and design and technology curricul[a] and should be integrated across the national curriculum" (Teachernet.gov.uk, 2009)

As noted above, the 2005 Select Committee Report on Environmental Audit cited the lack of judgement by inspectors of ESD as a problem, but this changed in 2009, although schools were still not *graded* on ESD. The most recent Ofsted Inspection Consultation Document (Ofsted, 2012) does not mention SD, ESD, sustainability or even the environment: the emphasis appears to be on assessing pupil behaviour in general. Schools are required to

cover sustainability as a cross-curricular theme, but without any enforcement of this 'requirement', schools with other huge pressures will naturally tend to give sustainability a low priority. Even in the period 2009-10, where Ofsted Inspectors were required to look at sustainability in schools, they were not required to grade it: this change of emphasis, for a brief time, did not amount to *enforcement*.

Elements of SD are included in the curricula for Science, Geography, Design & Technology and Citizenship, and, as Science is compulsory until the end of KS4 (albeit that Free Schools and Academies have the freedom to vary from this general rule), all students are exposed to some teaching around sustainability at secondary school. Science and Geography are the two subjects in which sustainability is covered most thoroughly, Science at KS4 typically covering topics such as protecting the environment and minimising pollution, as well as a dedicated sustainability unit, and Geography such topics as environments and interdependency (see Appendix 2 for further details). Geography is usually not compulsory in KS4: therefore, the coverage of sustainability through teaching and learning in schools varies quite considerably depending on how many students opt to study Geography at KS4. Having fallen for some years, numbers have risen recently (Royal Geographical Society, 2013), possibly as a result of the inclusion in proposals for an English Baccalaureate of a compulsory 'Humanities' subject, either History or Geography (Department for Education, 2013b). Other factors also influence the exposure students get, however: for example, schools have flexibility in how they teach curricula, and there are also differences between subject curricula, based upon the examination board with which KS4 students are registered for their GCSE examinations.

There is also a financial element to this picture. The 2005 Select Committee Report on Environmental Audit gives another hint as to how important ESD was seen as by government:

“DfES does not make it clear in their evidence whether the funds to be diverted to schools will be ring-fenced for ESD, or whether it is a general fund to be spent on a number of competing priorities identified by each individual school. If it is the latter, and given that we have been told that ESD has a profile which is patchy at best in far too many schools, and virtually unknown in some; and if, as we suspect, it remains a low priority until such time as it is made clear that DfES considers it a priority and has Ofsted inspect it as it does other subjects, what realistic hope is there that schools will use these funds for ESD?” (Environmental Audit Committee, 2005, Para.108)

However, the UK National Commission for UNESCO still saw many positives in ESD in the UK as a whole, in their 2010 Report (UK National Commission for UNESCO, 2010). They assert that sustainable school-type programmes enjoyed continued support, and note the 2009/2010 Ofsted policy to inspect for ESD, although they also recognise that schools were not graded on this. Criticism in the Report includes a belief that more could be done to integrate ESD across the curriculum, and mention of the tensions inherent in ESD; whether to aim for behaviour change or to encourage learners to form their own values and opinions on sustainability:

“[There are] tensions between campaigning/activism/awareness-raising/behaviour change (strongly encouraged by government) and more open-ended...learning in relation to sustainability...[I]t is hard to escape the conclusion that not everyone engaged in ESD is committed to the notion that learners need to be helped to come to their own understandings, values and commitments to action. Whilst it is clear that there are individuals and groups who sincerely believe that it is too late for this...view to be taken, the evidence that people do not react well to preaching or doom-laden messages seems compelling...” (UK National Commission for UNESCO, 2010, p.43)

The Commission’s position seems to be clear, judging by the emotive language used, and in contrast with the government’s position: ESD is best served by a focus on open-ended learning, and ill-served by a focus on behaviour change. I

would question, however, whether the two positions contrasted are the only possible options: I believe it should be possible to emphasise the need for urgent action while avoiding preaching or messages of doom.

2.4 Sustainability in Schools in England

The previous section made considerable use of documents produced by government and other official agencies. However, this section draws on a rather different body of literature including studies undertaken by NGOs. In England, a great deal of the recent work on sustainability in secondary schools, where it has focused on *the experience of school members* and *the actual practice of sustainability at the school level*, has been done by NGOs. Generally speaking, these organisations are ones with an interest in the environment (WWF, for example) and an educational side to their operations, or those explicitly organised to campaign for a greater focus on sustainability and/or education (see Symons' (2008) work for SEEd below, for example). There are advantages and disadvantages to using NGO literature: their independence from government and their close work with schools gives them a more objective viewpoint, or at least a different viewpoint from government sources, while keeping them very close to actual practice. It is also worth pointing out that many of the authors of these publications are academics in their own right, working for an NGO. Of course, NGOs have their own agenda, and bias, which also needs to be recognised: all the documents discussed in this chapter were published with a view to raising the profile of ESD in schools or even to promote changes in government policy and finance in that area. However, where theories are expressed in this body of work, they are based on empirical studies using methods similar to my own (see Chapter 3). Much of

Section 2.4 discusses documents in this vein, but I start with an exception to the rule.

Gillian Symons reviewed the literature on Environmental Education (EE) and ESD research, in 2008, for Sustainability and Environmental Education (SEEd), an umbrella NGO, working with government, educational institutions and educators, and with other interested NGOs. Symons aimed to identify factors that enabled or hindered the implementation of ESD, and, in doing so, was able to comment on the situation regarding ESD in the NC and primary and secondary schools in the UK. She notes the benefits of schools embedding sustainability, with examples (e.g. making lessons 'real' for pupils, and motivating them), but she states that the majority of schools are not engaged with this process, noting that:

“...the research evidence suggests that there is a big difference in practice between those schools identified as actively engaged with sustainability and the majority of schools for whom it is not a high priority.” (Symons, 2008, p.13)

Symons describes National College of School Leadership (NCSL) survey results that show that all of the eight 'Doorways' were being addressed in the 1739 participating schools, with 'Water and energy' covered by the highest percentage (80%) and 'The global dimension' covered by the fewest schools (40%). Approximately 10%-20% of schools said they had the various aspects of the SSF "satisfactorily in place", with the percentage tending to be lower in secondary schools (Symons, 2008, p.19). She also notes that there is a large gap between what was claimed about sustainability and what was actually being done (Symons, 2008).

Symons was also able to list factors that are common among schools successfully having engaged with sustainability:

- They take a whole-school approach, embedding sustainability in policy and curriculum;
- They involve students in meaningful decision-making, often via a Student Council;
- They have a broad understanding of sustainability, including social, economic and environmental aspects rather than focusing just on environmental ones as is often the case in schools less successful in this area¹³;
- They tend to use a distributed leadership model;
- They tend to be outward-looking, involving the local community to provide context for active learning and citizenship – and to look beyond the NC;
- Some have a sustainability co-ordinator, use appropriate pedagogy, and include sustainability in Continuous Professional Development (CPD) (Symons, 2008).

By way of contrast, teachers' perceptions of *barriers* are also listed:

- Insufficient time and money dedicated to sustainability, a problem related to the over-emphasis of examination results;
- The low priority given to sustainability (related to a lack of time);
- Confusion over priorities: between government guidance on sustainability and the NC; and between sustainability and literacy and numeracy targets and grades;
- The rigid curriculum;
- The lack of enforcement of sustainability policy;

¹³ See the contrasting percentages related to two of the 8 'Doorways' in the previous paragraph.

- A lack of awareness that sustainability was considered a priority, and a perception that Local Authorities and senior management did not see it as a priority;
- The cross-curricular status of sustainability in the NC;
- A knowledge gap: sustainability was seen as a complicated, controversial and contested topic that teachers did not feel able to deal with;
- Lack of training: sustainability was not a CPD priority for the Training and Development Agency for Schools (TDA), and was covered only patchily in Initial Teacher Training (ITT);
- Inefficiently overlapping initiatives and NGO support;
- Problems with old or inflexible buildings and estates that needed to be run sustainably to avoid undermining sustainability teaching;
- Lack of evidence of impact on students' values and behaviour (Symons, 2008).

Thirdly, Symons noted the things that teachers felt *helped* them to include sustainability:

- Time to create a shared vision within the school (and time to see change, perhaps five years);
- A joined-up approach, linking sustainability with other key initiatives;
- Support from various levels and locations within and outwith the schools;
- Distributed leadership, which also helps to minimise the problem of time;
- Using formal school structures, to give sustainability work formal status;
- Local Authority support is crucial but mostly lacking: it is key in bringing schools together to support each other in sustainability work;
- External partnerships;

- Student participation and leadership, with genuine involvement and a high profile;
- Active citizenship work (Symons, 2008).

This sets out a very detailed picture of the perception of sustainability in schools; of course a barrier is very often caused by the absence of an enabler, and there are many similarities between the lists above. I do not disagree with any of the conclusions Symons comes to, but it is my experience that almost all schools are not yet ready to put her recommendations fully into action. I expand upon this theme in Chapters 4-7 and return to it in Section 8.3.

Birney *et al.* (2006), writing for WWF-UK, focus on one central area, the idea of a whole-school approach to sustainability, and it is worth noting that they begin by making a good case for education being essential in dealing with such a complex idea. Drawing on Vygotsky's (1978) ideas about the efficacy of social learning, Birney *et al.* argue that sustainability is too complex for individuals to deal with alone: having an expert to lead an effort towards sustainability in a school does not work because they need the help of others, but are separated *more* by their expert status. Instead, they assert that "sustainability is a social process" (Birney *et al.*, 2006, p.3).

Birney *et al.* (2006) also discuss the purposes of education, arguing that a key aim is to enable individuals to become effective learners, by helping them to understand *how* they learn so that this can be a conscious process (Birney *et al.*, 2006). Secondly, they suggest that social learning is necessary for sustainability, as is whole-school involvement, because this results in a common vision and sustainability being deeply embedded. They go so far as to

suggest that, before sustainability can be mainstreamed in society, it “needs” to be mainstreamed in schools (Birney *et al.*, 2006, p.5). Thirdly, Birney *et al.* make recommendations that should be followed if a whole-school approach is to succeed: focus on an action learning approach, and involve pupils and the wider community in decision making; provide time and space to formulate a long-term but flexible plan, and share it.

Birney *et al.* (*ibid*) looked at activities in 33 case-study schools, but the 2009 WWF Report ‘Primacy of the Personal’ focused on the experiences of a wide range of education professionals (“a number of stakeholders in the English education system”, WWF-UK, 2009, p.3) around ESD. Six themes emerged, including many which are familiar in the context of this chapter:

- The NC is more focused on perceived economic needs (underpinning the national economy) than on SD; it is ‘siloesed’ and restrictive, and stifles creativity; assessment and examination results have too much influence in schools;
- Systemic change is needed in education, working from within; there are many barriers to change, including initiative fatigue, isolation of ESD practitioners, over-emphasis on the economic aspect of sustainability and on assessment;
- Sustainability is perceived as failing to bring real change, is not supported by school leadership, and is not focusing enough on ‘the local’;
- New ways of learning are required for sustainability in schools, emphasising relationships; teachers need support and are not covering sustainability in their Initial Teacher Training (ITT);
- Primary schools have more flexibility in learning, which partly explains their greater engagement with sustainability compared with the secondary sector;

- The need for real-world and experiential education, empowering young people who are worried about the current situation and want to do something about it but feel unable to do so (WWF-UK, 2009).

Harris (2008), writing for the Specialist Schools and Academies Trust (SSAT), focuses on leadership in sustainable schools, repeatedly emphasising leadership's crucial role in school development and change. She states that becoming a sustainable school has to be set as the main priority by school leaders, reinforced through development planning, embedded in teaching and learning and school development policies. Harris (2008, p.41) agrees that it is impossible for one person to lead the process on their own: "By definition it has to be a collective and distributed form of leadership activity." Of course, establishing that *all* have responsibility helps to avoid a situation where *no-one* takes responsibility.

Birney & Reed (2009) also focused on leadership, again selecting this as the key to schools developing sustainability successfully. They studied 56 primary and secondary schools, identifying leadership qualities and characteristics of sustainable schools. Like Harris, they found that successful sustainable schools had sustainability fully embedded, and "the responsibility of everyone rather than the personal commitment of a few" (Birney & Reed, 2009, p.4) in a whole school approach. Among the characteristics Birney and Reed found to be common in sustainable schools were: an outward-looking attitude; a *culture* of sustainability, communicated to all members of the school community; positive benefits to pupils in terms of engagement, participation, leadership, attainment and behaviour; connection with other educational initiatives; a specific focus on children's learning via real-life contexts and practical, hands-on activities;

changing the curriculum, embedding sustainability across the whole curriculum so that it is viewed differently (Birney & Reed, 2009).

In order to do this, Birney & Reed recommend:

- Establishing the situation regarding sustainability in a school, via an audit; identifying and developing leaders; celebrating success;
- Leaders demonstrate a *full* commitment to sustainability: this may involve a change to a more devolved style of leadership;
- Leaders delegate to capable deputies, involve students and network within and outwith the school;
- Identifying a clear vision, and putting it in the school development plan
- Being patient, flexible and creative with change; evaluating and reflecting on progress; making resources available;
- Making connections with other issues and initiatives and extending learning (Birney & Reed, 2009).

All of these steps are also recommended by Jackson in her report for the WWF and NCSL. She adds that she found that schools generally said they knew that sustainability was very important, but had not put it in place, citing familiar problems: lack of time, support, money and flexibility (Jackson & WWF, 2007).

Jackson is firm in criticising an over-emphasis on exam results:

“...schools which have opted for a sustainable ethos are often looking for achievement in broader areas such as effective socialisation of pupils rather than improved SAT scores.¹⁴” (Jackson & WWF, 2007, p.47)

Two more findings stand out from Jackson’s work. Surprisingly, given the broad consensus that schools over-emphasised the environmental aspect of

¹⁴ Standard Aptitude Tests (SATs) are taken by students in England at the ages of 7 and 11: these tests establish student attainment and progress.

sustainability, Jackson identifies the environmental aspect of sustainability as the area of greatest weakness in schools (Jackson & WWF, 2007). Secondly, Jackson describes as “clearly an important finding” her conclusion that:

“pupil engagement was the least significant barrier which, coupled with their potential influence, indicates the value in enabling them to actively participate, and even lead, aspects of sustainability...this must be considered to be the case for both secondary and primary pupils” (Jackson & WWF, 2007, p.41)

Gayford (2009), also writing for WWF-UK, focused his research on the perspectives of school pupils: as such, his study provides an interesting contrast with reports focusing on school leadership and staff (Harris, 2008; Birney & Reed, 2009). Gayford found that most of the pupils he spoke to thought that sustainability was important, and all wanted their schools to demonstrate that they valued sustainability and took it seriously. He noted a difference between primary and secondary pupils, surmising that secondary pupils’ lower level of support for sustainability might be explained by the increasing peer pressure and economic responsibilities they felt, as older children. He also states that primary school children were more likely to conform to “the received attitudes of the school/staff” (Gayford, 2009, p.14).

Working with school-children over a period of time, Gayford attempted to identify changes in pupil knowledge and competencies around sustainability, and factors that affected them. He asserts that both knowledge and competencies improved over the three-year period he looked at, and lists aspects of the schools associated with these improvements. These aspects include themes familiar from other literature already discussed (explicit links to sustainability in the school curriculum and the school ethos; integration between the formal and informal curriculum; events and activities involving the local community; student councils; excellent communication within the school) but

also the need for concordance between school and home, in terms of attitudes towards sustainability (Gayford, 2009).

Gayford's work also includes other key findings. He notes that, although other literature has criticised schools for only addressing sustainability through one-off events, pupils actually like this sort of activity. He also suggests that the most successful student councils are ones where students themselves run the meetings, and that students feel disillusioned if they do not see the results of their efforts before they leave their schools, which can be a relatively short time.

Gayford does, however, note:

“It is apparent that pessimism can turn to hope when young people are given knowledge about how to act, and when what might be described as ‘unfocused fear’ is replaced by factual information and practical strategies for addressing issues.” (Gayford, 2009, p.5).

In addition, Gayford suggests that the term “‘sustainability’ could be problematic [in home-school communication], as it could cause confusion over what the school was trying to achieve” (Gayford, 2009, p.18), presumably because many parents will not be aware of its meaning¹⁵. Finally, he includes many young people's comments, covering their concerns, in this report, but tellingly, he concludes that, “There was a sense among young people that adults did not take these matters sufficiently seriously.” (Gayford, 2009, p.8).

Certain messages seem to have appeared several times in the literature reviewed in this section. There is a broadly agreed body of advice that schools can try to follow if they want to focus on sustainability and common barriers identified, which might also help this process. The barriers identified in NGO literature seem to tie in with one of the themes in Section 2.3: government

¹⁵ I found the same thing with students, when trialling a questionnaire at my pilot school (see Sections 3.6 and 7.2.1).

policy leads to a far greater emphasis on examination results, rather than certain other aspects of schooling such as ESD¹⁶. Consequently, the majority of schools do not see ESD as a priority and it is not dealt with effectively, despite its (admittedly limited) presence in the NC.

2.5 International Context

The problems of developing a sustainable school are not limited to the UK. For example, 2005-2014 was declared the UN Decade for ESD, and UNESCO, UNECE and the Council of the European Union have all examined the situation regarding sustainability in education in recent years. The Council of the European Union concluded that member states should generate policy, focusing on interdisciplinary, cross-curricular, whole-school approaches and “removing barriers to institutions which are pursuing the sustainable use of their resources” (Council of the European Union, 2010, p.5). Further work was suggested on training and awareness-raising among teachers and school leaders, to help educational institutions to act as role models in policy and practice by actively involving all stakeholders (Council of the European Union, 2010, p.5).

UNECE also focused within Europe on teacher training (UNECE, 2008) discussing what to teach, how to teach and where to teach, in terms of policy, finance and other issues to do with building capacity around ESD. Educators’ lack of competence in dealing with ESD is identified as a common problem, and solutions are suggested: a systemic approach and level of change is specified,

¹⁶ This is made worse by the use of ‘League Tables’ to rank schools according to their performance in terms of examination results. See <http://www.education.gov.uk/schools/performance/index.html>.

as ESD “involves entirely new approaches to teaching and learning”, and there are very few examples of good practice (UNECE, 2008, no page no.).

In the same document, some other familiar problems are identified: as in the UK, the environmental aspect of ESD has hitherto generally been the one focused on most, and the lack of an agreed definition of ESD seems to have been seen as a problem (UNECE, 2008). The document stresses the need for a collaborative approach to staff competences:

“The concept of collective competence is vital, as it serves the demand of ESD far better rather than the individual competence (it seems unlikely for a single person to possess all components needed for SD competence).” (UNECE, 2008, p.4)

The authors suggest a focus on ITT, stressing a whole-institution approach. They prescribe teaching SD as a subject, focusing on examples and explaining the environmental impacts and economic and social implications of these examples. The authors also note that ESD requires a shift in teaching methods, as it needs more emphasis on solving problems and less on providing knowledge. Competences in ESD should be demonstrated by the *application* of knowledge, and a focus on learning, rather than teaching, is needed. Finally, ESD should be integrated into other subjects, providing an holistic approach, and pupils should be involved in planning the curricula, which should include forming values, not just passing on information (UNECE, 2008).

In terms of the actual situation in schools, a fuller picture than the few hints already given can be found in Wals’ (2009) publication for UNESCO. Wals (2009) brings together information about the global situation for ESD, and identifies similarities between nations and regions. He also discusses the variations in definitions of ESD, but argues that this could be a strength, as it allows for site-specific interpretations, which are vital to ESD as a concept and

practice. I have some sympathy for the view that some agreed core understanding of the meaning of ESD is helpful, but any such understanding must still allow context-specific flexibility in interpretations and applications.

Wals notes that different countries approach ESD in different ways, categorising them into those that emphasise the 'SD' in ESD and focus on changing behaviour as a result, contrasted with those that focus on the 'E' of ESD and tend to favour developing capacity. This not only leads to two different pedagogical approaches, but is especially interesting in the light of the points made in Section 2.3 about the UK government's reference to 'behaviour change' in ESD-related policy (Wals, 2009), suggesting an 'SD' emphasis here. Wals also notes what he sees as a shift towards more emphasis on the 'E' of ESD in the last five years across the globe, but notes that ESD and SD are often perceived as "Western concepts" (Wals, 2009, p.21).

In terms of specifics, Wals' document lists policies for putting ESD into place and compares the strategies used, categorising them into three sets and recommending an 'integrated' approach (which he identifies with the UK among others). Problems are also noted: public budgets for ESD are usually minimal or absent altogether; any certification of ESD tends to focus on environmental management; and research into the effectiveness and outcomes of ESD is inadequate. Wals calls for a major shift in education, away from an 'assessment culture' and a fragmented curriculum, towards ESD's focus on connections, participation, and transformative (as opposed to merely transmissive) learning (Wals, 2009). Much of this is familiar in a UK context, but Wals' report makes it clear that the UK is not failing to address ESD *when compared with the situation in other countries*.

However, there are countries with comparable or greater levels of success in dealing with the tricky problem of including sustainability in education. As one might expect, they tend to be Developed Countries, but it is also worth noting that much of the work done in countries outside the UK is also done in cooperation with NGOs. One example is the work of the Environment & School Initiatives (ENSI), an OECD project formed in 1986 with 12 member countries in Europe, expanding to 22 members globally in 1989, independent since 2004, and involved in the UNs 'Decade for ESD' beginning in 2005. ENSI continues to work with OECD, UNECE, UNEP, and the 12 countries remaining as members. The ENSI project on the concept of the 'ESD-School', which they differentiate from 'eco-schools' or 'green schools' (claiming a fuller understanding of ESD), was developed from work done in Australia, Austria, Belgium, Denmark, Finland, Greece, Germany, Hungary, Italy, South Korea, Norway, Spain and Sweden (Breiting *et al.*, 2005).

Breiting *et al.*'s assessment (2005) of this programme includes several key findings:

- They make a distinction between a school's 'mission' and its 'educational plan' (p.4);
- They discuss a school's culture in terms of its "collective 'memory'" (p.11);
- They see an ESD-School as a whole-school process;
- They recommend exploring values held by school members in order to work towards becoming an ESD-School;
- They note that short-term behaviour change does not correspond with a long-term change of values; and
- They emphasise that "the really important achievements are related to the teaching and learning processes and the school climate and organisation,

rather than to the practical actions or outcomes in the school or in the community.” (p.9)

There are similarities here with the situation in the UK literature (whole-school emphasised; short-term behaviour change questioned) and with some of the ideas around institutional culture covered in Section 2.6. Also, the final point adds another theme to the argument around priorities in ESD: is education most important, or is SD?

Elsewhere, government-led programmes have also been developing the idea of ESD and sustainability in schools. In New Zealand, for example, the government ‘Enviroschools’ programme began in 2002; administered regionally, it offers schools support in making their operation more focused on sustainability (Henderson & Tilbury, 2004). Youngs (2008) looks at the New Zealand Curriculum, focusing especially on leadership, and suggesting that there is also a problem with “external initiative overload” (Youngs, 2008, p.2): it seems this is not just a problem in the UK.

Westin (2007) has looked at the situation in Sweden; he finds several similarities with the UK situation:

- ESD goals are hard to measure: it will be elaborate and time-consuming to see if students have learned – and if they act on their learning;
- In-service training is fragmented;
- Development of Environmental Education (EE) and ESD has largely been driven by keen teachers, regardless of the lack of central government leadership;
- Barriers include: resistance to cross-curricular subjects; pressure for examination results in schools; difficulty in assessing ESD, where other

parts of schooling are easier to assess; the work being done is not coordinated (Westin, 2007).

In China, the Green Schools project is a national government framework which started in 1996: it was founded to work towards the ISO14000 environmental management standards, but was also influenced by European 'Eco-Schools' (see Section 3.5.5). Schools in China are required to incorporate environmental education in their curriculum through infusion in subjects (the school decides which subjects to concentrate on) and a new subject, 'Comprehensive Learning'. Schools are required to make strong links with their local community and establish a Green School Committee, evaluating their work themselves and working towards awards given by the State Environmental Protection Administration, who manage the programme (Henderson & Tilbury, 2004).

Church & Skelton (2010) summed up the state of sustainability in schools in the United States:

“...the U.S. President's Council on Sustainable Development (1996) published *Education for Sustainability: An Agenda for Action*. This document articulated a clear vision and a Federal agenda for education for sustainability in formal and informal settings and was emphatic in calling for the presence of sustainability in the K-12¹⁷ curriculum as well as in the preparation of teachers. Since that time, global sustainability has become increasingly prevalent in teaching. Some states have or are adopting education standards around sustainability (e.g. Vermont, Washington)...Our data indicate that sustainability is being successfully integrated in every state, in every grade level, and in most subjects.” (Church & Skelton 2010, p.2)

However, I did not find any evidence in the literature to corroborate this claim.

The Eco-Schools programme also operates in the US¹⁸, and it is interesting to

¹⁷ 'K-12' denotes primary and secondary schooling.

¹⁸ As with Eco-Schools in Europe, the US scheme is administered by a no-profit organisation: in this case, the National Wildlife Federation, which was granted this status in 2008 by the European Eco-Schools coordinating body, the Foundation for Environmental Education.

note that the first 'Green Flag' awarded to a US school was in April 2011, suggesting that this programme at least lags some way behind its equivalents in Europe, for example (Greenberg, 2011). Admittedly, in other areas, the US is at the front of the movement towards sustainable schools: the state legislature of Maryland voted in 2011 to require students to receive a "comprehensive, multi-disciplinary environmental education" before they were able to graduate from High School (Gewertz, 2011). I acknowledge that this is a limited part of sustainability in education, but it is closer to sustainability in schools than the equivalent in the UK.

Current Federal Government policy in the US seems to focus on environmental management, economic well-being and citizenship, with the first two aspects appearing to be significantly more important than the last one. For example, the language used to describe the new 'Green Ribbon Schools' Federal programme: "Green schools are critical to schools' fiscal health and our nation's economy" (US Department of Education, 2012) would not be found in UK government literature on sustainability.

In Australia, the Australian Sustainable Schools Initiative (AuSSI) is a central government programme, involving around 30% of schools. It

"...engages students, staff and members of the community to improve the management of a school's resources and facilities...AuSSI also integrates these activities with teaching and learning across the curriculum, including key elements of social sustainability...By participating in a learning by doing process, students achieve a better understanding of the world in which they live, and have opportunities to help create a more sustainable future."
(Australian Government, 2008a, p.1, my emphasis).

The emphasised sections of the above quote bear similarities to aspects of programmes in the UK: a whole-school approach is again recommended, including management of the school estate and teaching and learning, the

social and community aspects of sustainability, and an approach to learning that emphasises action. Staff training is provided as part of the programme, which is interesting given that CPD is an area of weakness identified by the UNECE (2008), Environmental Audit Committee (2005), and Chatzifotiou (2002) above.

Schools are recommended by AuSSI to follow a suggested action learning model (see Figure 2.1) comprised of four sections contributing to a central goal:

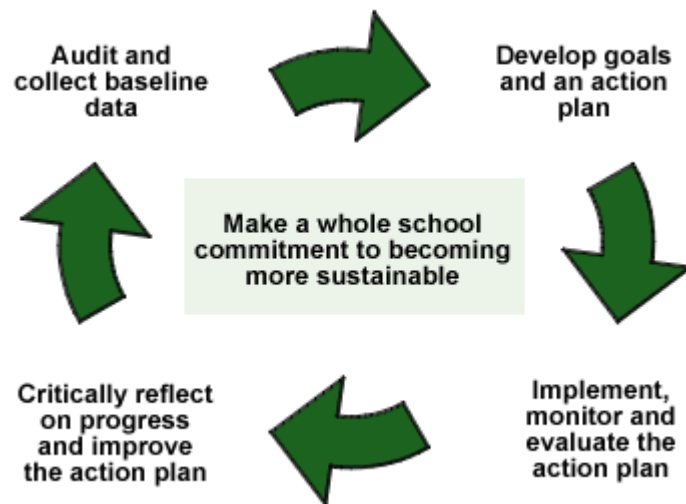


Figure 2.1: AuSSI School Action Learning Cycle (Australian Government, 2008b)

Similarities with other programmes are again apparent: the need for the school to have a *learning* approach, accepting that sustainability is a process of learning rather than an end in itself; the need to take a *whole-school* approach; and the need for the school to show they are committed to this. One of the seven ‘Guiding Principles of AuSSI’ states that the programme “develops a school culture committed to the principles of sustainable development” (Australian Government, 2008a), showing considerable alignment with the ideas explored here.

Although the AUSSI programme is based on central government policy, the States and Territories that make up Australia have flexibility in the specifics of their approach. Schools in Victoria have the option to become 'Resource Smart', focusing on resource use (State Government of Victoria, 2011), and South Australia has developed a subtle and complex model, as outlined in Figure 2.2:



Figure 2.2: AuSSI-SA Model of a sustainable school (SGSADECS, 2007)

The elements, 'Learning', 'Managing' and 'Community' seem very similar to the three aspects of the UK SSF, 'Curriculum, Campus and Community': in addition, the four 'elements' of the model are described as possible entry points for schools, rather like the '8 Doorways' in the SSF in the UK. However, two other aspects are included in this model. 'Understanding' is deemed important enough to hold the same status as 'Learning', 'Managing' and 'Community': again, the lack of familiarity of school staff and the need to raise awareness noted above and in Section 2.2 are echoed in this facet of the model. Furthermore, 'Culture' is included, at the heart of the model: I am interested in whether and how a school culture can focus on sustainability, so this is

particularly relevant for my PhD (State Government of South Australia, Department of Education and Children's Services, 2007).

I note the similarities between this model and that used by the Centre for Sustainable Futures (CSF) (Selby 2009), shown in Figure 2.3:

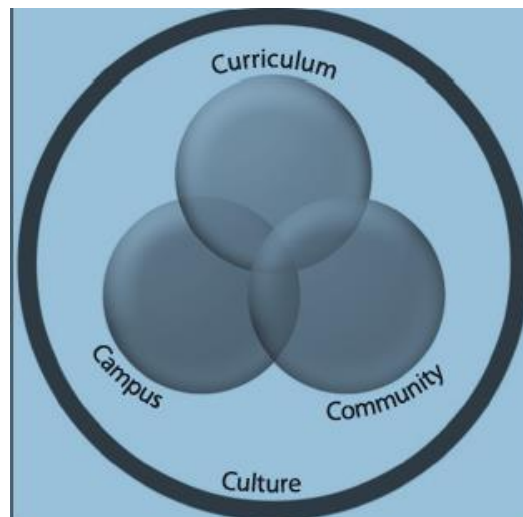


Figure 2.3: Centre for Sustainable Futures Model of Sustainability

Both models utilise a design which demonstrates an overlap between the different elements of sustainability in education, and the importance of a joined-up approach.

The common themes that emerge when considering the work done on ESD in other countries and by the UN can be summarised as follows:

- ESD needs to be clearly defined and assessed;
- Teachers need to feel able work on ESD: it should be a familiar concept to them;
- Schools need to feel that ESD is a priority to give it the attention it requires;
- Government leadership on ESD is necessary;
- Where ESD is practised, an holistic interpretation of SD is required;

- In terms of the *purpose* of education, the demands of education and SD must be reconciled;
- A whole-school approach is necessary.

2.6 School and Institutional Culture

In order to understand why school culture can be important to sustainability, one need only look at the literature on sustainability and schooling. The idea of a ‘whole-school’ approach appears repeatedly in UK government literature (Section 2.3) and is also widely used in academic studies and NGO literature (Sections 2.2 & 2.4), whether related to ESD and sustainable school or other aspects of schooling (‘the global dimension’, social and emotional learning, etc).

‘Whole-school’ approaches to learning have been shown to be effective:

“In the most successful schools, sustainability was an integral element of a well-planned curriculum and all staff, not just a dedicated few, saw it as their responsibility to develop it. As a result, it imbued the culture of the school.” (Ofsted, 2009, p.4)

However, it is not always made clear what ‘whole-school’ actually means. DfES give one definition (Antidote, 2003, in DfES, 2007, p.22): ‘thinking holistically, looking at the whole context including organisation, structures, procedure and ethos, not just at individual pupils or at one part of the picture’: on the same page, there is a mention of “the curriculum, the environment and the community”, and of “leadership, policy, curriculum and environment”.

This last point suggests that any study of whole-school approaches – or any study of an area where a whole-school approach is prescribed – will need to look at multiple aspects of a school, and consider not only the physical site and buildings but also the people who form ‘the school’. School culture, as

specifically mentioned in the Ofsted report cited above, is a concept that fits this requirement.

A broad-perspective approach looking at the culture of a school also fits very well with one of the guiding paradigmatic principles of sustainability itself: holism (see also Sections 2.2 & 2.4). School culture encompasses the attitudes, beliefs and values of members of the school, as well as their behaviour and the environment in which the school operates: it also includes staff (teaching and non-teaching), pupils, management, governors and parents/carers (see Sections 2.6.2 and 2.6.3 for a much fuller discussion of definitions of school culture). I start this section by looking at the problems with using a narrower focus on curriculum to try to encourage sustainability in schools, and then discuss what a cultural approach might consist of.

2.6.1 Beyond Curriculum to School Culture

A common approach used in trying to introduce environmental or sustainability education, by concentrating on making changes in the *curriculum*, has not worked (Huckle, 2009; see also Sections 2.2-2.5). Clearly, what is taught in schools is an important consideration when looking at a specific problem in education or the ways to change education in a particular way, but simply altering the content of courses is not sufficient. At least in part, this is because learning facts about issues relating to sustainability on their own is not sufficient to promote actual behavioural change, as many studies have shown (e.g. Jackson & WWF, 2007; Birney & Reed, 2009; Gayford, 2009; Whitmarsh *et al.*, 2009).

Furthermore, sustainability itself is not just a set of facts that one can 'know': it is at least as much about values and attitudes (Huckle, 2006). This is

particularly true of a large group of people like a school, where a sustainability culture, a shared attitude that ‘things should be done sustainably’, is arguably much more powerful and effective than simply factual knowledge (see Sections 2.2-2.5). Pring (2004, p.80) cautions that it is hard to *teach* any kind of social or personal development, because of the lack of an agreed body of knowledge to teach from: sustainable schools – in actual operation – will require change and a focus on both social and personal development.

There is also a tension between the desire to change large parts of the educational system and the need to act quickly, in the light of the severity of climate change, for example. Changing the culture of individual schools is a much more manageable task than changing the whole education system, and it may also be possible to teach traditional subjects in a culture of sustainability. Whether this would in turn lead to a change in the system in the long run, or whether *real* sustainability can only be achieved by systemic change is debatable, but, until that happens, and perhaps school culture is an area where change might genuinely occur.

2.6.2 Definitions of School Culture

Various descriptions of the culture of a school exist in the literature, since even some studies that do not specifically set out to study culture or exclusively to use the concept mention the idea and give some sort of definition. Some use a definition specifically related to *school* culture, while others use or relate their ideas to a definition of *organisational* culture in general: the relationship between these two ideas is discussed in more detail below.

1) Schoen & Teddlie (2008, p.132), among others, cite Waller's (1932) definition as an early example: he mentions schools having a distinct *identity*, based on the rituals, relationships, mores, codes and sanctions that operate in them.

2) Ball (1981) mentions that school culture defines acceptable *practice* for staff, and is based on what the school sees as valuable.

3) Deal and Kennedy (1983, p.140) mention "shared values and beliefs, heroes and heroines, rituals and ceremonies, and an informal network of priests and priestesses, storytellers, spies and gossips": these function to knit the school community closely together.

4) Ott (1989, in Van Houtte, 2005) describes *organisational* culture as existing to provide group members with shared interpretations from which they can determine how to act and think, what they are expected to value and feel, what they can and cannot do, and who is a member of the group.

5) Van Houtte (2005, p.74) lists several definitions of organisational culture with shared elements, including: systems of meanings, taken-for-granted assumptions, shared beliefs, meanings and values that lead to certain actions, and shared understandings about aims and problems.

6) Finally, Maslowski (2006, p.9) works out a definition, settling on, "...the system of basic assumptions, norms and values, as well as the cultural artefacts, which are shared by school members and influence their functioning at school."

2.6.3 Schein's Model of Culture

Many theories of school culture link to ideas about organisational culture generally (e.g. Schoen & Teddlie, 2008, p.129). This branch of theory has tended to deal with business organisations, but has contributed concepts to school culture research because of the similar size and complexity of schools and many medium-sized businesses, not to mention the important 'human' element of the systems involved. Maslowski (2006), Schoen & Teddlie (2008) and Van Houtte (2005) all cite the influences of Edgar Schein's ideas on organisational culture. His is the model I chose to use.

Schein's model of organisational culture (1990, pp.111-112) describes three levels of culture (see Figure 2.4). The 'deepest' consists of assumptions made and held by members of the organisation, which are originally explicitly held values and beliefs, but which become so deeply embedded in the culture of the organisation that they may well be completely unrecognised by the organisation's members. This level influences the second one, which consists of *espoused* beliefs and values, and existing norms. The third, 'surface' level, easiest to identify, consists of the *practices* based on espoused beliefs and values and dictated by norms, but also manifests itself in terms of *artefacts* (such as dress code, physical layout, smell and feel of a place, records, policies and so on).

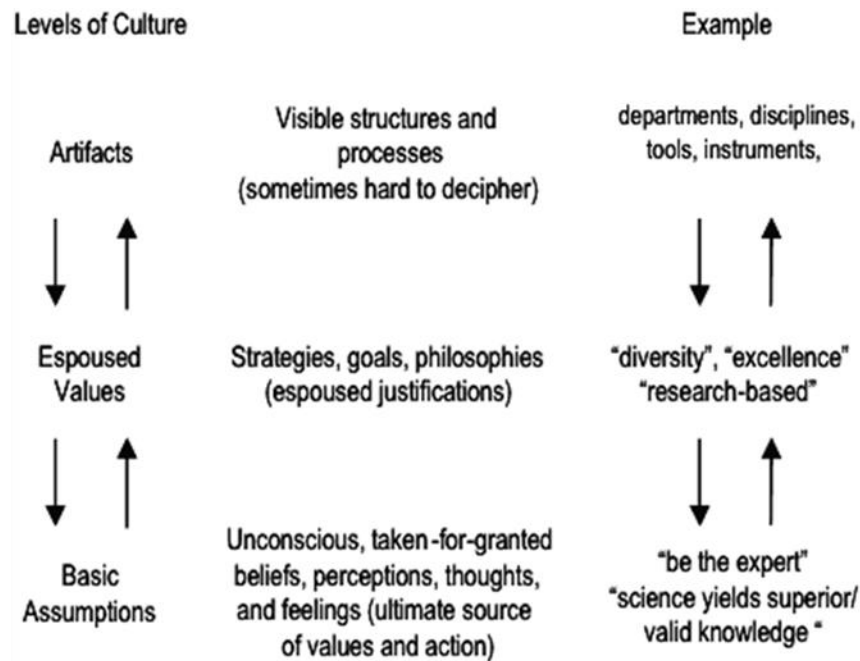


Figure 2.4: Schein's Model of Organisational Culture (After Hassell, 2004)

However, Schein does make it clear that his three levels of culture interact in a complex fashion: it is not a simple matter of linear progress from 'deep' to 'surface' (Schein, 1990). Furthermore, as new members of a group join, they are influenced by the culture, but also influence it themselves: culture is a stabilising force, but is not a static one (Stoll & Fink, 1996, p.83).

Schein also gives a definition of organisational culture: it is "... (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems" (Schein, 1990, p.111). In terms of influences on the *formation* of culture, he also notes that organisational culture is underlain by a set of assumptions *and the organisation's relationship to its environment*. Schein's definition of the 'surface' level of culture gives an idea of

how it manifests itself, this being helpful in my empirical research in the three case-study schools.

2.6.4 Changing School Culture

Although it is an area that deals with some extremely complicated ideas, which cannot be discussed fully here, I think it is appropriate to include an overview of propositions about changing school culture. These are drawn from the general literature on organisational change as well as that specific to schools (just as organisational culture material in particular has relevance to school culture in particular), and the literature reveals several key pointers.

One pointer comes from the work of Argyris & Schön (1978) on organisational learning. Their ideas suggest that true change comes only when the system from which a culture has emerged is changed itself. Where there have been problems with secondary schools addressing sustainability, they have tended to try to change only the *methods* by which they have taught about sustainability, while adhering to the requirements of the National Curriculum and so on. Argyris & Schön call this 'single-loop learning', and their ideas suggest that a more fundamental change is needed ('double-loop learning' – changing the context in which teaching takes place, based on a new understanding of the situation). Orr (2004) agrees, describing the need for a *paradigmatic* change in education – changing methods is not enough, because the paradigm from which our present model of schooling comes limits the possibility of change to a genuinely sustainable education so far as to make it impossible. Sterling describes 'third-order learning', which involves a paradigmatic change, noting that double-loop learning comes about through incongruence with external factors (Sterling, 2001; see also Section 2.2). This claim fits perfectly with the

ideas of Meadows (2001), who advocates changing the paradigm as the most powerful way of changing *any* human system.

Seel (2000, p.3) specifically deals with ways of changing Higher Education, but there are great similarities between his description of organisational culture and those used by Hanson (2001, p.638) in describing school change. Seel (2000) also draws on Meadows' work, and Hanson (2001) on that of Argyris & Schön. There are sufficient similarities for conclusions to be drawn about how to try to change school culture. Firstly, change must come from within the system (Meadows, 1997; Levin & Riffel, 1998; Seel, 2000, 2005): those wishing to change culture must work from within the school (although, of course, legislators can help to put in place a situation where this is more easily accomplished). Secondly, the key to promoting change is communication between the members of the school: this increases *connectivity* between them (Seel, 2000), which will eventually lead them to change the way they see their jobs and the organisation.

Thirdly, school leaders have an important role to play (Deal & Kennedy, 1983; Busher & Barker, 2003; Van Houtte, 2005; Maslowski, 2006). Seel describes the importance of the conversations members of an organisation have in forming the culture of the organisation, and states that the way to *change* the culture is to have *different* conversations (Seel, 2000; 2005). Leadership can promote this kind of communication, and can also take measures to counter the school's innate resistance to change (Meadows, 1997; Seel, 2000). Fourthly, any change should seek, if possible, to examine the way the *whole* organisation

works, including factors influencing it from outside¹⁹ (Van Houtte, 2005): double-loop learning is needed. However, change *cannot* be completely controlled or predicted, so leadership can only *prepare the ground* for change, *support the possibility* of change, be patient, be flexible, monitor the situation, and be prepared to react to changes. I will return to these ideas, in the context of sustainable schools, in the final chapter.

2.6.5 Subcultures in Schools

Deal & Kennedy (1983, p.141) suggest that sub-cultures within a school may result in different 'factions' working towards different goals, leading in turn to a lack of progress in any given direction. The suggestion is that sub-cultures may work against each other, so the school leader should try to ensure that there is a unified, strong, school culture. Van Houtte also notes that a school is not likely to have a single culture, but rather a set of sub-cultures. He includes the distinction that Meyerson & Martin (1987) make between models of school culture:

- 'integration' (there is one, integrated, unified, clear culture);
- 'fragmentation' (individuals share some views, discuss others, are ignorant of others and ignore others, so there is no clear coherent culture);
- and 'differentiation' (a 'mosaic', where some views are shared by some members of an organisation, resulting in a set of sub-cultures: this is likely to occur where there are clearly distinct groups, such as staff and students).

Van Houtte also observes that the third of these models (the mosaic) is the one most often used by school researchers (Van Houtte, 2005, p.83).

¹⁹ Which fits very well with the idea of holism in sustainability, with the idea of a 'whole-school approach', and with Schein's point about institutional culture existing in a wider context.

For my research, Schein's (1990) model was selected as the most suitable for use, on the basis that it is most compatible with the method, subject and categorisation of definitions used (see also Sections 3.4 and 3.7). It helped to inform my thinking in designing the data collection and analysis methods, in terms of how to identify likely signs of school culture, and to establish the extent to which each school's culture focused on sustainability (see Chapters 3-8).

2.7 Chapter Synopsis

As this chapter has demonstrated, there is a great deal of literature on the areas of sustainability, schools and culture. However, there are areas where the literature is less comprehensive than it might be and the identification of these gaps and areas of weakness through this literature review has helped shape the scope and content of this thesis, as outlined below:

- a) It became clear that more work on sustainability education is needed at secondary level. The challenges tend to be rather less demanding in the primary sector (Ofsted, 2008; WWF-UK, 2009), and in recent years there has been a surge of research and literature on sustainability in Higher Education (Locke *et al.*, 2009), perhaps understandably as academics have focused upon 'getting their own house in order'.
- b) Much of the existing literature proposes a whole-school approach, which points to the advantages of a broad-based study incorporating a range of stakeholders, including school leaders, teachers, students, parents and governors. This also suggests that schools need strong links with their local community and to involve students' in the leadership of their school.
- c) Although several studies of sustainability education refer to the importance of culture (or ethos or another similar term), this has rarely been a

deliberate focus of enquiry. Therefore, although the research presented in this thesis spans a broad agenda, at selected points, specific attention is given to the cultural dimension (including the challenge of its identification and measurement). The use of Schein's (1990) model in an educational study rather than a business setting is innovative.

- d) Existing studies tend to cover a substantial number of schools, which brings benefits, but militates against depth of analysis and understanding. The decision was made that this PhD would therefore focus principally on three case-study schools.
- e) Several existing studies (Harris, 2008; Birney & Reed, 2009; Gayford, 2009) focus on one particular aspect of sustainability in schools, for example leadership, or student views. By contrast, this thesis adopts an holistic approach which presents a more rounded, integrated picture.
- f) To meet the specifications above demanded sustained day-to-day contact with members of the school community and extended visits to case-study schools. An ethnographic approach was therefore adopted (outlined in the next chapter), which, to the best of my knowledge makes this study unique in the sustainability literature on secondary education.
- g) Most of the research done, including the large-scale, long-term Ofsted (2009) study has focused on schools that are among the best at integrating sustainability. There is, of course, great value in looking at leading exemplars, and many organisations working on sustainability in schools have excellent case studies for those who are interested in trying to further integrate sustainability in their schools. However, the relative lack of studies focusing on schools struggling to engage with sustainability is puzzling, given that there are so many schools in this situation. This PhD research

was designed to explore sustainability in schools that are *at different stages* and levels of engagement with the sustainability agenda.

Having outlined the PhD's broad research questions in Chapter 1 and used the literature in Chapter 2 to inform and explain the particular scope and direction of the research, the next chapter focuses on how these ideas were translated into a programme of practical research, through selected methodology and methods.

Chapter 3: Methodology & Research Methods

3.1 Chapter Introduction:

This chapter describes and justifies the choices made regarding research methodology and specific methods. Referring to my research questions (see below), some of the information needed to answer them is conceptual and can be obtained from written sources. However, in order to explore in more detail the actual practice around sustainability and the more intangible questions about schools' culture, I felt it necessary not only to use documentary material, but also to employ other modes of enquiry which can be more penetrating and illuminating. I chose to use a methodology which has recently become more common in educational research, namely an ethnographic approach. This selection was based on the compatibility of the methodology – and associated methods – with several aspects of the research focus and aims. Additionally, ethnography has not been frequently applied to sustainability education, and so it was also a novel approach.

This research aimed to answer the following questions:

- What kinds of approaches are English Secondary schools taking with respect to sustainability?
- To what extent does sustainability feature as part of these schools' culture and values?
- Based on the research evidence from this thesis, what steps could be taken to strengthen and improve sustainability education in English Secondary schools?

Interviews were used to investigate the first two questions. However, in order to provide triangulation within each school and to compare what my interviewees

said with events I witnessed and with official documents, I also conducted observations of lessons and other events (assemblies, open days, meetings) and read school policies, brochures and other documents. As we have seen (in Section 2.6), culture is a many-layered entity, so *spending time* in the schools I visited and *observing actual practice* was just as important as explicitly asking members of the schools about it. The various types of data collected in these different ways helped me to build up a picture of each school's culture, to compare with the models of culture in the literature (see Section 3.7.4).

3.2 General Methodological Considerations

Research in education has a long tradition on which to draw, but much recent debate around educational research has focused on whether there are problems with its tendency to focus on the specific over the generalisable, and the subsequent lack of an agreed body of knowledge from which, for example, policy-makers can draw (Pring, 2000, 2004; Oancea, 2005; O'Reilly, 2012). Some of this discussion has centred on the perceived preference of educational researchers for qualitative methods, which can lead to context-specific results from which it is inappropriate to form 'general theories'. And yet this particular PhD adopts an ethnographic approach of the sort that typically relies heavily (though not exclusively) on qualitative methods, focusing on the experiences of the members of schools visited to try to establish their perspectives.

In one sense, this is because a strong argument can be made for research in education being a special case. Education is specifically concerned with people and their perceptions (Halsall, 1998a; Flick, 2009) which are hard to quantify (for example, "How much did you learn at school?"). It is also extremely complex, whether one considers the operations of a single school or of the

education system of the whole country (and this study is based on the assumption that single schools cannot be studied in complete isolation from the system into which they fit). So many interacting factors (staff, pupils, parents, policy, administration and so on) are extremely hard to take into account using only quantitative measuring techniques, and require subtlety of collecting and analysing data of the kind that qualitative research specialises in.

Furthermore, education itself is a process which is particularly context-specific. Martin *et al.* (2009) make the point that measuring quality in schools is different to a similar process in industry because the teacher is not the sole influence on 'outcomes', and the 'recipient' of the 'process' (i.e. the learner) is heavily involved in it, not to mention the context, physical environments, other learners and so on. Education is different for everyone involved, from one place to another and from one time to another. Subtle tools are needed to research it and generating quantitative data with the aim of making statistical generalisations is not always possible or appropriate. Flick (2009) argues that qualitative research as a whole is more an *attitude* than simply a technical exercise. This is similar to ideas about sustainability, in that some advocates of sustainability argue that knowing immediately what to do is not as important as having the skills to respond to a situation in an appropriate way, and from these being able to think through what to do in order to come to the 'best' decision.

In terms of this specific study, I intended that some data would come in existing textual form (e.g. school documents) and some would be *recorded* in textual form (e.g. transcripts of interviews), both of which would be largely, if not wholly, qualitative data. However, I am inclined to agree with Flick's main thrust (2009) that the most important consideration is not "qualitative or quantitative?" but "do

all aspects of the research question, design, process and methods fit together?” In alignment with this, and with the flexible, ethnographic approach, only a few particular aspects of schools studied (size, location, staff numbers etc) will be expressed in quantitative terms.

3.3 Assumptions

Part of the research process is reflexive, as the ‘accuracy’ of the results will inevitably be influenced by the researcher’s limited and biased perceptions. To allow for this, Jickling (2009) emphasises the importance for environmental education researchers (a field very close to sustainability research such as this) of stating, at some point, their underlying assumptions about education and ethics. Malone (1999) goes further, arguing that environmental education research is, by its nature, a political act: she writes about her beliefs in her research findings not only to clarify any perceived bias on her part, but because she maintains that her personal beliefs and experience are *an asset* in the research, not a *barrier* to it. She draws parallels between environmental education research and feminist research, where a researcher *engaging* in the struggle against sexism is ‘permissible’: Malone wonders why environmental education researchers should not have the same ‘permission’ openly to favour one point of view. She concludes that all environmental education research is *activism*, by definition. Hammersley and Atkinson (2007) make the point that ethnography cannot merely be concerned with facts, but must also, by its nature, be concerned with values: this means that ethnography is political.

Malone’s stance is controversial, so I intend to ‘bracket out’ my own assumptions and values as far as possible (Creswell, 2007), but the ground shared by her and Jickling *does* resonate with the idea of researcher

transparency. On that basis, it may be helpful to reiterate some of the assumptions I am making in this research (see also Section 3.2):

- That the world faces major sustainability challenges, such as coping with climate change, and that education should play a role in meeting these challenges;
- That there is a perceived problem or deficit with respect to the profile and practice of sustainability in UK secondary education;
- That it is important to find out what *the people involved* in secondary education think about sustainability in schools;
- That the concept of institutional culture might help to shed light on the situation and issues facing sustainability in schools;
- That the best way for this study to proceed was by induction;
- That the subject, design process, methodology, methods, and every other part of the research should all ‘fit’;
- That this study should produce ideas and recommendations relating to school improvement²⁰;
- That the results are likely to help inform a set of related proposals, rather than one or two specific hypotheses .

3.4 Ethnography

With this in mind, it is worth reiterating what ethnography is and why it is such a suitable methodology. Hammersley & Atkinson (2007) describe ethnography as “first-hand empirical investigation” and “theoretical and comparative investigation of social organization and culture” (p.1), and stress that fieldwork

²⁰ Reed (2009, p.143) quotes a definition of *school improvement* from Van Velzen *et al.* (1985, p.48) that I am following: “A systematic effort at change in learning conditions and other related learning conditions in...schools with the ultimate aim of accomplishing educational goals more effectively.”

is central to this form of research. They expand upon this brief description (pp.3-4), explaining what an ethnographer might typically do while researching: participating in the daily lives of those researched over a period of time, listening and/or asking questions, reading documents and “generally gathering whatever data are available to throw light on the issues that are the *emerging* focus of inquiry” (Hammersley & Atkinson, 2007, p.3; my emphasis). Typically, only a few cases are researched (if more than one), but they are researched in depth. The method of spending time with people and focusing, at least some of the time, on the issues that begin to emerge typically leads to the gathering of fairly unstructured data, which is analysed, looking for meanings behind the actions encountered and how these fit into wider contexts. The result of this kind of research will typically be descriptions of what was found, with explanations and theories to account for the data (Hammersley & Atkinson, 2007).

There are a number of reasons why ethnography is an appropriate selection for this study:

- Its innate flexibility (Walford (2007) wonderfully describes its ‘magpie’ tendencies) requires the most suitable method to be selected for any situation encountered, as a matter of principle.
- Flick suggests (2009, p.460) that a current trend in research is towards the acceptance of “research pragmatism”, the view that it is not always possible to be methodologically ‘pure’ when actually researching in ‘the real world’. As ethnography tends to be pragmatic, it fits with this current thinking.
- Ethnography fits with education because such a complex system as education demands a methodology that uses multiple approaches (Ball, 1981).

- There are a variety of important perspectives that must be taken into account in any educational study: Ball (1981) warns against underestimating the importance of *teachers'* views, and Halsall (1998a) emphasises the necessity to get the opinions of *learners*, who are well-placed to know 'what's really going on' in the classroom. Also, countless studies stress how important *leadership* is in SD and educational change (See Sections 2.2.2 and 3.9.3), not to mention that *parents* are very important members of the school community. The multitude of actors in education again suggests an ethnographic approach.
- The multiple methods available to the ethnographer fit with the diverse forms of data that will be adopted, and ethnographers learn about their 'subjects' as most people learn about anything: by 'picking up' what looks interesting and generating enough data to make sense of the situation (Walford, 2007);
- Both education and ethnography accord people's personal perspectives a high status: Walford argues that the best people to ask about education in schools are those who attend the schools. This factor is important to me, and influenced my choice of ethnography;
- Ethnography requires the researcher to take account of the views and values of the individuals and the *cultures* of the groups and institutions being studied, in order to understand their attitudes and behaviour.
- Schein's general model of organisational culture (1990) is just one of many emphasising that culture works on different levels and in different ways, necessitating a flexible, multi-layered research methodology as provided by ethnography (see Sections 2.2 and 2.6). Ethnography also fits with sustainability, not only because of their common pragmatism and issue-orientation (see Section 3.2), but also because of ethnography's holistic

approach, considering a situation from all 'angles' in order to see the whole as well as the parts.

3.5 Sample

It seems almost too obvious to state that schools *must* be visited for this kind of study. Ball (1981) and Sarason (1996) both stress that *the implementation of policy*, rather than any policy itself, is what makes most difference to the intended beneficiaries (the learners). It was imperative, therefore, actually to *visit* schools and particularly to meet and talk to the staff and students.

3.5.1 Sample Size

In order to be able to compare the culture of a relatively successful sustainable school with other school cultures – to increase the chance of finding out what is *distinctive* there – ideally, several schools would need to be visited and studied. However, ethnographic research requires 'in depth' work, both collecting data in the field and analysing the data collected: three schools seemed a small enough number to fit this requirement, but large enough to work with a range of levels of 'success'. Having more than one school also helped in terms of confirming or clarifying findings, acting as a form of data triangulation, and helping towards generalisability (see Section 3.10). The ethnographic practice of progressive focusing (see Section 3.9.2) fits well with making more than one foray into 'the field' as well. However, I was working within tight resource restrictions, and so could not visit more than a small number of schools for the length of time I required (namely about six weeks). I therefore aimed to produce three case studies of schools. Clearly, as I had such a firm idea of what I wanted to study, schools appropriate to the research could be selected,

to throw light on the research issues, in fitting with Stake's (1995) description of an *instrumental* case-study.

3.5.2 Selecting Schools

Choosing particular schools was not straightforward. Location was a key consideration, for ease of access over long periods. I aimed to select three state-sector schools that differed in terms of their success in relation to sustainability, but that were reasonably similar in other respects such as size and location. This would help to maximise the opportunity to learn from comparisons and also to look at the situation in a school 'typical' in a broad sense. Similarity between schools also aided in deciphering whether any differences were related to their approach to, or success in, sustainability. This consideration, as well as my careful selection of schools in terms of their progress towards sustainability, qualifies my strategy as one of 'purposive' sampling (O'Reilly, 2012).

All three schools selected were state secondary schools of a similar size and with a similar catchment demographic. They were all overseen and funded via their local authority: *none* were Academies directly funded by central government. One consideration was to aim at the ideal of making schools broadly 'typical' (of the 'average' English secondary school – see also Section 3.10). The majority of state secondary schools in the country are comprehensives, so comprehensive schools were researched. For possible candidate schools, I also looked at the latest report from the inspectorate of schools, Ofsted, to find schools that were not too different in terms of their Ofsted grading. In addition, schools providing for ages 11-18 were chosen: the majority of state secondary schools include KS5 provision for those aged 16-18.

With this in mind, one school 'successful' in sustainability and one less 'successful' school were supplemented by a 'typical' school: one which was achieving only moderate success in attempting to address sustainability issues. This allowed the inclusion of at least one school with which many staff in other schools will be able readily to identify (if one assumes that most schools are broadly 'typical' – making some attempt at becoming more sustainable in their behaviour and teaching but not outstandingly successful in doing so). However, defining 'success' itself and measuring it is a complex subject, covered in Chapters 2, 7 and 8, and in Section 3.5.5.

3.5.3 Timing

Clearly, school term-times had an impact on when data collection took place; I needed to study each institution visited in some depth, and so I considered a six week visit period to be appropriate. Obviously, only one school could be visited at a time, and this made comparison between schools a little more difficult, but (assuming that different events and priorities will occur at different times of the school calendar) increased the possibility of seeing a variety of situations. Moreover, a school's culture should be evident whatever the season.

3.5.4 Gaining Access

As schools were entirely free to choose whether or not to participate (and one early candidate for 'advanced' school declined to be involved), they were 'self-selecting' to a certain extent, but choosing across a range of 'success' counteracted this problem somewhat. I hoped that school management might feel that having an 'expert' visit and, afterwards, give feedback on their approach to sustainability would benefit them, but I made it very clear early in my contact with the school that feedback would only take place *after* the data

had been collected, and that it would take the form of a short 'debriefing' paper (should the management of the school so wish).

I approached schools through their Reception team initially, by telephone, asking to speak to someone about potential research, giving a very brief outline of the area I was interested in. This led to contact via email with the person responsible for sustainability or recognised in that role informally, who acted as a gatekeeper to the school management when formalising arrangements. An extra visit to discuss minimising the disruption my research might cause was necessary to reassure the leadership at Maincross (my final choice as a 'successful' school), delaying my research visit there by a few weeks, but I had little other trouble gaining access to schools. My offer to provide each school with a brief confidential report on my findings may have played a small role in securing their participation.

3.5.5 Assessing Potential Schools' Success in Sustainability

One problem was how to define 'success' in this context. Various measures are available, but none that encompasses the concept of the 'sustainable school' entirely. Therefore, I found myself broadening my remit to include an assessment of possible indicators of success in a sustainable school (see Sections 2.2.2 and 3.9.3). Although the official body for inspecting schools, Ofsted, did (until shortly before my school visits) require inspectors to be aware of sustainability in schools they visit, it is not a focus of inspection and no grade for sustainability is given in feedback²¹. I also considered the models of descriptors Scott (2010) describes, to judge the extent to which a school has

²¹ The current Framework for School Inspection (Ofsted, 2012) does not contain the word 'sustainable' (or 'sustainability'): neither does the New Inspection Judgement Form (Ofsted, 2011).

achieved sustainability, but found problems with each (see Sections 2.2.2 and 3.9.3). Therefore, it was necessary to use other criteria to judge.

One possible candidate for measuring is a school's membership of, and progress in, the 'Eco-Schools' Award. 'Eco-Schools' is an international award programme that aims to guide schools towards acting sustainably. 'Eco-Schools' programmes are run in more than 40 countries around the world: more than 40,000 schools were registered as of June 2010. 'Eco-Schools' is administered in England by Keep Britain Tidy. Three awards are available: bronze, silver, and green flag. The first two levels are self-assessed online, and the third involves collecting data for a visit by an inspector. It is a voluntary programme, but many schools in England, both primary and secondary, have joined in order to receive assistance in improving school sustainability. Although the title of the programme suggests a focus on environmental issues, 'Eco-Schools' literature states that it addresses *sustainability* in its wider sense.

Although more than 17,000 schools in England are registered on the scheme (as at October 2013), only about 4,650 Bronze Awards and 3,600 Silver Awards have been made. The majority of schools that have joined the scheme have yet to meet even the lowest set of criteria used to make awards, so there is obviously *some* rigour in the process, and some variation between levels of sustainability among schools. However, it should be noted again that the scheme is voluntary, so the lack of an award does not signify whether this is because *no* application has been made or an *unsuccessful* application has been made. Martin *et al.* (2013, p.1534) also suggest that "it remains comparatively easy to gain and retain green flag status". It is therefore a rough

measure, but can nonetheless make a useful contribution to judging the sustainability of a school.

Potential schools were also assessed on the basis of recommendation by one of several experts in the field consulted. These included local authority ESD specialists, members of relevant NGOs, two Directors of the Centre for Sustainable Futures, and others at Plymouth University. The final selection is outlined in Table 3.1. Some of the data in this table have been 'banded' in order to protect the schools' identity. Anonymity was a condition of their agreeing to take part in the study, so all names are changed.

School	Reason for Selection	Location (figures banded)	Size (pupils) 2011 (figures banded)	Comparative Status	Eco-Schools Awards	Specialism	Provision
'Maincross College'	Recommended by local experts as an outstanding example of sustainable school <i>buildings</i> ; a government exemplar of the 'Building Schools for the Future' (BSF) programme	Market Town with 25-40,000 inhabitants	1500-1750	Example of ' advanced ' school	1 Green Flag	Science	11-18
'Queen Adelaide Community College'	Recommended by local experts as a school trying to become more sustainable	Market Town with 20-30,000 inhabitants	1750-2000	Example of ' typical ' school	Bronze, Silver	Arts	11-18
'Underwhin Community College'	Recommended by local experts as a school just beginning to try to become more sustainable	Market Town with 5-15,000 inhabitants	1500-1750	Example of ' beginner ' school	None	Sports	11-18
'Maunder School'	Recommended by national experts as an outstanding example of a sustainable school; a WWF exemplar school	Village/parish with 5-15,000 inhabitants	1000-1250	Example of ' benchmark ' school	4 Green Flags over a period of c. 10 years	Technology	11-16
'Valleyside School'	Recommended by national experts as an outstanding example of a sustainable school	Village/parish with 10-20,000 inhabitants	500-750	Example of ' benchmark ' school	2 green flags since 2009	Technology	11-16

Table 3.1: Schools Selected and Studied

The first three schools are the 'main' schools I spent most time at: the last two are my 'benchmark' schools' (see Section 3.7.6).

Two schools, here called Valleyside and Maunder, came with extremely high recommendations from sustainable schools experts, and seemed to be the two schools nationally which were considered, broadly, to be the leaders in sustainability at secondary level. However, both were smaller than most comprehensives, neither having provision for KS5. Therefore, I decided to include them in a more limited way in my study. I visited them for two days each, during which time I managed to replicate small parts of the research I did during longer visits to Maincross, Queen Adelaide and Underwhin. Their role within the research was to act as benchmarks of good practice against which the other schools could be judged, to provide ideas helpful in formulating policy recommendations, and to obtain further insights into the culture of the ‘top’ sustainability schools (see Section 3.7.6).

3.6 Piloting Research Methods

Before visiting my three ‘main’ schools, I undertook a pilot, to give me a chance to assess how various methods and tools worked in the field. I visited ‘Willow Flats’, a secondary school with KS5 provision close to my home, over a period of approximately two weeks, and conducted 11 interviews, making observations of the campus, lessons and other events, and looking at 13 school policies and the prospectus. I then collated the data, conducted some basic data analysis, and reflected on the experience (see also Section 3.7.4).

My methods worked well generally, but I learned three key lessons for the main study:

- I found some difficulty in having a physical space in which to interview participants. A participant’s office is a convenient location – particularly for them – but it means everyone knows where they are, and so increases the

likelihood of interruption, especially during school hours. A dedicated room was better for me, but expecting this always to be provided was unrealistic (Hammersley & Atkinson, 2007).

- I found that I was reasonably well-prepared to speak to all sorts of people, to strike the right level of formality for research, and to improvise to fit the situation as it changed. I have interviewed before, and I believe that my previous teaching experience (about 15 years in adult and further education) helped in an interview situation, there being parallels with trying to 'draw out' an answer from a student (for example, finding the right way to ask a question, judging how much information to give without leading the interviewee, and generally establishing a rapport). However, I found that some interviewees were also liable to treat me as if I *were* a teacher, with the possible results that students were deferential and staff members made assumptions about my prior knowledge.
- I noted interview questions that my participants had found it hard to answer, and considered whether they could be reworded or removed; those questions that did not result in replies covering the areas I wanted to investigate were also considered in the same way. I did not necessarily remove or alter all the questions that fitted into these categories, reasoning that inability to answer, or an unexpected answer, could potentially be just as interesting.

3.7 Data Collection

3.7.1 Section Introduction

Conducting an ethnographic study required a mixture of methods. I used three main sources: semi-structured interviews with teaching and non-teaching staff,

governors, students and parents; observations of lessons and the general life of the school; and documentary analysis.

Schein's (1990) model of institutional culture was used as a guiding principle, and I established that espoused values – those expressed by members of the culture – would be most likely to be expressed in interviews; observations and documentary examination would give me some clues about the surface manifestations of culture Schein (1990) describes. Details of the ways in which I tried to collect data about school cultures are given in Sections 3.7.2-3.7.4.

In terms of the strategies I employed to select people to interview, observations to make and documents to read, sampling had to be purposive once again: I knew that there would be certain people in schools with influential positions with whom I had to talk, like the Principal²². However, I had to be flexible in my approach, and took opportunities as they arose: as O'Reilly says (2012, p.45), "...opportunistic and convenience sampling are not so much strategies as an unavoidable fact." Moreover, collecting a variety of data through a variety of sources made possible triangulation and the checking of evidence, and it also enabled me to encounter a range of views and information.

3.7.2 Documents

Useful text sources were school documents, such as policies, handbooks, notices and statements; promotional literature; newspaper reports; and the school website. I sought out particularly important documents in each school: for example, mission statements/values statements, the school development plan, policies relating to teaching, finance, sustainability, estates and community

²² I have used the term Principal throughout to denote the status of head teacher in a school, whether or not this was their official title at the school, for the sake of simplicity and to make comparisons between schools easier.

links. Studying minutes of meetings was a useful way of exploring the issues dealt with by management and Governors over the last few years, although different schools had different methods of documenting (or not documenting) these. I also had access to reports written by inspectors from Ofsted, which gave an insight into the situation they observed in their visits to the schools and also into the official view of sustainability in schools. I was able to obtain copies of plans for some of the lessons I observed. All these documents were searched for references to sustainability and related topics, using the same system of coding as was used for interviews (see Sections 3.7.4 and 3.9). It was not possible, of course, to have absolute consistency across the three schools in the documents examined, because each school, to some extent, organised its paperwork and committees differently.

3.7.3 Observation

Flick (2009) extols the value of observation, arguing that it is the closest thing to 'true' qualitative research (in terms of the time spent in the field and the depth of contact with people and contexts), and is the only way to get at *actual practices* (i.e. there is less mediation via speech, text, etc.). Ball (1981) made great use in his noted ethnographic study of a secondary school of observing the 'everyday', which also formed an important part of my study; just *being in the school* really helped me to form an impression of its priorities, characteristics and culture. However, attending meetings, lessons and other events in a variety of locations (classrooms, staff rooms, halls, etc.) was also very fruitful: access to all these areas was sought in each school. The views of staff I did not interview sometimes became clearer in lesson observations and in the time I spent with them informally, for example in staff rooms.

I asked for, and got, access to a minimum of four lessons in each case-study school: two Science lessons and two in Geography. In each subject, one lesson observation was of a KS 3 class, and one of a KS 4 class. Where the opportunity came up, I occasionally visited other lessons, but I have treated these as 'extra' observations alongside the core observations I made in each school. I also sought access to meetings, to try to get an insight into the views of staff and Governors: which meetings were attended depended on timing, but I aimed to attend those related to Finance, Curriculum, Community Links and Estates. In practice, schools were sometimes reluctant to give me access, making comparability difficult, so I made only limited use of my observations from meetings (see Appendix 3 for details of observations).

I took handwritten notes at more formal occasions like meetings and lessons, using a form designed for open-ended observations (Erdogan & Tunçer, 2009) to record anything of interest (see Appendix 4). Some time was spent deliberately walking around each school and campus, towards the end of my time visiting, recording impressions of both behaviour and the social and physical environment. All observations were semi-structured, and I took the role of non-participant or 'observer-as-participant' (Hammersley & Atkinson, 2007). I had a form on which were recorded notes from my observations, (see Appendix 4), but this had very little structure; I was a member of some of the meetings attended, participating in a limited way, but most of my observations were done from the perspective of 'outsider'. The text recorded on my observation forms was analysed in broadly the same way as other documents (see Sections 3.7.4 and 3.9).

This type of data collection was particularly important in terms of assessing how far sustainability was a priority for the Board of Governors of schools and for the Student Council or Student Voice in my case-study schools. Appendix 3 contains details of observations: I carried out four lesson observations at Underwhin, six at QAC and 5 at Maincross.

3.7.4 Interviews

My study used informal discussions as and when appropriate, but I also sought formal interviews. These were semi-structured (Bryman & Teevan, 2005), as, on the one hand, the nature of the study and the methodology required flexibility, but, on the other, the aims of the research required some topics to be covered, and there was limited time to discover what the participants thought and felt about their school and its culture. Details of interviewees, by school, with a summary of interviewees, by 'type' and school are in Appendix 3, showing a similar pattern at each case-study school.

Rationale

Through the interviews, I attempted to explore issues such as how far teachers believed that their school embraced the idea of sustainability, what they thought its culture was, and how they saw change. Where they were able to give examples to back up their assertions, they were asked to do so. I used a list of questions (see Appendices 5 & 6) to provide structure, and prompts to get at some of the 'levels' of culture not necessarily obvious from initial answers. Interviews were designed to explore the espoused values expressed by interviewees, to throw light on behaviour (the 'surface' level of culture), and to help with the process of exploring the less tangible aspects of school culture, for example the values underlying behaviour (Schein, 1990). Culture is a complex

and ambiguous term (see Section 2.6), but I was able to ask, for example, about priorities (see questions 1-4 in Table 3.2 below).

The same interviews in different schools performed different functions. In the school thought to be closest to the goal of being a sustainable school, questions helped to identify what a sustainable school might be like. In schools that were less advanced, the same questions focused more on simply exploring the current position of sustainability in the school.

An interview with the Principal was essential, given the importance accorded to leadership in the literature on both culture and sustainable development (Deal & Kennedy, 1983; Busher & Barker, 2003; Jackson & WWF, 2007; Scott, 2010). Interviewing staff with the same, or similar, job roles in each school helped with comparisons between schools: no two schools had identical staffing structures, and therefore, inevitably, there was some variability in the posts/individuals who were interviewed. The key job roles I selected included the Head of Geography and Head of Science (or similar roles), as the two National Curriculum subjects in which SD is most frequently mentioned (Smith, 2009). Where there was a member of teaching or non-teaching staff responsible for sustainability or ESD (or similar) within the school, they were also interviewed, as were the Head of Estates, a senior manager responsible for curriculum and the Chair of the Board of Governors.

The views of other members of the school community also helped to create a fuller 'picture', and are very important in themselves. Students were interviewed in small groups, with the aim of helping them to feel happier to contribute information, balancing the inherent power asymmetry (Woods, 1979). This was achieved by making contact with the Student Council, but to gain access to

greater numbers, students from Years 8 & 12 were also interviewed in small groups, on the basis that these pupils are near the start and finish of their time in the school, but are not burdened by the expectation of imminent exams. Access to students was obtained relatively easily. Similarly, I reasoned that finding out about *parents'* views of their children's school was probably easiest achieved by a meeting with a group of 'Friends of the School' or similar, allowing access to parents without being too difficult to arrange. I met parents individually or in small groups: *all* group recordings were treated in the same way as individual recordings. Both of these groups were also important in assessing the important 'social sustainability' areas of links between school and community and student participation in school leadership. See Appendix 3 for details of interviewees at all three schools and Appendix 7 for an example of details of interviewees at one school.

Type of Interview

Using semi-structured interviews allowed me to be flexible about the exact wording and order of the questions, using prompts to try to explore respondents' answers more fully (see Appendix 5). Bryman & Teevan (2005) note that the semi-structured qualitative interview style allows the interviewer to adjust the focus of the interview if necessary, or to 'go off at a tangent': as one of my aims was to look for something rather intangible in 'culture', these were advantages. They also suggest that some structure is necessary if the researcher aims to compare between case studies – which I did.

Hammersley & Atkinson (2007, p.117), discussing ethnographic interviewing, dismiss the common distinction made between 'structured' and 'un-structured' interviews, arguing that all interviews are structured, to a certain extent, by both

interviewer and interviewee. They focus instead on the difference between “prestructured and reflexive questioning”, noting that ethnographers do not usually decide exactly what they will ask before an interview, allowing them to react to the situation, interviewee, and progress of the interview. This is the course I took, creating a schedule of possible questions beforehand, but using this more as a guide to areas to ask about than an exact list of questions.

Practicalities: creating and using the interview schedule

A set of draft interview questions was created after considerable thought about what to research and how to find information. The questions were developed from my research aims and the literature around sustainable schools. I included 23 questions in an attempt to cover all the areas I wished to investigate, and noted to whom they could usefully be addressed, with a second note of what I wished to investigate with each question. For example, the questions numbered 1-4 (see Table 3.2 below), 7 and 15 in Appendix 6 are particularly designed to explore the extent to which sustainability was part of the culture of my case-study schools. As it is an ambiguous and complex term, I only used the word ‘culture’ in one question, but others were designed to throw light on values, priorities, norms and so on.

Question	Use with...	Tests/Looks for...
1. Who is responsible for sustainability in the school? (Is it one person, a group, a few, or everyone?)	All	Knowledge of sustainability within the school; appropriate leadership style; 'whole school' sustainability; extent to which sustainability is embedded within the culture of the school
2. Is sustainability included in (curriculum) planning (in your subject/in all subjects)? How big a priority is it? Compared with...	SMT, Head, Governors, HoDs	Importance accorded to sustainability; whether sustainability is a <i>strategic</i> consideration
3. Which aspects of the life of this school is sustainability involved in? Can you give examples of sustainability in <i>curriculum, campus</i> and <i>community</i> ? What about the <i>culture</i> of the school?	All	Knowledge of sustainability within the school; 'whole school' sustainability; extent to which sustainability is embedded within the culture of the school
4. What is the attitude of the school leadership towards sustainability? SMT? Head? Governors? Why do you do sustainability at this school?	HoDs, teaching staff	Importance accorded to sustainability; whether sustainability is a <i>strategic</i> consideration
5. Can sustainability enhance the experience of pupils at this school? Does it?	SMT, Head, HoDs, teaching staff	Depth of understanding of sustainability issues in education; 'whole school' sustainability
6. Can sustainability improve grades, attendance and behaviour at this school? If so, how <i>does</i> it?	SMT, Head, HoDs, teaching staff	Depth of understanding of sustainability issues in education; 'whole school' sustainability

Table 3.2: Examples of Interview Questions (The numbers do not indicate any kind of priority, but were simply used to differentiate between questions)

From these, individual sheets of questions selected from the final core of 23 (see Appendix 6) were made up, to use with named roles within the school: Principal, Governor, Yr 8 Student and so on. Appendix 5 is an example of the

resulting ‘Interview Schedules’, designed for interviews with students: these schedules were designed to remind me of the questions I wished to ask, and those shown are the original questions. However, they were informally adapted in order to meet the particular circumstance, but this meant that each interviewee, across all schools, within a category, was interviewed using the same basic questions. A minimum of 30 minutes was allowed for each interview, but some were considerably longer (one was almost two hours long), and a few took no more than 20 minutes.

Reviewing the interview process after my pilot (see Section 3.6) resulted in a somewhat revised set of questions and interview schedules (which were used when I visited participant schools – e.g. see Appendix 5). To these, I also added three very general reminders regarding possible ‘prompts’ to follow up on questions and answers, and some even more general tips on interviewing (see Table 3.3). Table 3.2 contains examples of two questions I encountered difficulties with in my pilot (questions 5 & 6): these were not removed, but I was aware that interviewees had found them hard to answer, so they were used carefully, based on when an interviewee might feel able to answer them and allowing for the likelihood that they would not be able to.

Generic Prompts:	Remember:
Can you give me a specific example that you’re aware of?	Don’t say too much
Can you say a bit more about that?	Active LISTENING
I think you’re saying....is this correct?	BEWARE leading <i>ad hoc</i> prompts

Table 3.3: Interviewing Prompts and Tips

I had different arrangements at different schools: sometimes I was able to book a room for an interview, but often they took place where it was most convenient for my interviewee – the canteen, the library, their office, a vacant teaching room, the staff room, even outdoors on some occasions. I did not really have

major difficulties in using any of these places, although a quiet, uninterrupted, space was obviously better than a noisy one with a lot of distractions.

Recording/Transcription

Although recording an interview might have decreased the possibility of participants feeling comfortable to describe their personal views, a recording was useful and important. Making a hand-written full transcription of the interview was practically impossible for me, while conducting the interview, so I made an audio recording if possible. All participants were asked if they consented to being recorded – only a few declined to be – and I was able to reassure everyone of the confidentiality of the whole exercise.

However, Nisbet (2006) suggests that it is not always the most appropriate strategy fully to transcribe *all* interviews. Additionally, the amount of data I collected militated against *full* transcription: 84 interviews in total, observations, and documentary evidence, all had to be examined, and I noted guidelines that recommend allowing at least five times as long for transcription as for interviewing (Hammersley & Atkinson, 2007)! Cotton *et al.* (2010) discuss the problems of collecting a large amount of data in an ethnographic study in an educational institution, and note that *it is acceptable* to transcribe “...only parts of the data-set, based on strict criteria relating to the research focus” (p.465), explaining that,

“This is likely to be the most practical course of action in many pedagogic research projects; however the rationale for selection of parts for the recording for transcription should be clear and explicit.”
(p.467)

Nisbet (2006) goes even further, suggesting that it is not necessarily possible to convey the full meaning of an interview with words on a page, and that there is

no such thing as a fully accurate transcription, so we should consider whether it is,

“...really worth all the effort of transcribing in full when in the end the researcher is going to make a selection intuitively in writing up the conclusions [anyway]?” (p.12)

I collected an enormous amount of data – over 50 hours of interviews, dozens of documents and observations, and also approximately 35 memos I made while in the field. Many of the documents collected will not be made available for anyone else to read, as they cannot be anonymised – and some are confidential to the school in question. Making this large amount of data available is impracticable in itself. Therefore, I used the same policy for interviews as for documents, electing to transcribe sections on the basis of similarity with the *a priori* themes I identified whilst allowing scope for inductive generation of emergent themes from recurrent topics in the data.

Comparability vs Progressive Focusing

In terms of interviewing, I was not able to repeat what I said, word for word, to staff holding the same job title and responsibilities, from school to school. I expected to change what was asked, subtly, from situation to situation, partly because the context differed, but also because I gradually got an insight into precisely what to ask in order to elicit information from interviewees. The process of ‘Progressive Focusing’ (Hammersley & Atkinson, 2007), using information and insight from one iteration of research to inform the next is not only largely inevitable (I did not use a script, and was bound to be influenced by previous experience), but it is also, arguably, useful, because it helped me to get ‘better at researching’.

3.7.5 My Role as a Researcher

Baptiste (2001) recommends that researchers look at themselves and their roles as analysts, reflecting on expectations and making these clear in the written results. He suggests asking a series of questions about one's role: is one a pure observer (a 'fly on the wall')? If not, what is the alternative? Is it possible to keep one's values from influencing analysis? Is this desirable? If not, when and how may one use them, and how can this be defended?

My background is in education, having taught in FE for 12 years, but I also have extensive experience of being a *student* in formal education; like many of my generation, I spent 14 years in school, but I also spent ten years in Higher Education. Therefore, I have strongly-established identities as 'teacher' and 'student'. Visiting a school is likely to lead to my accessing these identities, consciously or otherwise. I was aware of 'using' my teaching background to reassure staff interviewed that I knew what time in school might be like, was able to appreciate their problems, their sense of humour, and so on. I tried to intimate that I had some idea what it was like being a teacher, for example through the questions asked and the words I chose (Hammersley & Atkinson, 2007). I did, however, take into account the dangers, noted in Section 3.6, of over-familiarity leading to interviewees assuming knowledge I did not have.

I was also aware of another 'identity': namely that of researcher. I felt the distance between myself and my interviewees: I was an 'outsider', no matter how good the rapport between us was, and they were all, to some extent, guarded. The distance between us did, however, also make it easier for me to ask them questions that I knew might make them feel awkward. Many of my interviewees were aware that their school – that society in general – could be

considered to be failing to act as sustainably as it could. Asking them what the school did, and in some cases, what they did themselves, to behave sustainably was likely to provoke a defensive response – and it often did so, whether this was apologetic, defiant, self-justifying, or in another form (Hammersley & Atkinson, 2007).

I made an effort to wear suitable clothes, in that I tried to dress as if I were a member of staff working at the school. I knew that the school policy in each institution was for male teachers to wear a shirt and tie, so I did so, reasoning that staff would feel comfortable dealing with someone dressed similarly to them, and that a professional appearance was likely to signal to staff, students and others that my research was a serious undertaking (Hammersley & Atkinson, 2007). My age fits into the context of a secondary school, where there is a range of ages of teaching staff anyway, but where there are plenty of teachers in their 30's. In terms of my ethnicity, I also fitted well: I do not recall seeing any Black and Minority Ethnic (BME) staff at all during my visits.

Dealing with students was more problematic, as I had to consider the possibility that dressing 'like a teacher' when interacting with pupils might reinforce the unequal power relations between staff and pupils. This problem is not an easy one to solve, but I hoped that lessening the effect of 'dressing like a teacher' by explaining the nature of the research (e.g. 'there is no 'right' answer') and reinforcing the right of participants to withdraw at any point during the data collection might lessen the pressure on students to participate, and/or to give answers they thought the school would want or expect them to give. It is possible that my relatively young appearance may have helped here too.

Another issue, related to that of interviewer effect, is how much even completely unstructured interviews allow the respondents' personal views to come across (Bryman & Teevan, 2005). I was interested in what respondents really think ('espoused values'), as school culture is manifested not only in ('surface') actions, but also in the values that underpin these. Sometimes a certain amount of explaining my questions was necessary where terms were used that were unfamiliar to some interviewees. One of these, rather unfortunately, on a few occasions, was 'sustainability'!

3.7.6 'Benchmark' School Visits

I saw the visits to the two '*benchmark*' schools, Maunder and Valleyside, (selected on the recommendations of national school sustainability experts and for their appearance in reports from NGOs and Ofsted) as a way to get at least a short look at the ways in which national leading schools tackle sustainability. In the context of my whole project, I wanted to compare what I found at these schools with what I found at the three schools where I spent much longer. I hoped that this would give me some idea of a benchmark against which I could review the three case-study schools: if Maunder and Valleyside are among the very best in the country, how do the 'main' three schools compare? Checking my findings against five schools instead of three also gives a greater degree of validation: the number of sites examined is still small, but I think the two additional visits were justified.

I conducted between 25 and 30 interviews at each case-study school, which was clearly impossible during the two short visits, so I talked to a cross-section of interviewees, simply using as a guide the same interview schedules I had

used earlier in my case-study school. At both schools, interviews were conducted with:

- Principal.
- Vice Principal i/c Specialism (or Curriculum, Grounds or Finance – one of these areas usually seems to include responsibility for sustainability).
- Eco-Co-ordinator (or 'Keen Teacher' who takes a lead role in sustainability at the school).
- Parent and/or Governor (ideally a Parent Governor, to cover both roles).
- Students – as part of a tour of the campus. I was given a tour by students at both schools, and this provided an opportunity for some useful informal conversations.

I saw one sustainability-related lesson or activity in each of the two benchmark schools. Looking at documents and web-sites in advance of the visits helped me to make best use of my limited time on campus. The list of documents compiled for 'full' visits was reduced to the following:

- Prospectus.
- Development Plan.
- Latest Ofsted Report(s).
- Newsletter(s)/Bulletin(s).
- Teaching & Learning Policy.
- Sustainability Policy.
- Minutes of latest Board of Governors meeting.

In terms of what to look for, and how to do so, I revisited my original research questions (see Section 3.1). I concentrated more on the questions of what

creates and constitutes a successful sustainable school, and how this manifests itself. As part of my line of inquiry was directed towards establishing the extent to which sustainability features as part of schools' culture and values I saw no reason why not to ask that directly, as I was dealing with people who had expertise that might allow them answer this question. I focused on what my interviewees thought the priorities were in terms of creating a sustainable school.

I see a natural development from that point towards inquiring about why the school had become successful in this field: I was simply able to add a follow-up question, along the lines of 'Assuming this is a successful sustainable school, why is it so?' I was also able to ask directly what made these schools different: sometimes these differences were expressed without my asking for them, when I asked 'What is it about your school that means it is successful 'at' sustainability?' or something similar, and interviewees sometimes speculated on the difference between their school and others as a way of explaining their school's success.

3.7.7 Contacting Schools after Main Visits

There were a few occasions on which I contacted my case-study schools after I had concluded my main visit. I endeavoured to keep these to a minimum, but it was, for example, occasionally necessary to check details such as job titles of people I had spoken to, specific features of school 'life', to ask for a document I had not been able to find during my visit (on one occasion), or to check with them that I had interpreted a piece of information correctly. Sometimes my notes were somewhat ambiguous about a situation I had encountered, and

checking with my chief contact at the school helped me to clear up this ambiguity.

3.8 Ethics

Many ethical considerations have already been touched on earlier in this Chapter. Flick (2009) strongly emphasises that ethics should be a particular area of consideration for qualitative researchers, and Pring (2004) cautions educational researchers to remember always that they are dealing with actual people, their lives and livelihoods, and often with children: he calls for general sensitivity to ethical considerations in educational research.

In an attempt to give the greatest possible protection to participants in this research, several measures were taken. All schools and all individuals are given pseudonyms in the written results: although it is very difficult to ensure that all identities are completely hidden from any possible reader (those 'in the know' may be able to work out some details). I have also anonymised facts and figures regarding the case-study schools as far as is practicable, but I acknowledge that complete anonymity is virtually impossible. Secondly, informed consent was sought from as many participants as possible (bearing in mind that any ethnography will likely include data collection in public places and getting consent from everyone present on those occasions is impossible). Participants were given full details of the research (See Ethical Protocol examples in Appendices 8 & 9) and were also informed of their right to withdraw at any point in the data collection phase of the research.

Schools had the right to see results relevant to themselves before others did, and they were invited to ask to receive the results of the research, either in the

form of a written report from the researcher after the research visit to their school was completed, or through verbal feedback given at the same stage. Flick (2009) cautions the qualitative researcher to be aware that 'writing up' is still part of the research process, not divorced from it just because it does not necessarily take place 'in the field'. He describes the need for researchers to try to do justice to the people and things they have studied, and strive to present them accurately: this is, in a sense, an ethical consideration too.

I also required ethical approval from the University Faculty in which I was based (which I obtained). Plymouth University's ethics policy requires all data collected to be stored securely for ten years (Plymouth University, 2005): much of my data are in the form of handwritten field notes and electronic textual data, but interviews were also recorded digitally (where the interviewee gave specific permission for this). As there was contact with children during the research, extra consideration was given to the need to protect participants. Again, University policy is helpful (Plymouth University, 2005, p.4), in clarifying the need to get permission from both those *in loco parentis* and the children themselves. I also obtained a current Criminal Records Bureau (CRB) Enhanced Disclosure, as is expected by all schools when working with children.

In practice, only a couple of tricky ethical situations arose. I had a little difficulty, for example, with interviewees starting to talk to me before they read the consent form I asked everyone to sign (and therefore also before I was recording). It was impossible to 'make' myself forget what they said, but I could not, in all conscience, use the data gathered in this way, and did not do so. I also found some difficulty in asking for parental consent for students to take part in group interviews, requiring a consent form to reach the student, who then had

to pass it to their parent or guardian, receive it back, and return it to me. This often took place via a third party – their tutor, for example – and sometimes took several times longer than I had allowed, meaning I had to rearrange interviews and the use of rooms. However, I felt that it was *particularly* important to act ethically with young people.

3.9 Data Analysis

3.9.1 Sources of Data

A range of data sources, in different formats, were collected. 84 interviews were recorded as digital files, with hand-written notes as an extra source of data to record the impression I had during the actual interview, and also to provide a back-up record in case of problems with recording. I also recorded observations by hand, and took hand-written notes on school documentation, for some of which I obtained paper copies.

3.9.2 Methods of Data Analysis

I aimed, through analysis, to simplify and make the structure of the data clearer, in order to detect key themes. In addition, I intended to use broadly the same approach for all sets of data, thereby increasing comparability between them. In terms of how data were analysed, a formal process of coding, to help identify themes, was used. Qualitative data analysis software, NVivo 9, was used to aid this process, as large amounts of data were generated. The focus of the study and the research questions were starting points for analysis, as were categories derived from the literature, but I aimed also to remain open to emerging themes. For example, I used the three ‘elements’ of the SSF – Curriculum, Campus, Community – as three ‘Main’ themes in initial rounds of analysis, as well as a

fourth – Leadership – on the recommendation of several pieces of literature on sustainable schools (Scott, 2010), and ‘Culture’ became a fifth because of my focus on this aspect of sustainability in schools. I expected themes to emerge from the data, and was prepared for them to be somewhat different at each school; this proved to be the case (see Chapters 4-6)

Ethnography lends itself to a process of progressive focusing (Hammersley & Atkinson, 2007): developing ideas about emerging themes while data are still being collected and using these emerging themes to influence the continuing collection. This has implications for quality, as using themes developed through one round of data collection deliberately influences the next and makes equal comparison between sites more difficult. However, the depth of immersion in each school culture made it hard for me not to notice emergent themes and formulate ideas (and time was limited), so I felt that if collection and analysis could be partially simultaneous, all the better. Grounded Theory, which Glaser and Strauss (1967, p.2) define as “the discovery of theory from data systematically obtained from social research”, was used as a basis for analysis. Its influence is strongly felt in ethnography’s “spiral of data collection, hypothesis building and theory testing” (Troman *et al.*, 2006, in Walford, 2007, p.3), which I worked through when visiting schools.

Phases of Analysis

Despite noting a tendency for some qualitative researchers to claim that qualitative data analysis (QDA) is an art form, and cannot be ‘pinned down’ to set formulae, Miles & Huberman (1994, pp.6-7) describe a set of features they claim are common to all QDA. These take the form of a sequence of actions:

- Coding data that were collected ‘in the field’;

- Writing reflective comments about these data;
- Sorting data, looking for similarities, differences and themes in the relationships, events, people, and so on, described in the data;
- Isolating these similarities, differences and themes and elaborating on them to cover consistencies by sets of generalisations; and
- Comparing these generalisations to existing ideas and theory.

This compares very closely with my own research, except that I started planning for analysis before I even collected data. Most commentators agree that the first steps in analysis come before data are collected, in that decisions on the design of research projects, about what to research, where, when and how to collect data, how to present findings, and for what purpose – and so on – will all influence data analysis methodology (Miles & Huberman, 1994; Cohen *et al.*, 2001).

I was also able to use my pilot at Willow Flats as part of my preparation for analysing the case-studies data. This took the form of examining data collected at Willow Flats to identify the form it came in and to compare this with my expectations. I realised just how much data I was likely to collect on ‘full’ visits and decided to use an electronic method of data storage, organisation and coding. I note Leech & Onwuegbuzie’s caution (2007, p.578) that software will not perform actual analysis: it is a database and data manipulator only.

This mode of organisation is often mentioned in the literature almost in passing, as if it were obvious, but Brewer (2000, pp.105-109) notes that analysing qualitative data often involves large volumes of data, and explicitly lists data management and organisation as a first step in analysis. I felt that this first step was very important, but I saw it as part of the larger process of preparing for the

main analysis and of the process of becoming familiar with my data to the point of immersion in it, as recommended by Liamputtong & Ezzy (2005). Hammersley & Atkinson (2007, p.162, emphasis in original) put it baldly: “Underpinning the process of analysis is the necessity to *know* one’s data”, suggesting the need to read, read, and read again, all the data collected.

In terms of a more *explicit and conscious* process of actively analysing data, Liamputtong and Ezzy (2005) are among the vast majority of commentators who agree that this begins *during* data collection: recording data and writing memoranda are the first steps in analysis. Hammersley & Atkinson (2007, p.160) advise that “...engaging in sustained data analysis alongside data collection is often very difficult in practice”, and writing reflective memoranda or other notes commentating on empirical data while collecting is as much of a form of reflection on the process and the data collected as a purposeful analytical action. It was certainly easier to embark on an organised process of concentrated analysis *after* data collection, and, although I recorded memos which were the beginnings of analysis during my field visits, I did not undertake formal or systematic data analysis at the time.

Nevertheless, I also saw an overlap between preparation and analysis proper in terms of the memoranda recorded during case-study visits. I visited schools in quick succession, leaving little or no time for concerted efforts at analysis, so the digital audio memoranda recorded and hand-written notes taken were very important as immediate reflections. These tended to be notes of incidents or information that struck me as important or unusual and worthy of consideration, and the memoranda helped to reduce the effect of distance in time between data collection and analysis proper.

When I finished visiting all five schools, I was able to examine the data collected in each of them, one set at a time, in the order in which the schools were visited. I checked recordings against handwritten notes and lists made in the field of data collected with what I had actually brought back with me. For the purposes of analysis, each school was considered independently, before I looked for cross-cutting themes.

Coding Data

I began coding by referring to my research questions and ideas from my literature review (Liamputtong & Ezzy, 2005; Myers, 2010). This gave me five areas (Curriculum, Campus, Community, Culture and Leadership) into which to assign *units of data*, (defined by Prinbeck *et al.* (2011, p.344) as: “convey[ing] a single idea; [they] could be sentences, phrases, or even dialogue among several participants”). I saw coding as a two-part process: identifying codes to assign to data and assigning data to categories. Boulton & Hammersley (1996) assert that QDA involves both of these steps simultaneously, and Charmaz (1991) makes it clear that it is not a linear process: the act of reading and coding leads to the discovery of new coding categories. Hammersley & Atkinson’s (2007) advice to note patterns, surprises, consistencies and contradictions in the data struck a chord, and I also followed Boulton & Hammersley’s (1996) guidance on categories: they advise creating as many as possible at first, and starting with the most obvious.

I used the five categories I originally identified, but, as I coded, I began to see more clearly that there were sub-categories within these. I also added a further ‘main’ category, ‘Irrelevant’, for data that were really nothing to do with my research (I used this sparingly, as I was open to the idea that data might lead to

conclusions I had not expected; however, introductions, interruptions and the like could safely be assigned here, saving time on re-examination).

Comparative analysis has one more phase: while one forms tentative categories and starts to discern relationships between them, one should always be referring to the data themselves. Do the categories fit *all* the data? If not, how can they be redefined to do so? A combination of this comparison and the writing of memoranda enables the researcher to move towards some kind of theoretical findings. Writing about analysis, it seems to me that the process can come across as being a very linear one: in fact, it is *iterative*.

I had always intended to look at data for each case-study school on a number of occasions. Hammersley & Atkinson describe *progressive focusing* during analysis (2007): gradually working out what the research is about, and moving from *describing* events, processes and so on, towards testing *explanations* and *theories*. While Hammersley & Atkinson separate coding into two phases, Charmaz (1991), Brewer (2000) and Grbich (2007) do *not*, but *do* describe this process of reading and re-reading data, clarifying categories, and working from *descriptive* data towards more *conceptual* and *abstract* ideas. This is a result of the process of noting differences and similarities within categories described above, and has been called *constant comparative analysis* (Strauss, 1987).

The original *Grounded Theory* outlined by Glaser & Strauss (1967), on which constant comparative analysis is based, is predicated on multiple rounds of data collection. Each round of analysis, resulting in some tentative theories, can be tested against a new set of empirical data (Liamputtong & Ezzy, 2005). However, Hammersley & Atkinson (2007) note that it is not always possible to check findings against new data as much as one would like, and Leech &

Onwuegbuzie (2007) go as far as to state that Grounded Theory-type analysis is now regularly carried out after the one and *only* round of data collection.

My own research design allowed for only one main dedicated period of collecting empirical data: although the methods I used for analysis borrow heavily from Grounded Theory, I applied the principles of Glaser & Strauss's model only inasmuch as Leech & Onwuegbuzie suggest it is now legitimate to, in this limited sense. Time constraints, in particular, dictated that I was *not* able to test the findings from my analysis against new data. What I was able to do was examine my data repeatedly, reading them in different orders and comparing with my own experiences to gain new insights, as Grbich (2007) suggests, and looking for negative cases to falsify my ideas (Brewer, 2000).

Researcher Influence on the Data

Throughout Section 3.9.2 the role of the researcher is repeatedly emphasised (see also Section 3.7.5 above). I concur with Liamputtong & Ezzy (2005) that it is impossible to be completely free from being influenced by feelings, desires and theories while one is collecting and analysing data. They suggest that a researcher should *embrace* this situation and be explicit about it: creating memoranda can help reflect on it, and this was an important part of my data collection and analysis. That is not to say that I differed from Glaser & Strauss (1967) in aiming to minimise the influence of established theory on my process of coding data: I used categories suggested by existing theory, but I also generated more from the empirical data gathered. My principal source was interviews (see Section 3.7.4), because I was interested in the 'voice' of my participants and their 'mind-set' about sustainability in their school (see Section 3.3).

Generating Findings

In generating findings, I was seeking to describe and explain the underpinning beliefs held by school members about sustainability. To do this, I collected all the sections of data coded under each heading together and developed a 'theme' for each group which described all of the data in that group. I did not place restrictions on the number of initial themes, but I did aim to avoid overlap between one and another, and all the coded data had to be included in one of the 'themes'. Once I had developed themes that described all the coded data, I tested them against the data to ensure that there was a fit between data and theme, by looking for falsifying data, that is, data bits that were not described by the theme in which they had been placed.

Those sections of data that did not fit were examined again, and, where necessary, removed from the theme in which they had been placed. This also led to some themes being re-defined and new themes being developed. I also examined each theme to ensure that it could not be combined with another theme: where there was significant overlap between themes, they were combined and the new theme redefined to include both of the original themes. For example, I combined two themes called 'Leadership' and 'Leadership Style' generated from the data from Maincross College (See Appendix 10). This process was repeated in order to identify 'Main Themes', which were combinations of the original (sub-)themes developed in the first round of this process.

Getting from coding to generating 'findings' in the process of QDA can be aided by reporting interim findings. I have already mentioned that writing memoranda during data analysis helped me to clarify ideas about what the data said: Brewer

(2000) suggests writing *vignettes* – analysing individual cases or other defined parts of the data. He also mentions the technique of writing ‘thick description’ (Geertz, 1973), including context, meanings, intentions, and evolution and processing of phenomena: this is the goal of the ethnographer, trying to portray as realistically as possible what they find in the field. I was able to do this to some extent, writing in this kind of detail and discussing vignettes of data analysed with my PhD supervision team and with local and national researchers working in similar fields. As I began to ‘know’ my data, I identified subjects that my participants discussed repeatedly, to see if ideas from the literature I had read on sustainable schools and sustainability education were matched in my data, and to identify my own ‘themes’ to explain why the coded data were as they were (Hammersley & Atkinson, 2007).

Hammersley & Atkinson (2007) describe types of theory that may be generated in terms of their being *macro* (applying to “large scale systems of social relations”) and *micro* (“more local forms of social organisation”), and *substantive* (more specific ideas) and *formal* (more general). These terms can be combined into *micro-substantive*, *micro-formal* and so on (Hammersley & Atkinson, 2007). Grbich (2007) uses similar terms: *micro*, *mid-level* and *grand* theories to describe a similar range of specific to general as Hammersley & Atkinson. Both agree that *ethnographic* QDA tends to result in *micro* theories, or occasionally *mid-level* theories, where concepts provide the theoretical framing within a limited context. This is not surprising, given that one aim of ethnography is to understand specific contexts in great detail: it would be remarkable if lessons learned from this sort of research site could uncritically be applied more generally.

Baptiste (2001, no page number) suggests that there is an onus on the researcher to work towards more generalised findings:

“The point of research is not to tell people what they already know. The point is to help our...readers understand more broadly and deeply their experiences. This criterion of deeper broader understanding demands that analysts develop stories or build theories”.

This link is clear again where Stake (1995) discusses the idea of *naturalistic* generalisation – the idea that the reader can make generalisations from the researcher’s text, comparing it to their own experiences – but only if they are able to experience the situation described vicariously. The researcher needs to provide the reader with this experience, which is where thick description helps. In terms of this research, I used thick description to prompt naturalistic generalisations, and through analysis I aimed to form ‘micro’ theories. This also influenced my decision to allow themes to emerge from the data and present my findings based on such themes, even though this meant that the data were organised into different themes in each of the case-study chapters. Through meta-analysis (see below), I looked for themes common to all three case-studies and present these in Chapter 7.

I made sure to concentrate on how to identify school culture, allocating ‘culture’ as one of my pre-determined labels for coding. I also looked for themes that supported the identification of specific cultural elements: values, beliefs, and cultural objects, noting instances of these in my data. Schein’s (1990) model suggests that some elements of culture can be readily seen on the ‘surface’: for these, I looked particularly at evidence I gathered from observations and documents. ‘Espoused values’ were also to be found in documents, along with the interviews I conducted. Looking at the themes that emerged from analysis

allowed me to identify deeper values underlying these espoused values and surface manifestations of culture.

Meta-analysis

My broader conclusions (see Chapters 7 & 8) were reached using a similar approach to that I used earlier, when I identified themes in my data. Certain themes emerged from the data from each of the three schools: I identified these myself in reading through my initial findings, and occasionally also asked my supervisors for feedback, after sharing vignettes. Their opinions were welcome, not least because they were from the point of view of relative 'outsiders' compared to my position, having been immersed in the data since its collection. Having identified recurring themes in the data from each of the three case-study schools, I returned to the original data, and to the literature I initially used to identify possible themes (see Chapter 2) to ensure that these were the most fitting key themes.

3.9.3 Scott's Descriptors

When considering data from my three research sites, I also considered what the existing literature says about what a sustainable school might look like. This provides a theoretical framework to which empirical data could be applied, and it also increased comparability in analysing data from the three sites.

I decided to use Scott's model (2010; see Section 2.2.2), comparing the data I collected with the descriptions Scott uses, giving a reasonably clear indication of progress made at the case-study schools. He uses three categories of descriptor, 'Leadership', 'Human & Social Capital', and 'Natural & Built Capital'. All three 'case-study' chapters (Chapters 4-6) include a section applying Scott's

model to their particular circumstances. Appendix 11 contains Scott's descriptors in full, but parts of two are included here for illustration.

Under 'Leadership', the 'Initial exploration' descriptor is as follows:

"The school leadership does not understand the significance of sustainability issues to young people's education, has not considered (or has rejected as irrelevant) that such issues might usefully inform young people's current learning as well as their development of awareness..." (Scott, 2010, p.16)

Scott's 'Some assimilation' descriptor under 'Leadership' includes the following:

"School leaders have some limited awareness of what the sustainable schools initiative is setting out to do, and understand something of the utility for learning that a focus on sustainability can have...This falls short, however, of an endorsement of sustainability as a key feature of how the school sees itself, or a recognition that it is important to students' lives and to society's positive evolution..." (Scott, 2010, p.16)

3.10 Generalisability

Qualitative research studies, and especially educational research, rely for their strength on being specific to the context studied, and are not so likely to produce results that can be generalised easily or widely. However, Teddlie *et al.* (in Teddlie & Reynolds, 2000), discussing organisational culture, use the idea of contingency theory to argue that there is no 'best' way to run an organisation: effectiveness depends on situational factors. Therefore, a case-study method and qualitative research, providing a deep, focused look at a few situations, is appropriate in this research, and generalising to make statements about 'all schools' is not necessarily helpful. Their point also resonates with the idea that sustainability is an ideal state that cannot necessarily be attained, but should nonetheless be aimed for (see Section 7.2.4): as such, research done in a successful sustainable school is 'leading edge', and generalising may not always be possible because most schools will not be in the same situation.

Where generalisation *may* be possible, however, is in terms of theories about *why* the results obtained are as they are. In addition, Woods believes that ethnography *can* be more than just ideographic, generating results with both “rich and intense description *and* generalisability” (Woods, 1979, p.268, my emphasis). He suggests that selecting a ‘typical’ school will increase the generalisability of results and recommends improving generated theories in other ways, perhaps by undertaking further case studies, and I have done this as far as possible (see Section 3.5).

Finally, Stake (1995) describes a process he calls ‘naturalistic generalisation’, where the reader makes generalisations from a researcher’s text, comparing it to their own experiences (see Section 3.9.2). Although this is a slightly different meaning of ‘generalising’, I believe that it has relevance to the overall discussion and this is a form of ‘generalising’ that I aimed for. A similar point is made by Halsall (1998b) who suggests that generalisability can be possible where the context or situation is comparable. Under these circumstances, context-specific research can still be used for practical purposes by others in similar circumstances.

To enhance naturalistic generalisation I chose a range of schools, but selected three that are reasonably typical in that they have provision for 11-18 year olds, and are state comprehensive schools. These are instrumental case studies (Stake, 1995): they are *specifically* chosen as good examples so that others can compare with them. While acknowledging the limits of generalisability in this kind of research, in Chapter 8, some possible wider lessons for improving and strengthening the position of sustainability in secondary education are discussed.

3.11 Validity & Reliability

A clear strength of this type of case-study research is validity, described by O'Reilly (2012, p.226) as concerning "whether the research is...plausible or credible and there is enough evidence to support the argument". She explains that ethnography is strong in this area because of its focus on the perspectives of people involved intimately in the context being researched. Interestingly, the inferences drawn by both the researcher and the reader may not necessarily be those of the participants, who have unique insights, upon which my research design *depended*, but may be too close (arguably at least) to the situation to grasp *fully* what is going on. The researcher has the time and perspective to reflect on participants' words in the context of the views of others and the literature. I certainly had this perspective, visiting a total of five schools and reading plenty of literature before, during and after visits to schools.

In terms of reliability, I did not aim to conduct research that could be exactly replicated by another researcher: that would not be possible or desirable in an ethnographic study. What I did aim for was to generate conclusions that another researcher, given the same data, *would not find contradictory or appreciably different from their own*. I followed Ball's advice (1981), regarding generating themes, that results will be more reliable if attempts are made to look for negative or qualifying examples to set them against. This led to a cyclical form of theory generation, working from one version of an idea to the next by comparing the original with other data, gradually refining until a final product is generated that fitted with as much of the data collected as possible (also see Sections 3.7 and 3.9).

Finally, participant validation, checking findings with the participants involved by sending a summary report of findings for school records, was intended to help accuracy, and is also ethically sound (see Section 3.8). In practice, two of my case-study schools did not provide feedback on my report, even after follow-up contact on my part, which may suggest that they did not identify major inaccuracies. The other school asked me to visit and discuss my ideas about the school with a new sustainability working group they were forming, which was gratifying, not least in that they did not mention any critical comment on my findings or their accuracy.

3.12 Chapter Synopsis

The practical form of the research was essentially as follows: three instrumental case studies of schools across a range of success in terms of 'sustainable school' status, including interviews with the principal, several senior staff, and approximately 6-8 other teaching staff, group interviews of parents and learners, documentary analysis, and general observations in a number of locations. Progressive focusing informed the later stages of data collection, as well as beginning the process of generating results early in the overall project. Ethical considerations influenced the choice of general and specific methods and methodology. An ethnographic approach was chosen to suit the educational, sustainability, and cultural foci of the research. The aim was to produce detailed studies of specific situations in order that particularly those with experience of similar situations might be able to draw parallels and learn from this study.

This research sought to address several questions: the kinds of approaches English secondary schools were taking with respect to sustainability; the extent

to which sustainability features as part of schools' culture and values; and possible steps which could be taken to strengthen and improve sustainability education in English secondary schools. Methodologically, ethnography was chosen for its excellent fit with the study of the cultures of organisations and with the holistic nature of sustainability: specifically, spending time in the schools I chose as case studies helped me to understand how they worked and what issues were important to the people there. Interviews gave me a first-hand explanation from the people themselves, which I was able to compare with documents written about and by the schools and with what I saw in formal and informal observations of school 'life'. Brief visits to two 'benchmark' schools, acknowledged to be national leaders in this field, helped to place the three case-study schools in context and to review the extent of their sustainability achievements so far, against the best of what has been achieved elsewhere. I also looked to the literature for ideas about what a sustainable school might be, and for models of institutional and school cultures, but spending time in schools gave me valuable data about what was actually happening there to compare with the models I had both from the literature and from the 'benchmark' institutions. The next three chapters present in turn the principal findings from each of the case-study schools. Based on the data collected and analysed, they provide a profile of each school and of the nature and extent of its current engagement with sustainability.

Chapter 4: Underwhin College

4.1 Chapter Introduction

In line with my methodological approach, this chapter contains an account of the data gathered at the first of my case-study schools, Underwhin College, utilising thick description (Geertz, 1973). In Section 4.1, the data are outlined under themes, together with an outline description of the school and its campus, along with some demographic information and statistical data describing its academic performance. Section 4.2 discusses a number of emergent themes identified as a result of the analysis and categorisation process. These themes may be loosely categorised as follows:

Priority Given to Sustainability (see Sections 4.2.2-4.2.4)
Areas of Strength with Regard to Sustainability (see Sections 4.2.5-4.2.8)
Behaviour/Leadership (see Sections 4.2.9-4.2.13)

Table 4.1: Categorised Themes Emerging from Analysis of the Data from Underwhin College

Section 4.3 compares the data for this school with the theoretical models selected in Chapters 2 and 3, and draws conclusions about how far Underwhin could be described as a ‘sustainable school’; Section 4.4 summarises the chapter findings.

4.1.1 Introducing Underwhin College

Underwhin College is the only secondary school in ‘Leamington’, a market town located in the South of England. The nearest competitor is about 10 miles away by road, in the next town. The College is located on the edge of the town: access is via one road, which divides the main campus from playing fields and from the separate Sixth Form campus. School buildings range in age from newly built (within the last five years) to Victorian.

In terms of pupil numbers, the school is larger than average, and also has a sizeable Sixth Form; the school has a slightly higher than average proportion of students with special educational needs. The school attained Specialist sports status in the late 1990s and renewed this approximately 10 years later: it was designated a training school over ten years ago. Most Underwhin students are of white British origin and speak English as their first language: they are drawn from an unusually large catchment area. The number of students claiming free school meals is significantly below the national average. On average, in the four years to 2011, over 57% of students achieved 5 or more GCSEs (or equivalent) at grades A*-C, including English and Maths GCSEs²³.

The main campus houses several buildings, centred around a car park and playground. The reception, most management offices and the staff common room are in one of the older buildings. Two more large teaching buildings are surrounded by smaller outlying buildings. The Sixth Form centre is slightly separate from the rest of the campus in an area which also contains sports pitches and an allotment, as well as substantial trees and wilder areas of planting. Excellent sports facilities lie across the road from these two areas of the campus.

My initial impression on visiting was that, although the school had been built at different times, it still functioned as a coherent whole. Newer buildings in particular were well-equipped, and there was a great deal of student work displayed, as well as many notices advertising extra-curricular groups and clubs. There was a sense of activity even on quieter days, but the campus also

²³ The national average over the same four years was approximately 52%.

looked very untidy, with a lot of litter visible outside buildings, even allowing for the problem the school reported with limited dining space.

In terms of the outward appearance in relation to sustainability, I noted that the school employed a member of staff dealing with the large grounds around the Sixth Form building, a former country house, with a huge lawn and impressive trees. This area seemed extremely well tended, but the rest of the campus contained scruffy, overgrown beds of planting that did not seem to be looked after at all. There were no recycling facilities or obvious sustainability signs in the form of solar panels or a wind turbine outdoors, but there were many signs of social sustainability in the form of links with the local and wider community in all the buildings: posters, magazines and so on.

I have used ‘ ’ single quotes/inverted commas for anything that needs quotation marks but is NOT a direct quotation. Wherever “ ” are used, it IS a direct quotation.

I have used *italics* to stress words or phrases within sentences in the main text and to show stressed words or phrases in direct quotations or to emphasise parts of these where I think it is necessary. In the latter case, I have also noted whether the emphasis is mine or in the original.

I have used ‘school’ to describe all three main settings, but also College where that is in the title of the institution.

Numerical Codes: Sixth3b = Sixth Form, 3rd School, ‘b’ group
YrEight3a1 = Yr 8, 3rd School, ‘a’ group, 1st group
interview
SV1a = Student Voice or Student Council, 1st School, ‘a’
group
I used similar principles in naming memos (with an ‘M’),
Lessons (with an ‘L’) and ‘Friends of the School’ groups
(with an ‘F’)

Figure 4.1: Some Notes on Terms and Grammar

4.1.2 Key Statistics for Underwhin College

All the statistics included in these tables are from the Ofsted website, using their terminology. Figures have been banded or averaged wherever possible to aid anonymity.

Criteria for Selection	Location	Eco-Schools Awards
Recommended by local experts as a school beginning to try to become more sustainable. A 'beginner' school ²⁴ .	Market Town area with 10-15,000 inhabitants	None

Pupils on Roll, 2011	Specialism	Provision
1500-1749	Sport ²⁵	11-18

	Average, 2008-2011
%age achieving 5+ A*-C GCSEs (or equivalent) including English and Maths GCSEs	56.75%

2011 GCSE Grades	Low attainers	Middle attainers	High attainers
Average grade per GCSE	E+	C-	B+

2011 Figures	
Total headcount of teachers	120-139
Number of teachers (full-time equivalent)	100-119
Total headcount of teaching assistants	40-49
Number of teaching assistants (full-time equivalent)	25-29
Total headcount of support staff	60-69
Pupil: teacher ratio	15-16

Last 3 Ofsted Inspection Grades (most recent first – see Appendix 1)			
	1(1)	2	B

4.2 Underwhin College: Themes Arising from the Data

4.2.1 Main Themes

The three categories of theme in Table 4.1 appeared in all types of source, suggesting that the school's public image of its relationship with sustainability

²⁴ See Table 3.1 above.

²⁵ Specialist school status has not attracted specific funding since 2010. I have used a capital 'S' for 'Specialism' in Chapters 4-8 to denote official status and a lower case, 'specialism', to denote a status claimed by the school but not subject to official government approval (or, therefore, funding).

was very close to the 'reality' as described by members of the school (see Section 4.3.2 for a further discussion of this relative lack of a 'rhetoric-reality gap' (Ng, 2008)).

4.2.2 The Priority Given to Sustainability

A great deal of evidence suggests that sustainability was not a priority at the school when I visited, and had not ever been one. Several interviewees said as much, including the Principal, 'Dave', and a Governor, 'Dougie', who said that the Governors had *never* discussed sustainability in his presence. The Deputy Principal with responsibility for school grounds, 'Cliff', said:

“I don't believe I have ever been at a meeting...where people have discussed sustainability [having been here for about 30 years]”

Also, many interviewees did not have an informed understanding of the concept of sustainability, either explaining it as environmentalism or not even making that association: this was true of most of the staff, students and others interviewed. There is no dedicated sustainability policy at the school (although it is worth noting that schools are not required to have one, as they are with other issues like child protection, health & safety, and so on – see Section 2.3). The School Development Plan did not mention sustainability, focusing on examination results specifically and student achievement in general. Only one of the documents I examined at Underwhin used the word sustainability.

Several school policies and other documents did include elements of sustainability, with a particular focus on sustainable travel, links with the local community and educating students for an uncertain future after they leave school (the 'Promotion of Healthy Eating' policy and the 'Cross-curricular

Days²⁶ policy, for example). However, no member of staff has a responsibility for overall coordination or oversight of sustainability at Underwhin, and there has not been any audit of existing sustainability at the school (although, several years ago, an audit of where sustainability was covered in taught subjects was undertaken; ironically, this was at the request of an overseas partner school looking to increase their own efforts towards sustainability). Within this Main Theme, several Sub Themes could be distinguished.

4.2.3 Individuals Working Towards Sustainability

Where there are pockets of sustainability inside and outside the taught curriculum at Underwhin, it is principally because of the efforts of a few individuals who feel that it is 'the right thing to do'. This current reliance on the actions of a few individuals was described *repeatedly* by interviewees. For example Ashley, a Teaching Assistant working with students to create a school vegetable garden, said of this work, "I'm very much left to get on with it on my own". Birney *et al.* (2006) claim that it is very difficult for individuals successfully to integrate sustainability into schools, so the situation at Underwhin was not, in this sense at least, conducive to sustainability being a success. Harris (2008), Birney & Reed (2009), and UNECE (2008) all suggest that responsibility for sustainability in schools must be shared, and that it is impossible for an identified individual to lead sustainability effectively (see Section 2.4).

There was also no voluntary organised students' group concerned with sustainability or the environment (in a school with dozens of clubs and societies for students). A staff group with half-a-dozen members was in its infancy and finding it hard to make any progress, because members saw other duties as a

²⁶ I have used a pseudonym for policies and activities, for the sake of anonymity.

higher priority, making it very difficult to meet, and because they also felt that they lacked the understanding of sustainability in schools to decide how to proceed, describing these problems to me in the meeting I attended.

4.2.4 Understanding the Concept: Lack of Interest?

My data seem to confirm Symons' (2008) finding that simple lack of understanding of the concept of sustainability can be a major barrier to schools integrating it, but the lack of understanding of the concept of sustainability and related issues was not universal. Four interviewees demonstrated a sophisticated understanding of the concept itself, its combination of social, economic and environmental issues (a model which was also used in Geography lessons I observed), and the complex nature of their inter-relations. Others showed a deep understanding of certain *aspects* of sustainability (resource use, for example). My lesson observations, although targeted at occasions when a topic related to sustainability was being covered, showed that some students had a sophisticated understanding of sustainability, including awareness of the complicated nature of sustainability issues, the model mentioned above, and their own part in these issues, both at KS3 and KS4.

However, a group of students responsible for overseeing recycling in the school showed little interest in the subject: only 1 of 5 had chosen to be involved in recycling because they wanted to deal with a perceived problem with waste; they were happy to be allocated a responsibility, but not concerned about what it was. Deputy Principal 'Hugh' discussed recycling, saying "as a school, we haven't got that *embedded* recycling message" (emphasis in original). Recycling is usually considered to be a relatively easy goal to achieve on the road to becoming a sustainable school. For example, Webster & Johnson

describe schools not having come to terms with sustainability as having curricula that "...if [they mean] anything it is reinforcing a 'do with less', recycle, you've heard it all before list of handy hints and small projects," (Webster & Johnson, 2009, in Scott, 2010, p.9). Even the teachernet website, criticised in Chapter 2, says that sustainability in education "means much more than recycling bottles" (teachernet.gov.uk, 2009). However, Underwhin only recycles white paper (with one exception – see Section 4.2.8), and this has been a fraught process in itself (see Section 4.2.9). This suggests that recycling was not embedded in the school's culture: neither surface actions nor espoused values prioritised it (see Section 4.3.2). Other areas of sustainability in school operations, like resource use, were not covered in any organised fashion.

4.2.5 Relationship with the Local Community

In terms of social sustainability, links with the local community are strong, with visitors to the school for assemblies and lessons sharing experience and expertise. This relates closely to one of the eight 'Doorways' suggested by the Sustainable Schools framework, 'Local Well-being' (DfE, 2012c; see Section 2.3), and is enshrined in school policies: for example the Cross-curricular Days policy states that visiting guests are a way of "bridging links with the local community". Local business influence in the School Trust²⁷ and the Board of Governors is strong (part of the land on which the school stands and one major building are owned by a large local business which is also a member of the School Trust). Students are involved in several local projects, especially in the creative arts subjects in KS4 and KS5, and many taught subjects make links with the local community in their teaching and learning. The last academic year

²⁷ http://trustschools.ssatrust.org.uk/schools/trust_schools.aspx provides an overview of Trust Schools.

before my visit in particular has also seen concerted efforts to communicate with parents, via surgeries in local towns and villages attended by the Principal and Chair of the Board of Governors, and via the establishment of a Parents' Learning Forum²⁸. Overseas links (with 'partner' schools in Africa and Asia, for example) were also clearly important at Underwhin: they were noted in the 2010 Ofsted Report and evident in displays in several buildings across campus.

The most recent Ofsted Report on Underwhin, in 2010, highlighted this strength and praised the school for it, noting the school's highly effective strategy regarding community links, opportunities for students to contribute, fund raising, cultural exchanges and sporting links with local primary schools. These comments can be linked to recommendations made by Symons (2008) that sustainable schools form external partnerships (see Section 2.4), and the 'Eight Doorways' Sustainable Schools Framework (SSF), which emphasises local well-being and the global dimension as two of the ways in which schools can try to emphasise sustainability (see Section 2.3). More can be seen in policies at Underwhin: the school's 'College Aims' document includes "learning from the unique resources of our [local] area and contributing to them". Cross-curricular Days, where the normal timetable is 'collapsed' to allow focus on a single theme, are described in the Promotion of Healthy Eating policy as a way for "students [to] gain knowledge and experience of the production and sustainability of locally grown food through off-site visits to local farms and exhibitions".

²⁸ This body was still in the process of coming together when I visited, but was intended to be a forum for parents to have a say in what and how their children learn at Underwhin.

Unfortunately, I do not believe that school members saw any of these links with the local community as 'sustainability' (see Section 4.2.2): this is likely again to be because they were unaware of the full nature of sustainability.

4.2.6 Sustainable Travel

Underwhin's very large, mostly rural, catchment area means that many students and staff travel several miles, but many students, especially, do so by bus or coach (approximately 75% of Underwhin students use transport provided by the Local Education Authority, according to the school's Transport Policy). A focus on healthy lifestyles, associated with Underwhin's Specialist sport status, has also led, albeit incidentally, to a school culture where sustainable travel is important, for example walking and cycling.

4.2.7 Extra-curricular Activities

Also associated with the school's emphasis on sport, and healthy lifestyles in general, is a strong tradition of extra-curricular activities in the form of clubs and societies. Many focus on sporting activities, but there are also plenty of music and performing arts clubs, homework clubs, and other activities taking place at lunchtime or after school. These are popular and well-attended (one Student Council member in SV1b complained that they had no spare time to take on any other responsibilities because they did not have any spare lunchtimes all week!). These activities could provide opportunities – albeit not taken while I was visiting – for some aspects of sustainability to be introduced. Maths teacher, 'Diane', noted a more or less total absence of coverage of sustainability in her taught lessons (and there has never been a Cross-Curricular Day focusing on sustainability): the only way in which she touched on

sustainability issues was in the (extra-curricular) walking club she helped to organise.

4.2.8 Strengths Around Sustainability in the Curriculum

Relative to the overall situation at Underwhin, Catering is a centre of strength in sustainability. Partly this is owing to the school's healthy lifestyles emphasis, but 'Micky', the Head of Catering, who is responsible for overseeing the taught subject and the provision of food, also described ethical reasons for their policies which do not seem to have been considered, or at least not acted upon, in other areas of the school. The Department has a written policy stating that, wherever possible (and dependent upon cost), food is to be purchased from local suppliers, and Catering Department staff have also had training to assist them in visiting suppliers and making judgements about the suppliers' suitability on ethical grounds (for example, how their livestock are treated and where they source products from themselves).

Much is made of the school's efforts to encourage students to eat a healthy diet, with Catering staff (who are, as one interviewee pointed out, often mothers of former or current Underwhin students) advising on choices of meal; the Student Council has been closely involved in selecting menu items. When local and/or seasonal items are included in the canteen menu, this is advertised to students and staff using the canteen. Students from taught Catering subjects work in the school canteen and help to produce the food eaten there; a small amount of food grown in the school garden is also used in the canteen. The Catering Department is also the only place in the school where anything other than white paper is recycled: cardboard is collected. Finally, aspects of sustainability such as organic food, local sourcing, overseas links in the supply of food, Fair Trade

and so on, are covered in the *taught curriculum* in the department, according to Micky.

This deliberate coordination process has also included an audit to see where topics about food and nutrition are taught in other subjects, and to try to ensure that subject teaching and school catering convey the same messages (for example, foods identified as healthy in Physical Education (PE) or Biology lessons are served in the canteen). This continuing policy is described in the school's 'Promotion of Healthy Eating' document as: "[Liaising] closely with teaching staff to ensure that the practice of the catering underlines the theory in the classroom across the curriculum." This was one of very few examples I discovered of campus operation and taught curriculum being coordinated at Underwhin.

The excellence in Catering regarding sustainability is relatively isolated, but there is some very good teaching related to sustainability in other departments too. Lesson observations and interviews with students and staff from the Science and Geography departments confirmed that there are some staff and students at Underwhin who feel that sustainability is important, and that *it is taught* in KS3, KS4 and KS5. For example, the 'Economy/Society/Environment' model (see Section 1.3) was used as a familiar concept (it was recapped upon) in Geography; in Science, emphasis was placed on the idea of 'life cycle' in manufacturing, and on students' place in relation to others worldwide, and in terms of themes like manufacturing, commerce, food production, pollution and so on. It seemed clear from students' contributions in these lessons that they *understood* these ideas, and were able to give examples of ways in which they understood them, relating the ideas to their own experiences.

The Geography Department was a focus for sustainability in Underwhin, contributing 3 of the 6 members of the nascent staff sustainability group including the teacher identified by many senior staff and other interviewees as the closest thing the school had to an unofficial sustainability 'leader' (the Head of Department, 'Eoin'). The department also used their allocated display space to highlight issues like climate change, with a large display entitled 'Ways to Change: Change the World: We Are What We Do' encouraging individual responsibility and action in the area of sustainability. Student work on Fair Trade, including hand-designed T-shirts, was also displayed outside the Geography office.

The Science Department was not such a strong source of sustainability at Underwhin, but Science Technician 'Jonathan' made clear his personal passion for recycling and minimising resource use, listing numerous ways in which this is practised as well as 'preached' in an exemplary fashion. However, there also seems to be great pressure on the department to produce strong examination results: this situation was also encountered in the English Department, where staff seemed to feel that they were too busy to do anything 'extra' on top of their core teaching workload. This is significant also for the fact that sustainability – or elements of it, at least – are seen as 'extra' and beyond the main job. Symons (2008) is among many commentators who note that sustainability must, if it is to be successful, be integrated with other initiatives and part of a whole-school approach.

I formed a general experience of the classroom culture at Underwhin, based specifically on the Science and Geography lesson observations I made and the lesson plans I obtained. Lessons were very well-organised, in that actual

events tied in closely with lesson plans (e.g. Lesson plan L1a: social and international impacts of recent floods in Bangladesh) and lesson objectives were clearly stated (although these did not make mention of sustainability, for the most part). Also, students seemed very well engaged and keen to contribute to discussions and by answering direct questions (see L1a: one student was prepared to argue from a 'devil's advocate' point of view that we should 'abandon' Bangladesh to deal with their own problems caused by the floods; another asked whether climate change was "the dark reflection of capitalism"). None of the staff at Underwhin mentioned the idea that there was a specific pedagogy they associated with sustainability, but teachers generally seemed to make a point of including students through questioning and discussion, which was a positive sign in this regard.

Sustainability was much more evident in terms of content, with lessons covering life-cycle analysis, the social impacts of global environmental disasters, dealing with pollution and the pros and cons for a local community of installing alternative energy sources. These topics were all discussed within the class (see L1b: after paired discussion, students contributed to a class list of criteria by which they could judge the success of a renewable energy project), several times beginning with some sort of inclusive recapping exercise to see what students already knew about the topic, and working from their knowledge.

Interviews with teaching staff in other departments showed a lack of understanding of sustainability and a lack of its inclusion in teaching and learning; with the exceptions of Catering, Science and Geography mentioned above, neither staff nor students gave me examples of sustainability in the

taught curriculum. There was no sign of pedagogy specifically chosen to reflect or promote sustainability values. This is not unexpected, given the situation with regard to sustainability in the curriculum outlined in Chapter 2, as sustainability has a low profile in the National Curriculum. I also saw very few attempts consciously to include sustainability outside the formal curriculum, in clubs, societies, assemblies and so on.

4.2.9 Behaviour

Another set of themes I identified focused around the behaviour of students and staff in the context of sustainability. Members of both groups described a big difference between their behaviour relating to sustainability at home and in school, particularly around waste and recycling. 'Sally', recommended to me as a teacher who was keen on sustainability, was one of several staff interviewees who mentioned that students had spoken to them about this. Recycling was part of the normal routine at home, but was *not* at school.

The limited scope of recycling at Underwhin has already been described (in Section 4.2.4). Many interviewees mentioned the school's recycling scheme, which was established by the Student Council, initiated and supported by a teacher, before the experience of any student currently at the school. The fact that white paper recycling has 'always' gone on, as far as current students' experience is concerned, means that this is genuinely one aspect of sustainability that is part of the culture of the school: it is accepted as the norm. However, staff described early difficulties in establishing the scheme, with 'Cliff', the Deputy Principal responsible for working out how recycling would *actually work* at the school, describing having, after long and difficult discussion of the

practical difficulties involved, eventually just imposed a dictum that recycling 'would happen'!

Changing the behaviour of staff and students to put white paper into separate containers (one of which can be found in almost every room in the school) from other rubbish has not been straightforward either. One Geography teacher, 'Bob', described the behaviour of his tutor group, saying that a particular student seemed to take pleasure in continuing to put other items apart from white paper in the recycling box in his tutor room, a trait that had possibly become *more* exaggerated as the pupil got older. Student Council Recycling Group members spent a substantial part of their group interview discussing continued experiences of finding 'other' rubbish in white paper bins, and their ineffectual attempts to deal with the problem. Although recycling is an established practice at Underwhin, it is neither a comprehensive scheme nor one that is fully supported by school members' actions.

4.2.10 Student Responsibility

Perhaps these difficulties explain the belief, which was quite widely expressed by the students and staff interviewed, that any attempt to increase the amount of recycling at Underwhin would be difficult (or, some thought, impossible) because students especially, but also staff, could not be relied upon to 'do the right thing'. The Site Manager, 'Colm', expressed the opinion that a handful of students would *sabotage* any attempt to separate rubbish for recycling using different bins, by deliberately putting the 'wrong' thing in these bins. Sixth Form Students in Sixth1a and Sixth1b seemed convinced that any wider recycling scheme would have to make recycling very easy for everyone involved or it

would not work, one putting it bluntly, “I don’t think you could rely on the students”.

It is important to note, however, that Joe, an RE teacher, spoke strongly against this perception of the students, making the sophisticated argument that students would behave more responsibly if given *more* responsibility: they would show they could be trusted if they were shown trust, and involving them in the design and operation of any recycling scheme would make it more likely to succeed. My lesson observations also suggested that students were enthusiastic and keen to contribute to discussions around sustainability issues.

The 2010 Ofsted Report for Underwhin says that although a few parents and carers were concerned about behaviour in lessons, “behaviour was excellent”, and that students behaved very well “in lessons and around the school”: the school was graded 1 for ‘Pupil Behaviour’, and the pupils’ excellent behaviour was noted in the letter sent to parents and carers after the inspection. It seems that Ofsted’s impression was that behaviour of students generally was really very good: this contrasts with reports about their behaviour around recycling and around taking responsibility.

Clearly these are two different types of ‘behaviour’: Ofsted was not commenting on how good the recycling behaviour was. It is quite possible that students were ‘well-behaved’ in lessons and around the school – polite, enthusiastic and so on – while still dropping litter and putting chewing-gum in the recycling containers. One sort of behaviour does not necessarily result in or associate with the other. However, recycling as a whole was a problem at Underwhin, with a lack of facilities meaning that very little could be recycled and essentially

allowing a poor attitude toward recycling to continue unchallenged. No-one seemed to want to take responsibility for solving the problem.

4.2.11 Staff Responsibility

This is interesting in the light of the point made above about the difference between 'home' and 'school' for many members of the school. Staff interviewees described not being able to explain to students, when asked, why the school recycled considerably less than they did at home.

Deputy Principal 'Chris' in particular described feeling shocked at the "almost immoral" way that adults behaved at the school with regard to waste. Chris described a "difference between personal behaviours and a massive cultural behaviour" when describing how people behaved differently at work in general and Underwhin in particular (she emphasised that the large size of the organisation made a difference too). She did not exempt herself from this criticism – indeed it was her own behaviour that shocked her the most, apparently – and she apologised for it, but did not say how it would change. However, Finance Officer 'Brian' described collecting the same discarded empty plastic milk bottles that Chris saw as a sign of irresponsible behaviour, and taking them home himself to recycle. Again, sustainability seemed to be the responsibility of a few people who took it upon themselves, and personal responsibility was taken only by a few members of the school.

4.2.12 Leadership

The situation regarding personal responsibility seems to be related to power structures within the school, in that many individuals at Underwhin recommended relying on more senior members of staff if improvements in sustainability were to succeed. This may be because there is a clear perception

among the school community that leadership at Underwhin is not distributed, and that most of the power lies at the top of the management hierarchy. Deputy Principal Chris said the Principal, specifically, would have to approve any changes towards sustainability, and 'Wilf', a Governor, said "it's gotta come from the top to make any *real* changes" (emphasis in original); both teacher Bob and teaching assistant Ashley made similar claims. These interviewees did not think that they could change things themselves: perhaps it is not surprising therefore that they did not take responsibility for sustainability.

On the face of it, one would expect this in a highly structured organisation like a school: senior managers and the Board of Governors are there to take major decisions, guide strategy, lead in chosen directions and so on. However, there are different ways of doing so, and different degrees to which others are involved in the processes of decision-making, and it is possible that the level to which responsibility is taken at Underwhin by the senior members of the school has left others without the need – or the chance – to take it themselves. Harris (2008), Symons (2008) and Birney & Reed (2009) all make the case that a distributed leadership style is essential to sustainability in a school, so this is another major barrier to sustainability at Underwhin.

Many staff said that 'management' (meaning the school leadership team of senior staff) were open to suggestions for change at the school, although they often said that, should such a change involve hard work, complicated organisation and so on, this would be expected of the person suggesting the change themselves: support would be forthcoming, but would only go so far. This was linked to the idea that sustainability was not a priority for the school: the Head of Science, 'Veronica', described the attitude of management towards

sustainability as “benign encouragement” in her attempt to portray a lack of opposition to sustainability – but also a lack of support for sustainability as a high priority for the school.

Sustainability was not a priority at Underwhin, but staff were able to say what was a priority there, and all described examination results as one of the school’s biggest priorities (Cliff and Chris, Deputy Principals, made this point strongly, for example). Visitors to the school can see the school’s many trophies, and student work is widely displayed with pride too; Ofsted’s 2010 Report on Underwhin described the school’s ethos of high aspiration. It is clear that the school culture includes a strong emphasis on (mainly academic and sporting) *achievement*. This is, of course, no bad thing, in itself: aspiration is a strong motivation for students to work hard and do well. However, more than one of the student interviewees from Sixth1a and Sixth1b was scathing about the emphasis of the school management on students passing exams above all else, at the expense of other aspects of education. This aligns with Jackson & WWF’s quote (2007; see p.19) which suggests that schools must look at *more than* examination results if they are to succeed in integrating sustainability.

4.2.13 ‘Student voice’

Also in Sixth1a and Sixth1b, student interviewees discussed one example of another closely linked theme. Students at Underwhin do not think they have any influence on many aspects of the running of the school. Bob agreed, saying that he thought that students’ ‘voice’ in the school was not very strong and was ineffective in getting things done. Student Council Members in SV1a were also aware of this, complaining that arrangements they thought had been made as a result of Council decisions did not come about. Both of these

interviews also elicited the view that the Student Council is not seen within the school as being representative of students as a whole: Council Members in SV1b described a lack of communication with 'other' students and this was a problem in the Sixth Form Council too, where apathy over the whole process was discussed in the meeting I observed. I would expect to see strong student involvement in running a 'sustainable school', as a part of a school's emphasis on social sustainability, in line with the 'Inclusion and participation' element of the sustainable schools framework, for example (DfE, 2012c; see Section 2.3).

When I interviewed Student Council members in SV1b, they seemed unaware of sustainability as a priority, and tended, as in the meeting, to focus largely on details of limited projects that they had been *invited to comment on* – presumably by school leadership, via the staff member responsible for the Student Council: these included school uniform, student behaviour and charity events. Students did not seem to be setting the agenda for their meetings and actions.

There certainly does not seem to be a culture of students' participation in decision-making, which one would expect to see if leadership was distributed and students included: Council Members in SV1b made excuses for the lack of interest shown by non-Members. The condition of the Student Council display in a prominent place in a main corridor, showing the previous year's Officers, with some pictures hanging off the wall, one graffitied, and the whole thing looking dishevelled, could be a metaphor for 'student voice' at the school. In addition, the Council is *not* directly elected by students: candidates put themselves forward for council positions and are interviewed by staff and existing council members after a formal application.

This is *despite* the emphasis on student participation in the running of Underwhin that can be found in written policies. The 'College Aims' document states that it was written in collaboration with students (and parents, staff, church ministers and representatives of local business). The school's Code of Behaviour was also "negotiated with all staff and students"; the Spiritual, Moral, Social and Cultural Development Policy states that the "Student Council [is] used to develop a sense of democracy". The School Meals Policy includes: "students are encouraged to make suggestions and menu requests" (this was endorsed by the Catering staff interviewed, who, unprompted, mentioned this sort of collaboration with students). School meals is one area where students *do* appear to have a direct influence on decision-making, albeit that their suggestions are taken into account, rather than their having the opportunity to discuss decisions directly. This may be because of the approach of the Catering department (as noted above, Catering is an area of strength in sustainability: this extends to including students in decisions). However, it may also be accurate to conclude that giving students a choice of meals is similar to asking them only about uniform and charity activities (as discussed above): not really a way for students to have genuine influence over their education.

The more positive view of student participation given in policies – much more positive than that described by most interviewees who mentioned the issue – was reinforced by contributions made by two staff interviewees. Joe, who was critical of the lack of emphasis on sustainability in the school, *did* say that "The students have a lot of voice". Cliff claimed that the school was getting better at listening to students, citing students' involvement in the imminent curriculum review at the school and their existing involvement in a formal process of

learning review, where students observe lessons and liaise with subject departments to feed back their findings. No mention of 'Student Voice' is made in the 2010 Ofsted Report, although student contribution to the school is lauded (Ofsted, 2010).

Jackson & WWF (2007), Birney & Reed (2009), Gayford (2009) and Symons (2008) all say that students *must* be involved in sustainability in schools. The existing culture around student voice at Underwhin is a major obstacle to this, as it is one where decision-making power lies particularly with senior management and so many students *are not even aware that their 'say' could be heard*. A view of 'top-down leadership' seemed strong among staff interviewed too, so this is probably one area where staff and student perceptions are similar.

I was interested to hear Head of Science Veronica say "I try to have as little [and] I think the...teaching staff generally have very little to do with policies", by which she meant that policies are never read by staff. This could also indicate that staff do not feel involved in decision-making at policy level at the school either. The NGO literature discussed in Section 2.4 suggests that a distributed leadership is the best suited to a school attempting to become more sustainability-orientated, which is *in contrast* to what I found at Underwhin.

4.2.14 Overview of Main Strengths and Weaknesses in Sustainability at Underwhin College

Strengths

Catering department

Relationship with the local community

Weaknesses

Focus on examination results at expense of sustainability

Littering/recycling

4.3 Commentary

4.3.1 Comparing Underwhin College with Scott's Descriptors

Applying Scott's (2010) descriptors of a sustainable school (see Figure 4.2) helps to clarify and give shape to the overall picture at Underwhin and reinforces some of the views expressed in the interviews. Scott begins his outline of possible descriptors with *a focus on leadership*: "leadership comes first, as without this, little of any moment will be achieved" (Scott, 2010, p.14), and interviewees at Underwhin, as has already been noted, tend very much to agree (see also Sections 2.2 and 2.6.4).

	Leadership	Human & Social Capital	Natural & Built Capital
Step 1	Initial Exploration	Initial Exploration	Initial Exploration
Step 2	Some Assimilation	Some Assimilation	Some Assimilation
Step 3	More Strategy	More Strategy	More Strategy
Step 4	Towards Restorative	Towards Restorative	Towards Restorative

Figure 4.2: Scott's Descriptors of a Sustainable School²⁹

Summary of Match with Scott's Descriptors at Underwhin College:

	Leadership	Human & Social Capital	Natural & Built Capital
Steps the School is mostly closely aligned with based on my research (see Figure 4.2)	1/2	1/2	1

Leadership

Underwhin falls into Scott's Steps 1 (Initial Exploration) and 2 (Some Assimilation) as far as leadership for a sustainable school goes. The leadership, up to the point of my visit anyway, had not considered "the significance of sustainability issues to young people's education" (Scott, 2010, p.14), and it seems likely that this is because they have not *understood* the

²⁹ See Appendix 10 for full descriptors.

issues fully. This may be seen from Dougie's comment said that the Board of Governors have *never* discussed sustainability. The leadership certainly "does not actively support teachers, and others, who already carry out this work," and "Sustainability work in the school is characterised by the work of lone teachers, or of small groups..." (Scott, 2010, p.14).

So far, this indicates a perfect fit at Step 1, with plenty of evidence described above in Sections 4.2.2-4.2.13 to back up this assertion. However, some of the Step 2 Leadership descriptors also apply. School leaders *do* "have some limited awareness of what the sustainable schools initiative is setting out to do," and the school certainly does "acknowledge the significance of existing school-community interchange". Also, there is, in several policies, "some formal recognition of what already goes on" (Scott, 2010, p.14): the 'Cross-curricular days' policy, and Catering Policies, for example. Underwhin also fits (partly) with the Step 2 descriptors because "This falls short...of an endorsement of sustainability as a key feature of how the school sees itself," and "The ethos of the school does not relate to these issues..." (Scott, 2010, p.14). I think that the emphasis on achievement in the *academic and sporting fields* described in Section 4.2.12 says much about the ethos of the school: this will be expanded upon in Section 4.3.2.

There are some elements of the Step 2 descriptors that *do not* fit with what I found at Underwhin, however. There was no funded co-ordinator post, or membership of any schemes like 'Eco-schools', for example. The Step 2 descriptor, describing a curriculum focus on sustainability which fails to promote "a critical consideration of sustainability" does not fit the situation at Underwhin. Consideration of *Step 3* descriptors leads to a firm conclusion that the school is

not 'there' yet either: the school leadership is not emphasising sustainability, there is no vision of how sustainability fits into Underwhin, and there are no plans to reduce carbon emissions or look for a suitable sustainability pedagogy, for example (Scott, 2010, pp.14-15).

Human & Social Capital

In the second area Scott's descriptors focus on, Human & Social Capital, evidence gathered at Underwhin suggests that the school again falls across Steps 1 and 2. "Individual staff contribute to uncoordinated clubs and out of school activities...with little link to the curriculum" (a Step 1 feature: Scott, 2010, pp.15-16). The interview with Diane, the Mathematics teacher, illustrates this perfectly: she was aware of no reference to sustainability in her curriculum, but she felt that she contributed to working towards sustainability in the school by helping out with a walking club outside school hours. Also, comparing with Scott's descriptors:

"There is formal, but mostly unconnected teaching about [sustainability issues] through mostly conventional takes on curriculum..." and

"Learning, and learning outputs are predominantly viewed in academic terms, and sustainability issues tend to be seen as external to the school and its work..." (Scott, 2010, p.16)

The interview with 'KSS1', a group of students nominated by staff as interested in sustainability, illustrates that some students certainly felt that they learned about issues overseas but not those that affected them personally and immediately. I found no evidence that the school had invested in CPD for staff around sustainability: anyone working on sustainability did so by choice and had developed the necessary skills themselves.

Nonetheless, some aspects of the approach to sustainability in this area might be seen as matching the descriptor for Step 2. Firstly, the Step 1 descriptor, “learning [is] mostly seen as something done by students” is *not* one that can be applied to Underwhin: it was a ‘Training School’³⁰. In addition, the community is “seen as more than [a] mere resource”, and the formal and informal curricula *are* linked in some areas (such as Catering – see Section 4.2.8). The links with the community – local and global – are, and have been for some time, seen as potentially resulting in “enhance[d] student understanding and skills” and “wider learning [and] greater community cohesion”, as Scott describes at Step 2 (2010, p.16). However, the school does *not* match the Step 2 descriptor with respect to its view of and use of its campus as a learning opportunity and has *not* yet fully realised that sustainability is about learning as well as behaviour change.

Natural & Built Capital

The last area covered by Scott’s descriptors is Natural & Built Capital. Again, Underwhin is in the early stages, this time fitting the Step 1 Descriptor in its entirety: “Limited, responsive, changes are made following conventional framings, for example in relation to recycling and composting initiatives by Local Authorities and/or NGOs”. Step 2 describes a school “understanding that active steps need to be taken on all fronts, including planning to enhance biodiversity as well as reducing footprints” (Scott, 2010, p.19): Underwhin is not at this stage, and certainly not close to the Step 3 actions of having produced a carbon reduction strategy or a biodiversity enhancement strategy.

³⁰ A programme, now superseded by ‘Training and Teaching Schools’, designating schools as “as centres of excellence in training and development”
<http://www.tda.gov.uk/school-leader/training-teaching-schools/training-schools.aspx?keywords=%22training+schools%22>

4.3.2 Comparing Underwhin College with Models of Culture

The other major theoretical approach I have used in this study is Schein's (1990) model of institutional culture. I would not claim to have uncovered all aspects of the institutional culture (I was looking at elements of school culture relating to sustainability in particular), but there are many pointers in the data I found, some of which have already been touched upon. The next four sub-sections cover the 'visible' or 'artefacts' as a manifestation of culture (Table 4.3 and subsequent discussion), followed by larger, single, sections on the other two levels in Schein's model (see Figure 4.3), and a final section deals more briefly with two other models of culture, which are also useful in assessing the school culture at Underwhin.

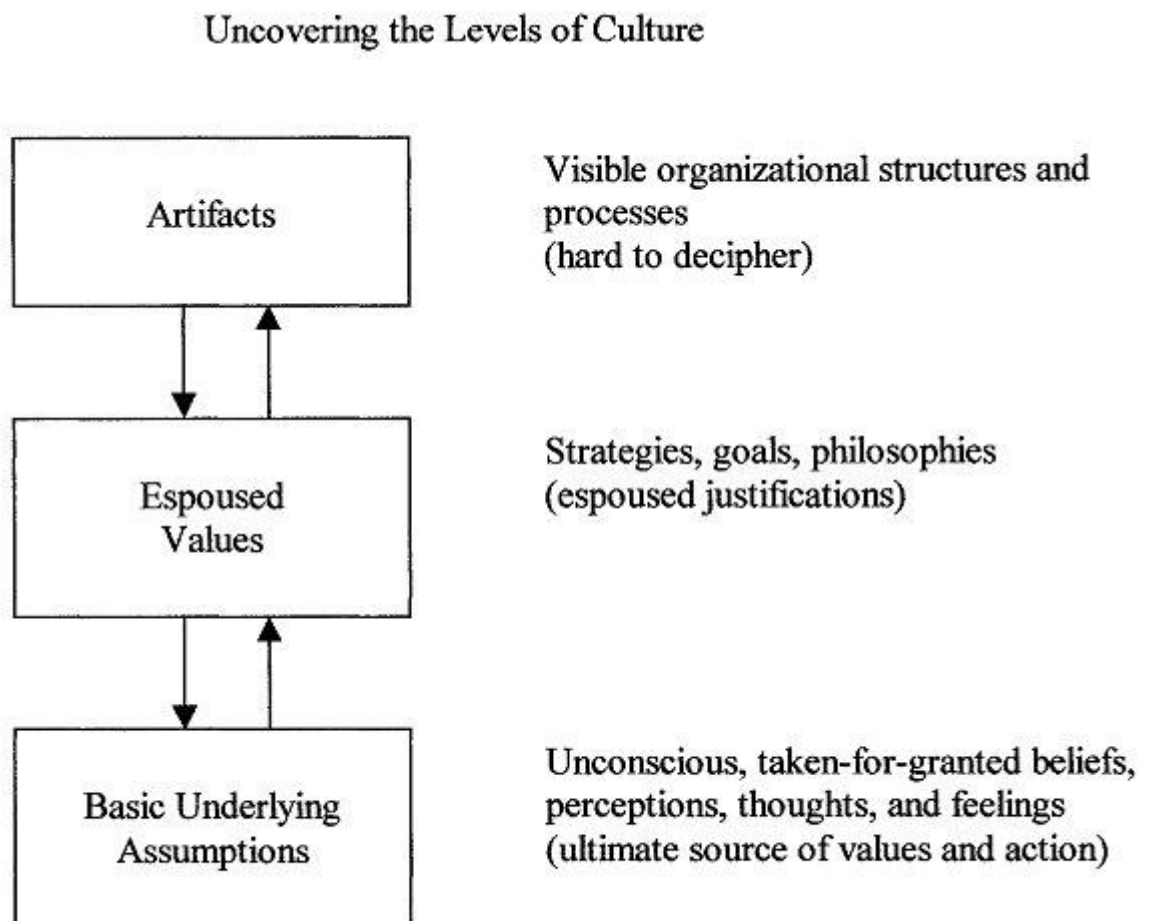


Figure 4.3: Schein's Model of Institutional Culture (after Schein, 1992; Figure 9).

Manifestation	Impacts	Implications for Sustainability
Displays of Student Work	Emphasis on academic excellence	Possible contribution to overemphasis on examination results, at expense of sustainability
Reception/PE Corridor Displays of Trophies	Emphasis on sporting achievement	Possible negative impact in terms of overemphasis on achievement; possible positive impact in terms of encouraging healthy lifestyles and holistic student development
Student Voice Display	Diminished importance of student participation in decision-making	Negative impact on distributed leadership
Student Uniform	Students are presented as similar to each other: lack of individuality	Possibly negative impact on distributed leadership
Disordered Planting on Main Campus	General appearance of outdoor areas is scruffy and un-cared-for	Possible negative impact on students' perceptions of the importance of the natural or outdoor environment
Litter Left all over Campus	Unkempt and unpleasant appearance of the school: gulls attracted to campus defecating on students	Negative impression of relationship with outdoor environment and negative example of waste generation and disposal
School Allotment	Demonstrates possibility of growing food locally (on site); an alternative to classroom work and academic focus	Positive effect on relationship with food and outdoor environment; possible reduction in emphasis on examination results
Outdoor Classroom	Lack of use suggests a low regard for teaching outside the classroom	Negative impression of relevance of work other than standard classroom teaching
Bird-nesting Boxes	Demonstrates a commitment to encouraging wildlife onto the school campus	Positive effect on image of environment and our relationship with it, via showing the importance afforded to wildlife

Table 4.2: Surface Manifestations of Culture at Underwhin

Artefacts – Achievement

In terms of artefacts and behaviours (the 'surface' level in Schein's model), walking around the school provides many hints at school culture in Underwhin. School trophies, certificates and plaques are displayed prominently in the reception and main corridors of school buildings, and there are many displays featuring members of the school 'in action': sport, dance, theatre, outdoor activities and so on. These displays also feature visits to and from the school, local events and other important occasions that members of the school were involved in: most images portray students. The messages seem quite clear: students at the school are achievers, in all walks of life; the school has strong links with others (locally and overseas).

Artefacts – Student Voice

However, as noted above in Section 4.2.13, not all displays are treated the same way. The Student Council display was out of date and dishevelled, and had been drawn upon, with the defaced photograph left on display (presumably since the previous academic year at least, as last year's Council members were displayed). This suggests a lack of attention to the Student Council, at the least, and perhaps a lack of importance and respect afforded to it. By contrast, I did not see that any of student work displayed which had been defaced. That the Student Council display is in the same corridor as sports trophies and very large sport and dance displays is also interesting: the amount of care taken on the relative displays shows the school's priorities, with sport a clear 'winner' (perhaps not surprising in a former Specialist Sports College). I believe that this adds strength to my suggestion that the school culture is one that emphasises (conventional forms of) achievement and conformity over the possible dissent involved in a truly influential Student Council.

Artefacts – Uniform

Another obvious surface manifestation of school culture is the strict uniform policy at Underwhin. The Student Council session I attended saw strong argument against the introduction of a scarf in school colours: scarves were seen as the only legitimate way left to students to show individuality in their clothing, and this seemed to be important to them. The emphasis on adherence to uniform policy might also be seen as part of a school culture that stresses conformity, concentration on academic excellence, and possibly the concentration of power with a few influential members of the school. Arguably, adherence to uniform might be part of a culture where students do not feel that they have substantial freedom of expression, a clear say in how the school is run, or freedom to criticise what they see as problems.

Espoused Values

In terms of what the members of Underwhin say they believe in, and what school documents say, several points were mentioned in Sections 4.2.2-4.2.13: community is important, as are aspiration and excellence. Healthy lifestyles and participation in sport are emphasised. Many staff made it clear that they felt that power lay firmly with the school leadership.

This is particularly interesting when one also considers the number of times that interviewees expressed the beliefs that (i) individuals were responsible for taking action on sustainability in the school, and (ii) it would improve sustainability in the school if an individual was appointed to *lead or coordinate* this action. This does not seem like a very democratic or participatory model of leadership and responsibility, which might indicate that interviewees did not have a very sophisticated understanding of the whole school nature of a

sustainable school. It might also be one reason why sustainability is not a high priority at Underwhin: the culture is such that sustainability is not easily integrated, still less prioritised. A genuine sustainable school would be one where the whole school community is involved in decision-making and leadership: Underwhin's leadership culture does not fit with this.

Many interviewees also talked about 'student voice', as discussed in Section 4.2.13, and here the message was not so clear. Perhaps it is fair to say that *surface* values around student participation, obvious in school policies, are that students *are* involved in decision-making in the school (the student council is "used to develop a sense of democracy in the school" according to Underwhin's Spiritual, Moral, Social and Cultural Development Policy). However, interviewees' espoused values were different: student interviewees did not seem to express their recognition of a sense of democracy, and seemed very uninterested in the whole idea of participating in decision-making at Underwhin. The majority of staff who discussed 'student voice' saw it as a weakness of the school, or a problem needing to be addressed.

Assumptions

Espoused values are, according to Schein's model, underlain by assumptions about the way the school runs and what it stands for. The clear emphasis on the importance of leadership from the top, the doubtful status of student participation, the calls for a sustainability leader in interviews, the stress on achievement in the academic and sporting arenas, and the expectation that rules like uniform will be strictly obeyed, all point in the same direction.

The culture at Underwhin could be categorised as one where conventional educational values are important; where students are expected to conform but

also teachers are expected to help them achieve; where power is concentrated in a leadership team; where individual staff are given licence to work on their own projects. This set of conventional expectations of a secondary school does not suggest an affinity for sustainability.

Meyerson & Martin's Model

Meyerson & Martin (1987), describe different models of *subcultures* within schools (see Section 2.6.5. My experience at Underwhin, and my analysis of the data there, suggests that the school's culture was largely 'integrated' (Meyerson & Martin, 1987), with agreement on many issues even between staff and students. There was some variation in culture – for example, the newly formed staff sustainability group – but there was a great deal of homogeneity. The 'recalcitrant' behaviour with regard to recycling, described in Sections 4.2.9 & 4.2.10, might elsewhere be thought of as an example of a sub-culture too, but it seems to have been fairly common at Underwhin, given the number of complaints about students not even recycling white paper 'properly'. The school culture was strongly focused on achievement, in a sporting and academic sense in particular, relying on a top-down, management-led structure.

4.4 Underwhin College: Chapter Synopsis

Underwhin was the least like a sustainable school of the three case-study schools I visited. There are several individuals interested in sustainability at Underwhin College, but I encountered very few interested students there, which was unusual as far as my PhD research is concerned. Even those individuals who were concerned that the school is not doing more in the area of sustainability found it hard to organise themselves to initiate changes.

However, there is no doubt that Underwhin is in many ways a very successful school: the results of recent Ofsted reports (see Section 4.1) show this quite clearly. There is an interesting contrast with the next school, Queen Adelaide College, whose GCSE grades are similar, on average, to Underwhin's, but who received a much lower Ofsted Grade (see Chapter 5). This raises the question once more of how important sustainability is in the process of inspection. In an inspection in 2010, Underwhin was graded 1, 'Outstanding', after inspection, despite the fact that, by the admission of the Principal of the school, sustainability had never been a major consideration there. I can only conclude that it is therefore possible, according to the criteria Ofsted used in their inspection, to be an outstanding school without addressing sustainability in any meaningful or substantive way. Unsurprisingly, Underwhin have chosen to concentrate on academic results and other aspects of education to the detriment of sustainability. The school seemed to lack the awareness that academic results and sustainability can both be improved at the same time: none of my interviewees could see a way in which the two could be combined (an issue discussed further in Chapter 7).

Some of these themes are mirrored in the data I found at my second case-study school, Queen Adelaide College, which was reported to be slightly further on its way to being a sustainable school than Underwhin, but was not as advanced as my third case-study school, Maincross College (see Chapter 6). Queen Adelaide and Underwhin are relatively close neighbours geographically, so comparison between the two is particularly interesting.

Chapter 5: Queen Adelaide College

5.1 Chapter Introduction

Chapter 5 contains an account of the data gathered at the second of my case-study schools, Queen Adelaide College (QAC), using thick description (Geertz, 1973). Section 5.1 contains a short profile of the school and its campus and some demographic information and some statistical data about its educational performance. Section 5.2 discusses the themes emergent from the analysis and details the data after categorisation. I have broadly categorised the themes in the same three areas as were used in Chapter 4, for comparability:

Priority Given to Sustainability (see Sections 5.2.2-5.2.3)
Areas of Strength with Regard to Sustainability (see Sections 5.2.4-5.2.6)
Behaviour/Leadership (see Sections 5.2.7-5.2.9)

Table 5.1: Categorised Themes Emerging from Analysis of the Data from QAC

Section 5.3 also compares the data for this school with the theoretical models selected in Chapters 2 and 3, and draws conclusions about how far QAC could be described as a 'sustainable school'; a summary of findings is provided at the end of the chapter in Section 5.4.

5.1.1 Introducing QAC

QAC is the only secondary school in 'Corkham', a market town located in the South of England. The nearest competitor is about 10 miles away by road, in the next town. The College is located towards the edge of the town: buildings range in age from Victorian to 21st Century, across the three sections of the school site.

The college is larger than the average secondary school, with a very large Sixth Form; it is a Performing Arts Specialist School. The proportions of students from

minority ethnic groups or who speak English as an additional language are small. The proportion with special educational needs and/or disabilities is in line with the national average. The number of students claiming free school meals is below the national average. On average, in the four years to 2011, about 55% of students achieved 5 or more GCSEs (or equivalent) at grades A*-C, including English and Maths GCSEs. QAC applied for and received the Eco-Schools Bronze and Silver awards a few years before I visited.

The main College building forms two courtyards, with 'arms' of the building extending from two quadrangular structures: most of this building is single-story. Further classrooms are located around this main building, several in 'huts', with larger buildings housing facilities for the English and PE departments. This section of the campus also contains several large playing fields and three all-weather sports areas, and is flanked on one side by fields, on one side by a stream and trees, and on one side by a major road.

On the other side of this road lies a second section of the campus, containing the original, Victorian, school building and several more 'hut' classrooms, with large playing fields and an all-weather sports pitch. It is flanked on two sides by housing, and on one by a river. The third section of the campus is situated above the main campus, and contains several buildings, including Sixth Form facilities, as well as a large walled garden and extensive planting: this area was formally a large private residence.

Relative to the other two case-study schools, the campus at QAC was very large and spread out, and I noticed considerable numbers of students moving from one section of the campus to another between lessons. It was also very green, in that there were large areas of grass and great numbers of trees inside

the campus as well as at its edges. I noticed far less litter on this campus than I did on either of the others I visited for case studies, and I also noticed more rubbish bins, many of them decorated.

'Green' credentials were visible on this campus, with over 100 solar photovoltaic panels on one roof and a wood-chip boiler housed in the centre of the main campus: the reception included a display screen with details of the solar cells' performance. Many wall displays included students' work, newspaper articles about the school and its students, and formal certificates and plaques, but there were also several large murals, sculptures and other artworks, much of it created by students, and pictures of students in school performances. In addition, one part of the main school building can be used as a gallery to display art, and was at various times when I visited. Judging by first appearances, QAC felt to me like a school where environmental themes, at least, were taken very seriously.

5.1.2 Key Statistics for QAC

All the statistics included in these tables are from the Ofsted website, using their terminology. Figures have been banded or averaged wherever possible to aid anonymity.

Criteria for Selection	Location	Eco-Schools Awards
Recommended by local ESD experts as a school trying to become more sustainable. A 'typical' school.	Market Town area with 20-25,000 inhabitants.	Bronze; Silver

Pupils on Roll, 2011	Specialism	Provision
1750-1999	Arts	11-18

	Average, 2008-2011
%age achieving 5+ A*-C GCSEs (or equivalent) including English and Maths GCSEs	54.00%

2011 GCSE Grades	Low attainers	Middle attainers	High attainers
Average grade per GCSE	E	C	B+

2011 Figures	
Total headcount of teachers	120-139
Number of teachers (full-time equivalent)	100-119
Total headcount of teaching assistants	40-49
Number of teaching assistants (full-time equivalent)	30-34
Total headcount of support staff	70-79
Pupil: teacher ratio	16-17

Last 3 Ofsted Inspection Grades (most recent first; see Appendix 1)	3(3)	3(2)	2
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5.2: QAC: Themes Arising from Data

5.2.1 Main Themes

Data analysis for QAC resulted in themes that were similar to those found in Underwhin data. They are again loosely categorised into three areas: category 'Priority Given to Sustainability', 'Areas of Strength with Regard to Sustainability' and 'Behaviour/Leadership'.

5.2.2 Sustainability in the Taught Curriculum

The fact that sustainability in the taught curriculum came up so often in the QAC interviews indicates that participants were able to talk about it at some length; however, it also indicates that some participants were already considering how much sustainability was integrated when I visited – and whether it could be further integrated. This specific question was already 'on the radar' of some participants when I interviewed them. The Head of Geography, 'Greg', said that it was "hard to think of" a bigger priority in curriculum planning in his subject than sustainability, a situation I never encountered at my other case-study

schools. Another staff member, 'Antony', describing a different department, said:

"I know that within [Technology]...sustainability is really built into every aspect of what they teach...it's fundamental."

Although it was prominent in interviews with Science teachers too, sustainability is *not* so apparent in some other subjects: in Mathematics, for example, the Head of Department, 'Alan', explained that his department simply did not cover sustainability in taught lessons. This suggests a 'mosaic' quality to the culture at QAC regarding the integration of sustainability into the curriculum, according to Meyerson & Martin's ideas (1987; see Section 5.3.2).

That many of my interviewees at QAC were able to discuss how subjects included sustainability gives some idea of the priority given to sustainability in the school: people were already thinking about it before I interviewed them, so it must have had some importance at the school. Of course, some of these interviewees were selected for interview because they were likely to have such knowledge and understanding of the situation and/or were suggested by other members of the school, so they are not necessarily representative of the 'typical' school member. However, I also spoke to school staff who work in areas not immediately related to sustainability (Mathematics, for example), and the fact that many interviewees were able to suggest ways in which integration *could go much further* also confirms that, while sustainability is fairly widely taught at QAC – much more so than at Underwhin – there is plenty of room for it to be taught *more*.

The classroom culture at QAC, based on what I saw and lesson plans I collected there, was largely similar to that at Underwhin. Students were heavily involved in lessons, discussing topics (for example in L2a, where a discussion

of 'what' the topic of immigration was developed into a discussion of 'why' it happened; in L2d, one student raised the idea of 'collective responsibility' when discussing pollution) and often contributing to the generation of a base of knowledge at the start of the lesson from which the rest of the lesson was developed. I chose to observe a Yr 7 lesson, hoping to see what effect the cross-curricular emphasis in this year had. Students here were reminded that they were looking for the impacts on the lives of real people of the events they discussed (see L2e). Furthermore, they were encouraged to think of the lesson in terms of an opportunity for them to find out information, rather than one where the teacher passed it on to them.

Although there was no sign of a pedagogy specifically developed around sustainability, both of these types of pedagogic practice seemed to me to be fitting with a school approaching sustainability in a positive way (and students in L2e were well aware of why they were asked to change working partners after a break in the lesson, able to answer their teacher's question on the topic). No doubt students' experiences of sustainability varied depending on the teachers they came into contact with and the subjects they chose to study, as, for example, Geography was optional in KS4 (see Chapter 2), but the school offered Environmental Science as an A-Level to KS5 students, which is unusual (Vidal Rodeiro & Sutch, 2013): this suggests a particular focus on environmental – and by extension, sustainability – topics in the school.

5.2.3 Internal Critics

Not all participants were impressed by the school's record with regard to integrating sustainability into the taught curriculum, or with the wider approach to sustainability at QAC. Students' criticism tended to focus on the difference

between their behaviour at home and that at school (in terms of switching off lights and computers, and recycling, for example). Teachers mentioned being questioned by their pupils about the differences and the lack of variety of recycling facilities at school compared to the variety of materials that could be recycled from home. Students also expressed the opinion that the school was not a good role model for them, and that, to a certain extent, there was a difference between what they were told in school and how the school actually behaved: lights being left on, for example, when they were regularly given the message that energy should be conserved. Winter (2008) and Gayford (2009) are clear that there should be concordance between home and school where 'messages' about sustainability are concerned; Symons (2008) and Birney & Reed (2009) are among those who assert that schools must show by their *actions* that sustainability is a priority if it is to succeed.

Staff critics tended to mention a lack of internal communication about sustainability (they did not know what was going on in this area, or felt that achievements were not publicised enough): poor communication is a problem Gayford (2009) describes as a barrier to sustainability in schools. Staff also mentioned difficulties in getting things done (two in particular mentioned the bureaucracy involved in making changes to their practice in the school). Some also mentioned that they felt that there was not an overview of sustainability at the school (another thing Symons (2008) sees as essential to sustainability in schools), and others expressed the opinion that there was a reliance on certain individuals to work on sustainability at QAC. These two criticisms are obviously not the same thing, but if individuals *were* working on their own and there was no overview of sustainability in the school, *both* problems would be exaggerated.

'Gareth', a Science teacher referred to by other staff members as one of the school's sustainability leaders, said:

"As far as I'm concerned, no-one looks at the bigger picture [of sustainability in the school]".

Deputy Chair of the Board of Governors, Richard, acknowledged that there was no overall policy, and Roy, a member of the Environment and Sustainability Group (see below) invited from an external body expressed the opinion that there was no culture of sustainability in QAC. Reference to the literature reviewed in Chapter 2 shows that this problem is by no means confined to QAC (see Sections 2.2-2.5).

Antony commented on the perception that it was only certain individuals who were working on sustainability in QAC,

"The people who are interested [in doing something towards sustainability in this school] are the ones who are already doing *loads...as it is*" (emphasis in original).

Antony also noted that the same is true of students. Sustainability and environmental education have suffered from a reliance on 'one keen teacher' in schools in the past, but it is interesting to think of student participation in the same terms: some work at it, and when they leave, their legacy is reduced if no other students continue this work, just as happens with staff.

Against these perceptions, however, should be placed a significant caveat. Gareth, who described, in critical terms, the lack of an overview also, when asked about the attitude of the school leadership towards sustainability, unhesitatingly answered: "Positive...they have a high regard for it." 'Brooke', a member of the school management team and the chair of the Environment and Sustainability Group (see p.90), said of the school's attitude towards

sustainability, “It is very important to us”. It is conceivable that there is no overview of sustainability and that it is not a major part of QAC’s culture, but even internal critics recognise that sustainability is an issue the school leadership is aware of and considers to be important. Perhaps the school has not *engaged with it* as fully as it might, and certainly not as fully as some critics would like. Breiting *et al.* (2005), Symons (2008) and Gayford (2009) all make the point, in slightly different contexts, that engaging with sustainability means *taking action* (see Sections 2.4-2.5). Jackson & WWF (2007) note that schools often have difficulty in acting despite being aware that sustainability is important; Scott (2002) notes that schools – of course – have other priorities, and the theme of ‘initiative overload’, where schools are inundated with so many requirements that they find it difficult to know which to act upon, is widespread in the literature on this subject (see Sections 2.2-2.5).

5.2.4 Resources Committed to Sustainability Projects

There are areas where the school *has* acted: for example, there is widespread recognition, among staff and governors, at least, that the school has appointed four members of staff responsible for, or working on, aspects of sustainability and related issues. A one-year Garden Supervisor post was financed through a grant from an external source, and has made a great impact on the school (the Garden Supervisor, ‘Pippa’, was mentioned in a very positive light by pupils too). This was the result, in turn, of appointing a new member of staff to raise money for sustainability-related projects in the school. This latter member of staff, Antony, spoken about with great respect by several others, has secured more than £350,000 for the school, mostly for infrastructure projects to install alternative sources of heat and electricity (and for the auditing and planning leading to these installations). In addition, two other members of staff are given

remission for duties working on overseas links and on using the garden in the taught curriculum. All four have specific briefs, rather than taking an overall coordinators' role or leading on sustainability across the school as a whole: no one had 'sustainability' as their job, but Antony and Pippa were able to focus all their time on their sustainability-related activities, having no duties aside from these.

Interviewees talked about the school's renewable energy sources a great deal. More than one, including the Principal, 'Sophie', mentioned the renewables in terms of their being a signal of intent from the school: investing such a large amount of money, time and staff resources symbolised the school's commitment to sustainability, and the resulting solar cells and biomass boiler are very visible signs of this. Inviting members of the local press (along with representatives of companies involved in this and the biomass boiler, local councillors, governors, staff and pupils) to attend an 'opening' day for the solar panels was also an overt and very public way of declaring the school's interest in the area.

However, some participants questioned the policy of focusing on renewable energy. Their argument was that this should be set alongside the school's relative 'failure' to integrate sustainability into the taught curriculum (outside of a few strong areas) and/or to focus on encouraging changes in the behaviour of members of the school. Again, it is worth making the points that: participants' criticisms of the school suggest that they have reasonably sophisticated understandings of sustainability (in order to be able to criticise); and that they *care about* it (enough to want change), and, further, that sustainability is an issue in QAC.

Another link between money raised for sustainability projects in QAC and the issue of sustainability in the curriculum was the use of the school campus (as mentioned above) in different contexts, including its use as a resource for teaching. There is a definite tradition of using the campus in teaching at QAC: enough students, staff (teaching and non-teaching), governors and parents mentioned outdoor lessons, using the garden or other areas of the grounds, to suggest that it happens regularly. Gareth talked about his ambition to map, into schemes of work, the opportunities to use the school garden in teaching. Some have tried to link teaching to the relatively new renewable energy sources on site: Antony worked with the Maths Department to produce a spreadsheet of energy consumption that could be used (although it was not being used when I visited) in teaching, for example. This is also an area that several interviewees mentioned as ripe for improvement: the opportunity is there but not being fully used – yet.

The school also has an area (alongside the garden) set aside for outdoor learning in a 'Forest School'³¹. It was not being used in that capacity when I visited, as the member of staff responsible for Forest School work was ill, but that the area is set aside is significant in itself. As mentioned earlier, QAC also applied for, and obtained, money to employ a member of staff as a Garden Supervisor, developing ways in which the garden could be used, increasing the number of students involved, and also increasing the amount of produce the garden generated. I suggest that this is another obvious commitment to sustainability (perhaps not as obvious as installing 100+ solar panels, but clear, nonetheless).

³¹ See <http://www.forestschoolwales.org.uk/ysgol-goedwigforest-school/> for an example.

The Garden Supervisor is no longer working at QAC (funding was secured for a fixed term only), but her work has been continued piecemeal by Gareth among others. The latest project to involve the garden is work to try to increase biodiversity across the campus: this has resulted in planting trees and the erection of bird boxes, among other things. However, many participants also mentioned problems with the campus site: the fact that it is split by a busy road; problems with drainage all over the campus; and the age and condition of some buildings. These problems militate against the school focusing more on sustainability, not only because they make it harder to be sustainable (old buildings lack insulation, for example), but because the campus requires a great deal of money to maintain (which could otherwise, potentially at least, be spent on sustainability). The need for – and lack of – money was cited by the majority of participants who answered questions on barriers to the school focusing more on sustainability. The high number of interviewees who mentioned site problems suggests that it is an issue many in the school are aware of, and all these barriers are commonly found in schools according to the NGO literature on sustainability in schools (see Section 2.4).

5.2.5 Relationship with the Local Community

A further influence on QAC is the local area, which, according to many interviewees, is known for its positive attitude towards ‘green’ behaviour and technologies. Some staff members speculated that their students were positively influenced towards sustainability by their families and peers in the local community – perhaps more so than by their school. This raises an interesting question about whether the school is a role model for the local community (as prescribed in government literature describing ‘the sustainable school’ – see Section 2.3), or whether the influence runs more in the opposite

direction. Certainly, Parent Governor 'Nancy', when I asked her directly whether she thought the school was a role model for the community, where sustainability is concerned, volunteered the opinion that *the community was more of a role model for the school* – the local community was “far in advance” of the school in terms of practical measures (despite the thousands of pounds invested by the school in renewable energy). However, another non-staff interviewee, 'Roy' (an invited member of the Environment and Sustainability Group) saw the strong influence on QAC from the local community in a less critical way:

“there’s a lot of influence from the outside allowed and *welcomed* in...[the school is] tremendously integrating [sic] with local society” (my emphasis).

Written and interview sources both indicate that the school is very conscious of its relationship with the local community, as recommended by Symons (2008) and in the SSF (see Sections 2.3-2.4): Maths teacher Alan described what he saw as the school leadership’s strong focus on “trying to get [QAC] as a centre for [‘Corkham’]”. Local newspapers’ stories about the school are displayed prominently (in a main corridor of the main building on the central campus, and again in the reception area of the Sixth Form building), and many of these feature sustainability themes, such as sustainability in the curriculum, pupils forming sustainable businesses, trips to partner schools and visits by overseas guests. Of course, this may not be entirely altruistic: good links with the local community will help the school to recruit students as well as being a benefit in terms of sustainability. 'Karen', the teacher responsible for links with overseas schools, felt that links with the local community were “not as great as [they] could be”, so perhaps there is room for even closer links.

The Eco-Schools and International School Awards mentioned above have been accompanied by the school receiving certificates, displayed around the school: unsurprising, but nevertheless, a public show of commitment to pursuing elements of sustainability. I came across more examples of this during my visit. The 32-page glossy School Magazine is published termly, and I saw two editions during my visit. I counted four articles on sustainability themes in one volume (the School's 'Green Day', an update on the Garden Project, a Workshop with the local AONB and a local artist, and the Catering Manager's column, which mentioned recycling and food from the Garden), and two more dealing with links with the local community in a broad sense (links with the 'Old Pupils' association, and calls for applicants to the Board of Governors). In the second edition, 40 articles are listed in the 'Contents', if the editorials are included, and at least 10 of these could be described as relating to sustainability at QAC (they included articles on the new biomass boiler – also mentioned in the Principal's Editorial piece – visits to the Centre for Alternative Technology, The Eden Project, a local zoo and a nature reserve, the school's 'Creative Day', themed around 'culture', the International School Award, an Apple Pressing Day and wildlife in the School Garden).

I looked carefully for signs of social sustainability at QAC, and both interview and 'written' sources showed that QAC considers links with the local community to be very important. Displays all over the school featured fliers for nearby events and clubs, and 'all staff' emails included two invitations to screenings of sustainability-related films and an invitation to plant trees locally. This link with the local community was highlighted as successful in the school's most recent Ofsted Report, which contained praise for QAC's contribution to community cohesion through outstanding links with local organisations, placing the school

in the centre of the community. In an overall Grade 3, the school scored 1 for the effectiveness with which it “promotes community cohesion”, and 1 for the extent to which “pupils contribute to the school and wider community”. It seems that not only is the local community important to the school, but, judged by Ofsted, they are good at making and maintaining links.

5.2.6 The Environment and Sustainability Group

Another area where opinions definitely differed among interviewees was the existing Environment and Sustainability Group. This group was chaired by a member of the management team, Brooke, the Finance Manager, and consisted of invited members: several current teaching staff were, or had been, involved; an open invitation to students meant that any who were interested were welcome to attend meetings; and Roy, a member of a local sustainability-focused organisation external to the school was a regular member of the group too. Roy was particularly impressed when he joined the group, especially with the students’ involvement, and many senior staff members mentioned the existence of the group as an example of how seriously the school takes the issue of sustainability.

However, two other staff members were critical of the group. Antony called it a “talk shop”, saying that progress is made towards sustainability in the school, *not because of* the group, and possibly even *in spite of* its existence. He did acknowledge that it provides moral support to those working on sustainability projects and a bit of formal recognition for their work, but he was particularly worried that students did not get any benefit from their membership of the group.

Gareth questioned the value of involvement for students, whom he thought did not know how to behave in such a formal committee and consequently became disillusioned with its apparent lack of action. Gayford (2009) notes the same risk of impatience in pupils involved in sustainability, reasoning that even a minimum secondary school 'life' of five years is sometimes not long enough for pupils to see actions based on their input. My experience of the group was that the numbers and identities of students who attended varied, which may suggest that students did not take their membership very seriously.

An interesting variation on the perceived consensus I found in my literature review also appeared in the data at QAC. 'Clive', a Science teacher, said it was his experience that more was achieved by individuals working on sustainability than by trying to be inclusive and involve others. Clive was credited by several other interviewees as being responsible for setting up the school's paper recycling system, and recommended to me as an interviewee on those grounds. This directly contradicts the ideas of Birney *et al.* (2006), Harris (2008) and UNECE (2008) that responsibility for sustainability must be shared for it to be effective, but an explanation for this may come from Ofsted's descriptors of a sustainable school (2009). In the lower levels of these descriptors, a sustainability co-ordinator is mentioned, but this sort of post is *not* mentioned at the higher levels of competence. In other words, individuals may be effective at first, but for a school to be truly effective in sustainability, this 'phase' must be superseded by shared responsibility.

5.2.7 'Student Voice'

Students were critical of their involvement in the *overall* running of the school. All of the groups of students interviewed had a negative view of the (then)

current Form Representatives system of 'Student Voice' – even an actual Student Representative interviewed as part of YrEight2a acknowledged its shortcomings. Students described apathy about the system, with Representatives making excuses to miss meetings, and with the general feeling being that nothing was ever 'done' as a result of Representatives' meetings. This was as true of KS5 students with six or seven years' experience of the school, and possibly a more mature and reflective view of the situation, as it was of Yr 8 students, newer to the school. The Student Council meeting I attended (this is the forum for Student Representatives) was organised by 'Student Leaders' (students selected to represent the school – two from KS3 and two from KS5), but was in fact rather disorganised, was only the second held in that school year, five months in, and resulted only in the calling of another meeting as and when people could get together.

However, Environmental Science teacher 'Shere' said, "Here at the school there's a *big* emphasis on Student Voice" (emphasis in original), going on to explain that this did not necessarily manifest itself as participation in *formal* Student Voice activities. It is ironic that several staff members mentioned that QAC students have a reputation (at least, amongst staff) of being very articulate – even to the point of being *too* verbal. Viv talked about students not knowing the appropriate way to use the 'say' they have in the school, being too ready to criticise teachers within classes while neglecting to voice complaints formally. However, her fellow Deputy Principal, 'Tommy', explained that students felt confident enough to approach the Principal directly with ideas and plans they wanted approval for. It seems that there is a problem with the formal system of student representation, but students *are* able to voice their opinion in other ways. Some evidence of this could be seen in the posters displayed by a

newly-formed, independent, student-organised sustainability group (separate from the staff/student group mentioned in Section 5.2.6), which were all over the school when I was there.

5.2.8 School Policy

One interesting point to come out of the interviews was that very few participants knew of the school's existing Environmental Policy, which I obtained from the Finance Manager, Brooke. Only one mentioned it by name, and two others said they knew of a policy, but weren't familiar with its contents. It is worth noting that interviewees were asked if they knew of *any policies relating to sustainability* – not specifically about an Environmental Policy. However, given that (i) members of staff complained about poor communication relating to sustainability within the school, and (ii) interviews all began with a clarification of what was meant by 'sustainability' (either by the interviewee, if they were confident in a definition, or by the interviewer, if not), it seems fair to suppose that the Environmental Policy was simply not widely known.

This might be attributed to the Policy having a low profile within the school, an impression which was reinforced by the fact that, when access was granted for me to examine QAC's Policies, the Environmental Policy *was not kept with others*: presumably it was not accorded the same status. The Principal's PA holds folders with school policies in, and reading these did throw a great deal of light on the school's approach to sustainability, suggesting that it is at least a low-level priority in QAC.

Firstly, the school's current Best Value Statement contains a commitment to invest in renewable sources of energy: in a document that deals mainly (and typically) with financial details, such as petty cash limits and the number of

quotes needed for jobs costing various amounts, it is unusual to find direct reference to another element of sustainability aside from financial sustainability. The Budget File, containing records of spending for the year, included various examples of sustainability work: bids for funding for biodiversity work on the school grounds, proposals for work on the garden and so on. The school's Improvement Plan (equivalent to the Development Plans mentioned in Chapters 4 and 6) did not mention sustainability, focusing on learning, behaviour and leadership, and no mention of sustainability was made in the records of staff CPD.

Policies in the wider informal sense of decisions made and organisations joined also suggest that sustainability is treated as something of a priority at QAC. The School is a member of Eco-Schools, gaining the Bronze and Silver Awards in 2008, and is also in receipt of an International Schools Award from the British Council (which has, like the Eco-Schools awards, to be applied for by the school). Even the fact that the school's Teaching & Learning Policy states that it was 'developed with students' is a sign of the sort of distributed leadership culture in the school that makes sustainability easier to include in its plans and priorities, and easier to work towards. The Catering Manager was keen to show me the ethical policies of the suppliers he uses – not a formal, written school policy, but the school's actions were influenced by taking into account the policy of one of their business partners. Add to this the existence at QAC of *staff in paid posts* created within the school and unique to it (Garden Supervisor, Funding Officer with a brief to find finance for renewables projects), and it is clear that sustainability *is* considered in non-written policies at QAC – even if not everyone at the school is aware of it.

5.2.9 School Campus

The use of the school campus – buildings and grounds – is also illustrative of a school aware of sustainability. Aside from the points already made above in Section 5.2, two other things stood out in the data collected that support this assertion. Firstly, the initial Garden Project ran for over a year (although funding was eventually exhausted, and the Garden Supervisor is no longer formally working with QAC): all of the students who were involved with the project that I met had a lot of affection for the Garden Supervisor, and asked me to pass on their greetings when I met her. That project has now been replaced with another focusing on the campus, which is equally ambitious, funded with several thousand pounds from the Big Lottery Fund, aiming to increase biodiversity on campus. This included planting trees, putting up bird-boxes, and working on the two ponds on campus, all involving students. In my experience, aiming to *increase* biodiversity is an unusually ambitious and pro-active aim for a secondary school: it also shows that those involved have an understanding of environmental issues advanced enough to *consider the possibility of improving* the situation in terms of biodiversity.

Secondly, an issue arose while I was visiting QAC that shows how important the natural environment is to members of the school community. A large tree is situated alongside footpaths on one campus site: the area around it was restricted while I was visiting, as a large branch had unexpectedly fallen from the tree, and safety considerations dictated that the rest of the tree be checked to try to ensure that another similar incident did not occur and result in injury. A tomograph test was paid for by the school, and the tree was found to be safe, but the way the matter was handled is interesting. On 3rd Feb 2011, the Site

Manager 'Jim' circulated an email to all staff to clarify the situation, including the opinion that

"I would not want to lose the tree but [there are] many Health & Safety issues/implications".

On 1st March, he again emailed all staff to pass on the results of the test and to say that he planned to carry out the recommended work of reducing the crown of the tree over a two-year period, beginning no sooner than April because "this rather old tree is putting all its energy into producing foliage, and would not cope with healing 'wounds' to its limbs". He also noted that one student had approached him, concerned that the tomograph probes were detonators and the tree was going to be blown up, and another had said 'please don't chop it down, it's the heart of our school'. He finished by thanking everyone for their patience "on what has been, and is, a very emotive subject". Clearly, his impression was that people within the school cared about this one tree, at least: this is symptomatic of a wider concern for the environment among members of the school community.

5.2.10 Overview of Main Strengths and Weaknesses in Sustainability at QAC

Strengths

Renewable energy

Links between campus and curriculum

Weaknesses

Student voice

Communication

5.3 Commentary

5.3.1 Comparing QAC with Scott's Descriptors

Again, Scott's Descriptors (2010, see Figure 4.2) are useful in providing a context for the data collected in QAC and provide one way of assessing the situation the school found itself in when I visited.

Summary of Match with Scott's Descriptors at QAC:

	Leadership	Human & Social Capital	Natural & Built Capital
Step the School is mostly closely aligned with based on my research	2	2	2

Leadership

QAC has some features which fit well into Steps 2 and 3 of Scott's Descriptors for Leadership. The data I collected at QAC suggest that the school leadership *were* aware of the significance of sustainability issues, and had considered their importance to the education of students at the school.

QAC was definitely beyond Step 1: sustainability work at the school was coordinated, to a certain extent, through certain key individuals and the Environment & Sustainability Group (see Section 5.2.6, for example), rather than being "characterised by the work of lone teachers, or small groups". Also, the Principal, Sophie, although admitting that she was not aware of the tripartite definition of sustainability, was able to give a full explanation of the consideration of the need for students to develop "awareness, skills and capability" for sustainability (Scott, 2010, p.16). It is certainly fair to say that, in this school, as Scott describes at Step 2,

"School leaders have some limited awareness of what sustainable schools initiatives set out to do, and understand something of the utility for learning that a focus on sustainability can have" (Scott, 2010, p.16)

There is no co-ordinator post (as Scott also describes at Step 2), but the school has joined the Eco-schools scheme, and is keen to "acknowledge the significance of existing school-community interchange" (Scott, 2010, p.16). However, the Step 2 descriptor also suggests that the school's approach to sustainability does not include a "recognition that it is important to students'

lives and to society's positive evolution", which is *not* the case at QAC. Senior staff stressed how important sustainability was in their thinking (see Sections 5.2.3-5.2.4). This situation is partly as a result of the next part of the descriptor, however:

“...enthusiastic staff and students (and possibly others) are getting things done, building up experience and developing a critical mass that will increasingly bring internal influence to bear on school leaders to match the external pressures that are building up” (Scott, 2010, p.16).

The last part of the Step 2 descriptor deals with money spent, using the term “modest investment” and suggesting that this might be spent on energy efficient light-bulbs to save money. QAC’s large investment in alternative energy (albeit with a substantial contribution from outside funds) goes well beyond that (see Section 5.2.4).

It is less clear where QAC fits with Scott’s Step 3 descriptor (Scott, 2010, pp.16-17). It is certainly possible to make a case that:

“The school leadership...has accepted the idea that a broad view of sustainability needs to be taken seriously in relation to the school’s curriculum, and supports the opportunities that exist for mutually-beneficial links with the local community that involve campus and/or curriculum” (Scott, 2010, p.16).

Curriculum emerged as a theme from the interview data in particular, with staff talking about the changes in curriculum to more “broad view” approaches in Year 7 and KS5 (see Section 5.2.2), and about the need to integrate sustainability more fully into the curriculum (see Section 5.2.2).

However, the rest of the Step 3 descriptor does not seem to reflect the state of the school when I visited. They did not see “sustainability [as] a key feature”, and I found no evidence of teachers being developed in the area, certainly not “teacher development for all staff”. The school is not particularly known for

sustainability, and there is not “a vision that addresses sustainability” (Scott, 2010, p.16), as suggested by staff criticisms that there was no overview of sustainability in QAC (see Section 5.2.3). The final section of Scott’s descriptor at Step 3 mentions the planning done to look ahead to funding, teaching and social issues: these were also not in evidence at QAC when I visited.

QAC has some features which seem to fit well into Steps 2 and 3 of Scott’s Descriptors for Leadership. Some areas (financial investment, approaches to curriculum, general attitude of openness to sustainability) fit with Step 3 descriptors, but perhaps overall, it is more accurate to say that QAC is at Step 2, but approaching the standard of Step 3 in certain areas.

Human & Social Capital

In this area, QAC matches less clearly with Scott’s descriptors (Scott, 2010, pp.18-22). There is some fit between the data I found and the Step 1 descriptor. For example:

“There is formal, but mostly unconnected teaching about [sustainability topics] through mostly conventional takes on curriculum where the *campus* and *community* are mainly seen as resources” (Scott, 2010, p.18; emphasis in original).

The teaching *is* mostly unconnected (between subjects) except in Year 7, and “mostly conventional takes” on sustainability were used in the six lessons I observed: one in particular focused upon GCSE success and on achieving high grades in the related coursework.

Also, “Where there is a developing understanding of the aims of the sustainable schools initiative (and ESD more widely), there will be growing levels of dissatisfaction with [the] ‘business as usual’ approach...” (a Step 2 descriptor: Scott, 2010, p.18). This was evidenced in the criticism of QAC for not

integrating sustainability enough (see Section 5.2.3): notably the Governor, ‘Nancy’, who said that she felt that the current attitude towards sustainability at QAC was that it was only “a box you have to tick”. This view was not echoed by other interviewees (and certainly not in written sources), but others did say that sustainability was not a high enough priority, and that the focus had been on installing alternative energy sources without also looking at the behaviour of school members (Roy, the Environment & Sustainability Group member) or sufficiently on curriculum (Brooke, the Finance Manager, and others).

The Step 1 descriptor mentions the ideas that:

“Individual staff contribute to un-coordinated clubs and out of school activities...Learning, and learning outputs, are predominantly viewed in academic terms, and sustainability issues tend to be seen as external to the school and its work...” (Scott, 2010, p.18, emphasis in original)

Data from QAC suggest a different situation. There is certainly *some* coordination of sustainability activities through the work on the school garden, led until recently by a member of staff hired specifically for that job; the campus is not only seen as a resource, as the latest garden project aims to increase biodiversity. Also, sustainability issues are not seen as external to the school: the money spent on staff (four posts) and renewables is proof of that.

The Step 2 descriptor is closer to the situation exemplified by the data found at QAC. More or less all of this description applies to QAC:

“There is a growing understanding that links between campus, community and curriculum can both enhance student (and staff) understanding and skills, and potentially result in wider learning, greater community cohesion, and also, for example, enhanced biodiversity and...the realisation that the campus and community can be more than mere resources. There is growing understanding of the need to...help students make connections if learning is to be optimised; and a growing awareness of the significance of the breadth and reach of sustainable schools initiatives, with their focus

not only on learning, but also on tangible sustainability improvements” (Scott, 2010, p.18).

The idea of growing realisation, of a school beginning to understand the complexities and associations of taking sustainability very seriously, could be used to summarise the situation at QAC when I visited, especially with regard to Leadership and organisation of sustainability, curriculum, and links with the local community. The willingness of the Principal, Sophie, to discuss the theory of sustainable schools and that of her and her deputies to talk about how they saw the school’s ethos indicated to me that they were in the process of realising how the school could adopt a more active and focused approach to sustainability. However, the next part of Scott’s descriptor did not seem to have been understood yet: “...there is a growing realisation that there is a need to focus on learning as well as on behaviour change, that these are not alternatives...” (Scott, 2010, p.18). The leadership of the school was open to working towards sustainability, but did not have a sufficient understanding of the concept to think in terms of focusing on sustainability in learning as well as the work already begun on behaviour change (recycling, renewables as examples, etc).

Neither was there any sign in the interviews that staff at QAC were thinking in terms of “a focus on sustainability [contributing] to enhancing student achievement” (a Step 2 descriptor: Scott, 2010, p.18), although there were signs of staff making connections between how the school was managed and teaching (statistics on energy prepared for Maths lessons, Geography teachers using examples of features of the campus, etc.). Similarly, I did not sense from the interviews I conducted that anyone in the school, even those most comfortable with the concepts of sustainability, was questioning “The value, in

themselves, of eco-schools and similar approaches [because] they are recognised as initiatives isolated from the curriculum and the life of the school as a whole” (Scott, 2010, p.18). The school was working towards sustainability in some areas, and leaders were open to expanding that process, but nowhere had the school begun to think systematically or critically about the approaches they were taking; I believe that this is associated with the lack of an overview noted previously (see above and Section 5.2.3). A full comprehension of activities across the school would probably be necessary for anyone to be able to look critically at the situation. An audit of this kind had not taken place.

It is harder to see any connection between the situation at QAC during my visit and Scott’s Step 3 descriptor for Human and Social Capital (Scott, 2010, pp.19-21). The school does not yet have a clear sense that “development of skills and capabilities [is] to the fore” (p.19), and there was very little evidence of students “initiating and implementing constructive change in their communities” (p.20). One exception was a small student-led sustainability group, whose leader asked to see me and discussed with me his plans to organise a campaign of tree planting and a concert to raise money for local youth work (interview KSS2). This may be linked to the situation around student participation in the school (see Section 5.2.7), where students are comfortable to voice opinions but do not seem to participate in or give value to the *organised* channel through which they could influence policy (the Student Council).

Although the Ofsted Report (Ofsted, 2009) mentions the extent to which students “value [different] cultures” (Scott, 2010, p.20) and the existence of a student sustainability group indicates that some students “are advocates for improving the sustainability of the environment” (p.20), it is too much to say that

School is operating at Step 3. Scott's list of characteristics of learning programmes in Step 3 schools (pp.20-21) goes some way to showing why.

QAC was not, for example, at the time of my visit, able to:

“involve young people in developing and modelling sustainable school practices, improving the quality of their surroundings and school buildings, integrating this with curriculum activities.

understand that sustainable development is a social learning process...while acknowledging that what needs to be done and learned may vary dramatically from one setting to another.

set out to help young people...make judgements about the need for the compromises trades-off between desired goals.” (Scott, 2010, pp.20-21).

Natural & Built Capital

There are some obvious strengths in this area for QAC. They have already spent a considerable amount of money on renewable energy sources, and have begun work on increasing biodiversity too. However, Scott's descriptors for this area also focus on the way in which work like this is done: is there a planned approach, or is it (Scott, 2010, p.23) “piecemeal, opportunistic change”? Reference to Section 5.2.3 clearly shows a lack of overview in the school when I visited, suggesting that QAC's situation did not match Scott's (2010, p.23) Level 3 descriptors, entitled 'More strategy'. The language Scott uses to describe Steps 1 and 2 (“Limited, responsive, changes are made following conventional framings” and the “piecemeal, opportunistic change” described above respectively) seems closer to what I found at QAC.

However, at Step 2, Scott (2010, pp.22-23) says a school will have made “all improvements that are feasible without a strategic review or significant investment”. This seems to point to a possible flaw in the descriptors. Is it necessarily the case that a school will make all the piecemeal changes it can

without a review? Surely it is realistic to think that sometimes a few changes will be made, but a review undertaken before all opportunistic changes have been completed? However, the thrust of the descriptors is clear: at Step 1, a school is taking part in schemes organised by other bodies, often in response to prompting from 'outside'; at Step 2, awareness has been raised and more opportunities are seen to make changes from within the school, on all fronts; at Step 3, the need for an overall strategy becomes clear, and planning around key areas begins, with auditing and monitoring put in place. QAC is *closest to Step 2*, especially as Scott (rightly, in my opinion) identifies a focus on "planning to enhance biodiversity" at this stage (Scott, 2010, p.23), and QAC has indeed begun this process.

5.3.2 Comparing QAC with Models of Culture

Artefacts

There are fairly open signs that QAC is engaged with the task of including sustainability in its operation that are 'surface' manifestations (Schein, 1990; see Section 2.6.3 & Figure 4.3) of a part of the school culture: I was struck by several when walking around the site. A lot of sustainability-related student work is displayed around QAC, and it is generally of a high quality. I think it is fair to assume that this is displayed to reflect and/or provoke feelings of pride in the school's sustainability work.

There were also more ephemeral signs of the ingredients of QAC's culture: these may come and go very quickly, but are immediate signs of the way people within the school are thinking and behaving (see Table 5.2 below). Walking around the campus, I noticed that 'Green Living' magazine was

distributed in the Staff Room and nearby areas; a poster calling for members to join a new student-run sustainability group had been copied and put up all over

Manifestation	Impacts	Implications for Sustainability
Displays of Sustainability-related Student Work	Demonstrates emphasis on importance of sustainability focus	Positive impression of sustainability; possible link between academic achievement and sustainability, showing the two are not mutually exclusive
Newspaper Articles Featuring the School/Pupils	Demonstrates connection with local community; many articles had sustainability themes	Positive impact on importance accorded to local community and to sustainability
Large Number of Rubbish Bins	Students aware of the need to deal with waste properly	Positive impact on students' view of generation and disposal of waste
'Green Living' Magazine in Staff Room	Staff member(s) showing strong commitment to environmentally-friendly lifestyles	Possibly normalising emphasis on environmental considerations in the workplace and providing inspiration for personal and professional emphasis on environmentalism
Student Sustainability Group Posters Displayed Around Campus	Student organisations tolerated, if not encouraged; sustainability seen as an important issue in at least some part of the student body	Positive impacts on devolution of power within the school and on the general impression of sustainability's importance and relevance to students and staff
Solar Panels and Wood-burning Boiler	Very prominent on campus: something the school is 'known for'	Very positive emphasis on alternative energy sources: the school is setting an example and emphasizing concern for our impact on the environment
School Garden	Variety of uses: domestic fowl, growing vegetables and fruit, greenhouses, Forest School Area; an important part of the school	The outdoor environment is seen in a positive light and as a normal part of schooling; learning in and about the environment is normal

Table 5.2: Surface Manifestations of Culture at QAC

the main campus; the doors of the library have been painted with images of figures made from fruit and vegetables – one featuring the Soil Association logo; even the fact that there are *a lot* of waste bins around the school grounds. These all suggest to me a school where at least environmental issues are taken into account and of interest to the members.

Renewable energy generation is very prominent on campus, and there is a large garden, which is used regularly for Forest Schools, growing vegetables and keeping domestic fowl. When I was at QAC, the main Staff Room contained a box for collecting plastic cups to be re-used in Art lessons (rather than them being thrown away or recycled), and another for used Wellington boots, which were to be used to make nest-boxes for birds on campus. Plaques celebrating QAC's partnership with two schools in Europe were also prominent in the main building, and just around the corner from these, there was a large display with photographs and text about the College's partner school in India. Another sign of the outward-facing nature of the culture at QAC was the presence of members of local sustainability groups on the Board of Governors and on the Environment and Sustainability Group.

Espoused Values

Comparing the results of my data analysis for QAC to the second level of Schein's model, where 'Espoused Values' may be evidence of the culture of the organisation in question, also indicates that sustainability was part of the culture there. I noted for two of my interviewees, Antony and Pippa, that more or less all of their interviews could have been coded as 'knowledge' of sustainability: this was also true of a great deal of the two-part interview I recorded with Gareth. All spoke extensively about their own understanding of sustainability,

and were anxious to explore mine in our conversation, in order that they might better understand what I was trying to find out (by comparison, I did not have a similar experience at all at Underwhin, and only once at Maincross). John, the Science Technician, made a list of points to bring to our interview that he wanted to make sure he spoke about, which was a unique experience for me, and this, with his criticism of the College for lack of progress towards sustainability, leads me to believe that he was another very dedicated sustainability advocate.

There were members of staff at QAC who were clearly *not* as knowledgeable or interested as these four, which is relevant to consideration of a second model, Meyerson & Martin's model (1987; see Section 2.6.5) of subcultures. There was some separation at QAC between staff who were extremely dedicated to sustainability and those who were less concerned. Gareth, Antony, Pippa and John were all critical of an inadequate focus on sustainability at QAC:

“As far as I'm concerned, no-one looks at the bigger picture [of sustainability in the College]” (Gareth)

However, the same critics also said that the leadership of the school had a positive attitude towards sustainability, and that they were hampered in trying to introduce *more* sustainability by economic constraints (Gareth), and an “obsession” with Ofsted results (John). This group of staff were in an unusual position among my participants, in being very knowledgeable about sustainability (I was struck by Pippa's observation that the ‘social aspect of sustainability often tends to be forgotten in practice’); this allowed them to criticise the school *for not doing more* – a privileged position in some ways. This is also illustrated by the existence of the criticised Environment and Sustainability Group, and the College Environmental Policy; neither one of

these was present at my other two case-study schools, which might indicate that QAC was the most advanced of the three in terms of sustainability. The fact that they could exist and be criticised suggests that staff at QAC had high expectations of the College's approach to sustainability, but these were not currently being met.

Assumptions

The fact that these staff, and a similar group of students, were in a minority – two subcultures – leads me to believe that one reason they were unhappy with the progress of sustainability at QAC was that it was not in fact embedded in the College's culture. Looking for the third, 'deepest', level of Schein's model of culture, 'Basic Underlying Assumptions' is the hardest part of this analysis, having to be interpreted from surface signs and spoken values. In the case of QAC, I believe that sustainability featured in the College's shared assumptions, along with a commitment to creativity via the Arts, and a focus on the moral well-being of students, despite the staff there also feeling constrained by the need to present a successful image via examination results.

Meyerson & Martin's Model

I have used Meyerson & Martin's idea of subcultures to help illustrate that there are some large differences in attitudes towards sustainability at QAC, so there is not a high degree of homogeneity in the sustainability aspect of the culture at QAC. However, the culture is unusual, in that most of the members of the school are interested in sustainability, to varying degrees: I found no-one who was uninterested or antithetical. Although there is relatively little evidence of a commitment to sustainability in terms of written policies, the ethos and practice of the school give it a reasonably high priority. Sustainability is both a

significant sub-culture at QAC and is also part of the general culture at the school, where examination results and creative subjects are also important. It is present in the curriculum, particularly in Science, Geography and Technology, but also in Art, in Environmental Science in KS5, and (perhaps a little less so) in the integrated curriculum in Year 7. It is more prominent outside the curriculum than at either of my other two case-study schools, in that conscious efforts to promote the school's sustainability focus are evident in buildings, clubs and societies as well as the Environment and sustainability group.

5.4 QAC: Chapter Synopsis

QAC is not a sustainable school, and it is not close to being one, but there are a number of elements of the school which are approaching this. The school was, as far as I could establish, one of the leaders in the country in terms of on-site renewable energy generation when I visited: this was the result of the far-sighted appointment of a member of staff specifically to raise money for such projects. The level of understanding of sustainability I found was high: not only were there a few individuals who were able to discuss models of sustainability with me and compare the school to them, but those who were less knowledgeable were also able to describe sustainability in terms I did not find at my other two case-study schools. For example, the Deputy Principal with responsibility for grounds, Viv, unprompted, gave me this description of sustainability:

“It's not just about...the environment...it's about the students, and whether they can go on and lead a full life...that they are able to cope in a time that's very changeable”

However, internal criticism of the College's approach to sustainability was also evident, and justified in many areas. Student Voice at QAC is in a strange

state, with students confident enough to voice their opinions to staff, to approach the Principal with ideas, and to form their own sustainability group, but with the formal Student Council almost non-existent. It could be argued that students organising themselves and rejecting the structure put in place for them is more in line with the ideas of distributed leadership and student involvement recommended by literature covered in Chapter 2 (see Section 2.4 in particular), but I was not convinced that students had much influence on the way the school operated. Rather than involving themselves on their own terms, they seemed to me to be generally opting out of involvement in the running of the school.

Chapter 5 has described the themes emerging from data collected at QAC during my visit: these were relatively simple, in that all of the data could be categorised under the Main Themes 'Priority Given to Sustainability' 'Areas of Strength with Regard to Sustainability' and 'Behaviour/Leadership'. Within these Themes, it was possible to discern a culture at QAC that regards sustainability as an important part of the school's operation and belief system; several members of staff and other members of the school community are dedicated to incorporating sustainability in QAC, and those who are less interested are still knowledgeable and able to relate the school's strong moral stance to sustainability. There was widespread disappointment at what was seen as a poor result in the most recent Ofsted inspection before I visited, and, consequently, staff felt considerable pressure to focus on examination results. However, the school was also adopting unorthodox pedagogic models that allowed for a more rounded education, in the form of the International Baccalaureate, and a special Year 7 programme that was based on project work rather than subject divisions.

Even those members of staff who expressed the opinion that the school could do more in terms of sustainability also, without exception, said that the leadership at QAC were interested in sustainability and viewed it in a positive light. Appointing several members of staff to sustainability-related posts (or including sustainability-related roles in their wider functions) was one clear indication of this; the large investment, not least of time, in installing renewable energy sources was another. This investment has not yet resulted in a significant change in behaviour of students at the school, according to my interviewees. Several suggested that the school is influenced by and reflects the local community's dedication to sustainability, but does not actually contribute very much to leading or shaping the community's sustainability agenda or ambitions.

Chapter 6 follows, in which I describe and discuss what I found at the third school I visited, Maincross College, which was recommended to me as a good example of a sustainable school. On the basis of these recommendations, I tentatively expected to find different evidence of sustainability practices compared with QAC and particularly Underwhin College. The next chapter reveals how far these expectations were met.

Chapter 6: Maincross College

6.1 Chapter Introduction

This chapter contains an account of the data I gathered at the third case-study school, Maincross College. Section 6.1 contains a summary description of the school and its campus, and also some demographic information and statistical data regarding its performance. Section 6.2 discusses the data I obtained there and emergent themes identified during the analysis:

Priority Given to Sustainability (see Sections 6.2.2-6.2.4)
Areas of Strength with Regard to Sustainability (see Sections 6.2.5-6.2.7)
Behaviour/Leadership (see Sections 6.2.8-6.2.9)

Table 6.1: Categorized Themes Emerging from Analysis of the Data from QAC

The commentary on these themes is then elaborated upon and compared to the relevant literature in Section 6.3; a summary of findings is provided at the end of the chapter in Section 6.4.

6.1.1 Introducing Maincross College

Maincross College is the only secondary school in Maincross, a market town located in the South of England. The nearest competitor is about 10 miles away by road, in the next town. The College is located towards the outskirts of the town: it recently received a multi-million pound grant from the governmental Building Schools for Future (BSF) fund, which has funded a flagship sustainable campus. When I visited, the first part only of the campus had been open for approximately six months, and all school operations were conducted in approximately half of the new campus, a very crowded situation. The 'new' campus was being built on the same site as the 'old' campus, causing a great deal of disruption.

Maincross is a large secondary school, drawing pupils from a wide area, the great majority of whom are of White British ethnic origin. There is a slightly higher proportion than the national average of students with SEN and/or disabilities: many of these students are classified as having social, emotional or behavioural issues. The school has been a Specialist Science College for nearly ten years, and has also recently been awarded the status of Healthy School. The number of students claiming free school meals is similar to the national average. Over the four years to 2011, approximately 40% of students achieved five or more GCSEs or equivalent, including English and Maths at grades A*-C, significantly below the national average of 52%.

The main College building is flanked by a large car-park and sports hall. A second sizeable teaching building is joined to the main building via a covered area. A sloping area to the south of this is grassed, with a large pond at the top of the slope: there is substantial planting around both buildings. Sports pitches and a third building were still being completed when I visited.

The large central atrium in the new main building was both very noisy in break times and eerily empty during lessons. It was also bare, with few displays (because notices were shown on TV screens around the campus – and because staff were still very new to the site), and I noted the school's policy of locking corridor doors during lessons. However, the 'green credentials' stood out, with a sedum roof on the main building, grey water storage and re-use, a wood-chip boiler and a highly sophisticated building management system controlling heating, lighting and ventilation, among other things.

However, I did not generally notice an outward appearance that made me conscious of the school's sustainability credentials. Despite the obvious

newness of the campus, planted beds were mixed in their quality, with several damaged and littered, and others overgrown. I also noticed a curious mixture of unfinished or untidy features around the campus. The school policy to keep students indoors most of the time if possible (during the building work while I visited) meant that there was an absence of pupils outside the buildings, and the school felt extremely quiet during lessons. This contrasted with the noise during breaks and when all students were moving between classrooms.

6.1.2 Key Statistics for Maincross College

All the statistics included in these tables are from the Ofsted website, using their terminology. Figures have been banded or averaged wherever possible to aid anonymity.

Criteria for Selection	Location	Eco-Schools Awards
Recommended by ESD experts as an outstanding example of sustainable school <u>buildings</u> ; a government exemplar of the BSF programme. An ' advanced ' school.	Market Town area with 35-40,000 inhabitants.	Bronze; Silver; Green Flag (award now expired).

Pupils on Roll, 2011	Specialism	Provision
1500-1749	Science	11-18

	Average, 2008-2011
%age achieving 5+ A*-C GCSEs (or equivalent) including English and Maths GCSEs	40.75%

2011 GCSE Grades	Low attainers	Middle attainers	High attainers
Average grade per GCSE	F+	D	B

2011 Figures	
Total headcount of teachers	100-119
Number of teachers (full-time equivalent)	80-99
Total headcount of teaching assistants	50-59
Number of teaching assistants (full-time equivalent)	25-29
Total headcount of support staff	60-69
Pupil: teacher ratio	16-17

Last 3 Ofsted Inspection Grades (most recent first; see Appendix 1)	3(3)	3	C
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6.2: Maincross College: Themes Arising from Data

6.2.1 Main Themes

Themes emerging from data analysis for Maincross College were again fairly similar to those found in data for my other two case-study schools, with the exception that the influence of Maincross’s new campus was felt. This is included under the loose category ‘Priority Given to Sustainability’, as the choice to bid for such a project was an indication of the priority the school accorded to sustainability, and is accorded a sizeable dedicated section (Section 6.2.4 below). The other two broad categories included are again ‘Areas of Strength with Regard to Sustainability’ and ‘Behaviour/Leadership.

6.2.2 Leadership

Maincross had a reputation for being an advanced school with regard to sustainability before I visited. I detected an emphasis in the data on the school’s relationship with the local community as a feature of the school approach to sustainability. Deputy Principal Kerry expressed the leadership’s aim to place Maincross College at the centre of the local community, by involving locals in using the new facilities:

“...community use has got to be a big aspect of the school: it’s got to be the hub, if anything, of [Maincross]...”

Maincross College’s 2006 ‘Vision Into Reality’ plan includes an ambition to see “the College as a focal point of the community”. The Governors interviewed also mentioned their perception of the importance to the local area of such a

major new project, describing it as a beacon of what things can be like, for students, hoping that it could raise achievement and self-esteem.

These contributions were especially interesting in the light of several comments from interviewees about the area from which Maincross College students are drawn. One said that the area was very remote from 'the rest of England' and more than one described the social deprivation in the area, the Governors noting that a large number of council wards locally were classified by government as socially deprived. One interviewee reasoned that this made sustainability harder to communicate to students, who were more concerned with 'everyday' difficulties and found it hard to see themselves as part of a wider community than the very limited one they had experienced, some never having travelled to the next town 10 miles away.

By no means all Maincross College pupils are like this, but it gives an idea of the local context in which the school operates, and shows that the possibilities demonstrated by the new campus are particularly welcome in this area. 'Peyton', a Science Technician, said that students did not care about looking after an area they did not love, echoing Stephen Jay Gould's famous quote "we will not fight to save what we do not love" (Gould, 1993), and 'Stan', Head of Religious Studies, said in his interview that a lack of opportunities to volunteer locally had contributed to Maincross College's decision not to offer GCSE Personal, Social and Health Education (PSHE).

'Steve', the member of the College Senior Leadership Team with responsibility for overseeing sustainability at Maincross College, 'Hayes', the Governor interviewed, and 'Craig', the Principal, all talked about the 'message' that the school aimed to give, regarding sustainability, and it was clear that letting the

public know what the school is doing was a high priority. This is partly achieved through Maincross College's website (previously nominated for TES School Website of the Year), but also, pupils from the school have been interviewed for BBC World and The Guardian newspaper about sustainability at the school. The website included pages on Eco-Schools, sustainable transport, and two national environmental projects when I visited: the blog for one of these national projects was right up to date and the project fitted with the school's specialism Theme of the year: 'Water'.

The school offers A-Level Environmental Science, like QAC, and had an Eco-Schools Green Flag before the move, and won the regional Senior School Cup for on-going sustainability work. 'Fred', one of the College's two Environmental Education Co-ordinators, appointed in 2005 (the other was 'Laurel'), attributed this success to Steve, saying,

“...[he's] the person who in the past has written...articles and got the school recognised for sustainability.”

6.2.3 Internal Communication

Whether Maincross College has managed to spread within the school the sustainability message that, with some success, it has given outside the school, is another matter. The school uses an acronym to sum up the School Aims, including the letter 'E', which represents 'Environment', with the aim that students know about and care for their local environment – but this fact was not mentioned to me in any interviews! Many staff, including 'Andrew', the School's KS2/KS3 Science Liaison Coordinator, Laurel, and Fred, all appointed to roles with sustainability responsibilities, give a positive view of the school leadership team's attitude towards sustainability. This quote from Fred was fairly typical:

“[The leadership are] always supportive [sustainability] is what the school’s all about, really...”

The College Spiritual, Moral, Social & Cultural Policy includes the aims that students at Maincross should learn to “Show respect for the environment...students will be taught to appreciate their local environment and to develop a sense of responsibility to it”.

However, not everyone agreed. ‘Lisa’, a Head of Department, said, “Sustainability is mentioned a lot: they’re very proud of the [new campus]”, but also added a caveat:

“They are *quite*, but not *totally*, into sustainability...I think the problem comes in the actual running [of the school].” (emphasis in original)

The SSF (see Section 2.3) and Council of the European Union (2010) are two sources among many which suggest that what schools teach and what they publicly ‘say’ about sustainability must be matched by committed actions. Maths teacher ‘Lloyd’ had something similar to say:

“In terms of...well *everything else* apart from the new building really...I don’t think it’s mentioned. And if it is, it’s in a ‘yeah, that ticks that box’ kind of way, rather than with any real meaning” (emphasis in original).

He described the increasing importance of sustainability within the school,

“Five years ago, it was a word we’d probably never heard of, but with the new build and all that’s involved, sustainability’s becoming more and more everyday vocabulary, really.”

but he attributed the efforts made regarding sustainability to a specific motivation:

“If I remember correctly, we had some sort of funding to do with sustainability with the new building...and that’s why it would be important, because it meant money.”

This comment, if taken at face value, also reveals that Lloyd was not sure exactly of the nature of the link between sustainability and the new campus: the

first half of the quote suggests a vague or at least incomplete recollection of such a link. Perhaps, in a school where sustainability was deemed to be such a high priority, this is surprising.

I speculated that part of the problem was simply poor communication, which is one area Birney & Reed (2009) and Gayford (2009) both identify as essential if a school is to integrate sustainability successfully. Seel (2000) also recommends concentrating on communication in order to improve the chances of an organisational culture being successfully changed, so this is very important in the context of my research. However, Geography teacher 'Kathy' was more certain in her expression of the way the school leadership viewed sustainability:

“[The Principal isn't 'into' sustainability as much as he might be because] he's got to keep this school *alive*, because we're [under] threat from, you know, Ofsted, [the county] council, you know, [he's] 'got bigger fish to fry' than worrying about Eco-Schools...It's not [his] fault and it's not staff's fault, it's just that they *do* have a lot on their plate here...we need to get the education sorted out first” (emphasis in original).

Andrew seemed to agree, when, asked about barriers to the school becoming more sustainable, he explained the difficulty many felt in the school:

“...our results are not seen to be...as high as they could be, and...the College is always getting a lot of pressure from County, etc, to improve our results.”

He added that this pressure had intensified despite recent improvements in results, and explained the effect of the pressure:

“I think the emphasis, as a College...with all the pressures that we've been put under, is to try to improve our results...”

This came from one of the foremost sustainability advocates at Maincross. It is entirely understandable that schools have other priorities besides sustainability: Scott (2002) acknowledges as much, and Chatzifotiou (2002), Environmental

Audit Committee (2005) and Jackson & WWF (2007) all make the point that the National Curriculum does not make sustainability a priority. The important point here is that schools are failing to understand that sustainability and examination results, or other priorities, are not mutually exclusive goals: the 2009 Ofsted report, for example, says that schools focusing on sustainability have actually found that their examination results *improve* (although the report does not claim that they improve *because of* the schools' focus on sustainability).

A quote from my interview with 3SV does not discuss sustainability directly, but emphasises that the College internally sends a message that examination results are important – more important than sustainability considerations:

“With...PSHE, I think you tend to do more things, like, to do with the community and everything when you're in Years 7, 8 and 9 because when you get to my year [Year11], we're actually doing...instead of being PSHE, it's Philosophy & Ethics, and we are having to do a GCSE for it, so we have to concentrate on actual subjects...”

While this is one quote isolated from many others, it does illustrate a point about Maincross College's approach to sustainability. Even allowing for Stan's explanation that a lack of volunteering opportunities meant that GCSE PSHE was a problem, 3SV's quote might suggest that students are receiving a message that 'things to do with the community' are not part of 'actual subjects' – and that they are less important, as they are not continued during the important GCSE study of Years 10 and 11. Sustainability, as defined in government literature (see Section 2.3) is about behaviour change, not about working with the community.

This seems to suggest that there are other, more important, things to do than sustainability at Maincross College. Given the poor GCSE grade average mentioned in Section 6.1.1, this is not surprising. However, it is clear that this

view sees sustainability as *separate* from the general educational practice at Maincross College. Perhaps, therefore, there *is* a message about sustainability that is sent internally by the school leadership, but it is that sustainability, while important, is secondary to and separate from the main priority of the school, which is *to educate* and enable students to achieve academic success.

I believe it is very telling that the 2009 Ofsted Report for Maincross does not mention their sustainability work *at all*, which is a little surprising given that, for example, the College was awarded an Eco-Schools Green Flag only the year before. The school's Specialist status is listed as 'Science' only in this report (there is no mention of the unofficial sustainability 'specialism' mentioned on the school website); healthy lifestyles, charity work and local links are mentioned only briefly (one paragraph each, in a thirteen page report). Brian Davies, HMI, Head of Sustainable Development at Ofsted (pers comm, 2011) stressed to me that Ofsted Inspectors would look at sustainability in a school and mention it in their report if it was included in the school's pre-inspection Self-Evaluation Form (SEF), which was not made available to me. One can only assume that Maincross did not do so: the question is 'why not?' Once more, I am reminded of a sentiment Jackson & WWF (2007) expressed, that successful sustainability in schools requires them to consider more than just examination results.

Laurel made two comments which seem to add weight to this reading of the situation. When discussing a project she organised to make transport at Maincross College more sustainability-orientated, she said, "Has that been rooted in the culture? I would say 'no'." Although there is no sustainability policy at Maincross (I contacted the school after my initial visit to ask about their School Development Plan but was not granted access, so I cannot say whether

sustainability was included in this or not), the College has a Travel Plan (many do, having worked on them with their local councils after the 2003 government 'Travelling to School' initiative³²). The copy I saw pre-dated the new campus, but noted the 'Silver Award' won as part of the local county council scheme, and that, "In accordance with local authority guidelines, the new college will...be designed and equipped to encourage minimal use of the car as a means of travel to college". I heard a number of comments during my time at Maincross about minor tensions with the local community over parking, suggesting that this ambition had not yet been realised, despite the College sustainable transport webpage and bicycle storage facilities on campus.

Laurel said something similar about using the campus as a learning resource:

"Yeah, I certainly try to use it, but whether that [practice is] embedded or not, I don't think so, no."

She also saw strong pressures to improve academic results – requiring a focus on 'education' above 'sustainability' – as the reason why sustainability was not a more fundamental part of Maincross' culture (see p.200):

"It's probably a couple of years since we covered some ground with this, because of...exam results...the pressure has been on academically, rather than [on sustainability], so you fall back on your...'prime function', if you know what I mean."

Three more pieces of data from interviews point in the same direction. A member of Sixth3b said:

"Because there are so many people [in the school] there'll be a few dedicated people who *will* take the initiative and go to the [sustainability] clubs...but then other people [say] 'someone else is already doing it'..." (emphasis in original)

Does this mean that there is only sustainability at Maincross College because it is so big that inevitably there will be *someone* who will be interested? That is

³² See <http://www.dft.gov.uk/publications/travelling-to-school-evaluation/> for details.

perhaps reading too much into the statement made, but it does suggest that sustainability is not a really significant feature of the culture of the school. The student perspective was also voiced by a member of Sixth3c:

“It’s spoke about loads in [Specialism] Weeks and stuff, and...they have [Specialism] Days, but it’s not...an on-going thing...I don’t think we’ve...spoke about it *once* this year...” (emphasis in original)

Finally, ‘Matthew’, a Teaching Assistant very keen on working outdoors with his students, and an advocate of sustainability at Maincross College, was not aware of the Co-ordinators’ roles that Fred and Laurel took.

Matthew had only been working at the College for 6 months when I spoke to him, but he might have become aware of Fred and Laurel’s roles in that time, especially as he had a reputation for being interested. I think that this just reinforces the point that sustainability had been side-lined during the move and as a result of perceived pressure to improve examination results. The final contribution to this ‘debate’, however, must go to Steve, who seemed to be aware that there was a danger of the school simply taking opportunities to improve sustainability for short-term reasons:

“It’s about making sure the message is sustainable, rather than us just doing something ‘funky’ to get a Green Flag.”

This contrasts quite sharply with Lloyd’s apparently more cynical view (see p.199), but I suggest that there is the possibility that both views are valid. As I suggested above, the school says it sees sustainability as important – and Steve might well aspire to have a sustainable message and not just try to get attention-grabbing awards – but this message is not getting through to everyone in the school. Even those like Laurel with a special brief for sustainability saw it as a lower priority than getting students to pass their exams.

6.2.4 The New Campus

The influence of the planning and building of a new campus appeared a great deal in both the interview and documentary data. This is not surprising, as the project was a huge undertaking, with five years of planning for the new campus including applications for the money secured, over £40m. In addition, I visited the school during the first year after opening, so the ‘newness’ of everything and the freshness of memories of disruption before, during, and after the move itself were still very much apparent.

The phrase ‘Pathfinder Status appeared several times in one interview, giving support to the idea that this is a key area: the new campus was considered internally and externally to be a unique experiment in the UK in building and running a sustainable school. As such, Maincross was seen by many staff I interviewed as holding ‘pathfinder’ status in terms of establishing what the results would be of spending such a large sum of money on sustainability features for a school campus. Not only did the process of seeing the new school from concept to opening take a huge amount of resources and time, but the finished product brought its own burden of expectation and experiment. No-one knew how the investment – in time, effort and disruption to routine – the school and government had made would work out.

However, the influence of the new campus project was felt in myriad other ways. Interviewees identified positives and negatives, but few failed to mention the topic entirely. On the whole, participants tended to indicate that they thought that the move had had a positive effect:

“I think moving to the new school’s made a big *difference* to [sustainability here]. I think people have been made more aware of it...” (Kathy, emphasis in original)

“...I think it’s helped the school to move forward...in regards to...behaviour and the attitude of students.” (Kerry)

“[W]ith the new school...we’ve had assemblies and stuff on it...I think, to me, it has made people more aware, though, of sustainability and how...we’re doing, how the school’s doing it...That has made people more aware and learn about it a bit more.” (Student, Sixth3b)

Several aspects of sustainability were specifically mentioned by interviewees. Stan and Kerry both mentioned an improvement in students’ behaviour that they linked to the move to the new school. Stan said that this was because the new building was a substantial improvement, specifically suggesting that better facilities resulted in better behaviour. Kathy noted that “It’s very easy to police things like [litter at the new school]”, which may be an alternative explanation. Birney & Reed (2009) list the benefits to schools of embedding sustainability in all their operations, and include behavioural improvements, as do Ofsted (2009), and my interviewees at Maincross seemed to suggest the same thing.

Also, several interviewees said that they thought that moving to a new building with many sustainability features ‘designed in’ had had an effect on the users of the building with regard to their sustainability behaviour. Kathy, above, mentions increased awareness, as did students in Sixth3b. A Year 8 student used the term ‘knowledge’, but seems to be making the same point:

“...they did the school...to educate us in sustainability. Like, ‘cos not many of us had much knowledge of it, but...by getting a new school, they had the chance to teach us about what we could do for community, what we could do for being green...” (Student, YrEight3a1)

When I followed this by asking, “And has this happened?”, the reply was: “I think everyone’s got better knowledge”.

Students in Sixth3b agreed that they had learned from spending time in the new school, although not formally in lessons *about* the school so much as just by

being exposed to it. Lloyd explained, “I think the [students] are interested in the features of the building.” However, Kathy stated that she was beginning to use the school building as a comparison with other buildings when talking about sustainability, and other staff teachers interviewed mentioned the possibility of using the buildings and campus as learning resources in the future.

The raised awareness referred to by interviewees seems to come both from the features of the building (as in the last three quotes above) and the process of designing and building (see the quote from Sixth3b above). Kathy was one of many interviewees who spoke about the *remarkably* detailed planning process for the new school: she attributed the positive effect of the new building to this attention to detail, and presumably this was behind the school’s success in bidding for BSF money. Also, ‘Patrick’, the Catering Manager, mentioned that sustainability had become more of a focus for the school *because of* the project to build a new campus: “It’s been there right since we first started the project to build this college, and as a very important issue.” It is worth noting, however, that the initiatives on the school website relating to sustainability all date from after the new campus project began.

One further point is that the building’s *operation* can be more sustainable, in terms of reducing the use of energy, water and fossil fuels. Patrick said, “We’re so far advanced as a school here; all that wood chip boiler...that must be a huge tick in the box for sustainability...”, and ‘Ollie’, the member of staff most closely involved in the construction process, described the corridor and atrium design helping both in terms of space and temperature control.

Interestingly, Ollie, appointed to oversee the new campus project, was one of *many* staff who discussed with me in their interviews the *problems* the school is

having with some of the features of the new building that were intended to improve sustainability. For example, heating has been difficult, with staff getting used to a new way of controlling temperature, and many reporting that rooms are extremely cold or hot. I speculated that such problems might actually have a *beneficial* effect for sustainability in the long term (Memo 3M14). Not only would staff and students have to learn carefully how to use the building, but their very *consciousness* of the problems – and the discussion of them – would serve to concentrate their minds on the purpose of the building, at least raising awareness of efforts to be more sustainable, and possibly the *reasons* for this. Several commentators mention that schools operate most successfully when dealing with sustainability in the curriculum if they have a real-life problem to apply it to (Birney *et al.*, 2006; Birney & Reed, 2009; Symons, 2008). A problem the school itself faces seems ideal in this respect.

Maincross seems to have had a limited history of focus on environmental issues before deciding to specialise in sustainability, with individuals including sustainability-related topics in their teaching. It seems likely that the decision was made to focus on an existing strength, but also for pragmatic reasons, to take advantage of the opportunity to bid for substantial funding (see Section 6.2.3). The process of planning for a new school was described differently by different participants. According to several interviewees and the school website, a great deal of consultation was carried out with staff, students, parents, governors, and the local community, regarding the plan for a new campus, and the choice of school Specialism that led ultimately to the bid and plan:

“Following discussions with staff and the local community, it was decided to bid for Specialist college status in Science”.

This consultation is in line with the Maincross 'Home College Agreement', which says that the College will "seek the views of students and parents/carers about the work of the College and respond appropriately". However, a Science teacher, 'Willie', said in his interview that he thought that this consultation did not genuinely take into consideration staff members' views, despite the impression given by official statements on the matter.

Several interviewees described the complexity of the detailed planning that had gone into the design of the school, ranging from the type of taps to the general alignment of all buildings East/West to allow long South-facing windows, promoting solar gain. The Principal provided me with a copy of 'Vision Into Reality' plan, which helped those involved to identify how to plan for all aspects of the design. Under the heading 'Vision' are sub-sections, such as 'Environmentally aware and sensitive' and 'College as own community and as an integral part of the community – local, national, international': both seem plainly to convey the importance of sustainability in the planning process.

Ollie was recruited specially to organise the project, initially as a PA to the Principal, but with increasing autonomy as the project progressed. He was still in post during my visit, overseeing the continuing building of the second 'phase' of the new campus and working with the Site Team to deal with the issues arising from *using* the new facilities. When I visited, Ollie mentioned the increased 'manpower' needed to 'run' the school via the Site Team, noting that several of the sustainability features of the new building required more maintenance than was the case with the old campus – the heating system, for example. One has to consider whether some of this was because of the newness of the campus as much as the sustainability of it – unfamiliarity and

perhaps a pressure to maintain the good appearance of the treasured new facilities. Furthermore, an argument could be made that employing more people to work on the site because of the necessity to maintain it is actually a measure of sustainability itself, aiding the local community (assuming the workers live nearby).

With regard to this line of reasoning, it is interesting to note Ollie's comment that maintenance of the new campus was based more on sustainability principles than had been the case at the old site. He described in detail varied recycling and reuse of materials and equipment during and after the move to the new campus, and discussed ethical purchasing, wildlife habitat maintenance and development, and resource use, *all* being influenced by the move to the new facility and its guiding sustainable design.

The difficulties with heating in classrooms are just one indication of the *problems* that moving to a new campus has caused, and many of these relate to sustainability in the school. My first exposure to the 'life' of the school was my introduction at a general staff briefing: at the briefing, there was a lively debate about problems with equipment being damaged and problems turning off equipment overnight. New ways of using equipment were causing difficulties in the everyday running of the school: for example trolleys with laptop computers were shared between subjects but had become damaged much more quickly than expected. Students in YrEight3a1 described the "stress" they noticed around the school in getting used to new buildings and equipment.

Not everyone felt positively about the new campus. Members of the 'Friends of the College' group were examples of this, saying,

“It’s a nice building, but I find it very grey and...not prison-like, but you get the drift...” (F31) and, “Very clinical, isn’t it?” (F32)

It was hard to classify the expressions of guilt and pressure I heard from several interviewees as having either simply a ‘positive’ or a ‘negative’ effect on sustainability at Maincross College. The cost of the project; the amount of time and effort also expended on the new campus; and the experimental nature of the school described by Hayes, Chair of the Board of Governors, in my interview with him, are probably all contributing factors to a sense of pressure or guilt (or both) that I noticed during my time in and around Maincross College.

My presence as a researcher into ‘the sustainable school’ was announced in a full staff briefing, and, inevitably, my research subject further heightened my participants’ awareness of the school’s sustainability credentials. I noted in a Memo (3M15) that opportunities arising from a new campus were accompanied by pressure to act in a way befitting the facility. Several interviewees were somewhat apologetic about the lack of sustainability action they perceived at their school, and other staff I spoke to in my time at the school seemed to feel the need to defend the school or themselves. However, somewhat similar apologies *did happen at Underwhin and QAC as well.*

Perhaps more importantly in the short term, a theme emerged from my interviews and observations around disruption to organised approaches to sustainability that were caused simply by moving out of one campus and into another. Ollie talked about the disorganisation of moving and adapting to the new building putting sustainability practices ‘on hold’, saying “...next term would be where you’re looking to see the whole sustainability...credentials coming to the fore.”

The interview with Students Sixth3b included a discussion of recycling, where responsibility for organising paper collection and so on was covered. One said:

“...at the moment, because people are moving into the new College, there’s been a lot of problems with actually setting up the clubs...so there’s been less going on.”

I asked if that were the same for everything (i.e. not just recycling), and the answer was “Yeah”. So general disruption to organised activities because of the move was identified by students, but staff were well aware of it too.

Laurel mentioned the pressure to achieve exam results (see Sections 6.2.3 & 6.3.2; also see Jackson & WWF (2007), in Section 2.4), but I speculated, in one memo recorded at the school, that having a great deal of money spent on your new school brought its own pressure. Having chosen to go through a long and arduous process of applying for specialist status in Science, with a focus on sustainability³³, also applying for funding, and having received so much money, resulting in a ‘flagship’ campus, surely brings pressure to ‘live up to’ that facility and the aims and claims outlined in the bid process and subsequent publicity.

6.2.5 Relationship with the Local Community

A relatively large amount of discussion in interviews involved Maincross College’s links with the local community. That local links were deemed important to the school was also reinforced by the frequency with which they were mentioned on the school’s website, and on the display screens and on posters across the school, advertising events. In Section 6.2.4, I noted that interviewees who were heavily involved in designing the new campus described the involvement in this process of local community representatives. According

³³ The official designation was Science, but, although sustainability did not hold the same, official status, the new campus bid made it clear that sustainability would be a key focus of the Science Specialism, and the school website recorded the Specialism as ‘Science with Sustainability’.

to Ollie, this collaboration continued during the actual construction of the new campus:

“Probably a good 85% of the workforce on the project was from the...local region...”

Ollie made the point that students saw the link between school and community that this showed: they mentioned in school that family members were working on site, and Ollie described former pupils returning to work on the site too. The school worked with a local construction company and the project as a whole aimed to source as much material as possible locally. Ollie described the importance accorded to this policy in several ways:

“That was one of the...big drivers...When we tendered the project back out...one of the criteria...we had aspirations [for] was to ensure that...the project was sustaining and financing into the local community...”

“...we did through the project have regular updates on...how much money had gone in the...region...”

Close links between the school and local community were also discussed with regard to other issues. Patrick, the Catering Manager, also described trying, on principle, to source local produce, where possible, and using local meat and vegetables in particular. The ‘Friends’ of Maincross College, during our interview, listed a number of activities they had been involved in, raising funds for the school, including a recent ‘Spring Fayre’ in the main school building. Maincross College has provided the town’s only cinema for several years, and many other facilities are open to the public, for evening classes, sports and so on. Most schools tend to open facilities to the public, and it is extremely difficult to say whether this school is appreciably different to others in this regard, but, based on my experience, the school aims to include the local community a great deal – possibly more than in other places. This seems promising for sustainability at the school in light of the many recommendations I found in the

literature for schools to connect with their local community (see Chapter 2: Ofsted (2003; 2008; 2009); Birney *et al.* (2006); Symons (2008); Gayford (2009)). However, it is worth noting Breiting *et al.*'s caution (2005, p.9) that

“the really important achievements are related to the teaching and learning processes and the school climate and organisation, rather than to the practical actions or outcomes in the school or in the community.”

6.2.6 School Specialism

The *historic* link between school and community was also illustrated in two ways by work done in connection with Maincross College's Science Specialism. For example, some of the funding secured by achieving Science Specialist status was used to finance the role of a Key Stage 2/Key Stage 3 Science Liaison Coordinator, Andrew, who had been in post for more than 5 years when I visited, and was a leading advocate of sustainability at the school. Andrew was referred to with affection and praised for his excellent work by other members of staff in informal discussions I had. Andrew's role included a great deal of liaison with local primary schools, spreading a message about sustainability and science, and he described in detail how these local partners had benefited from sharing expertise, equipment and funding with their nearest secondary school.

I spent a day visiting one local primary school with Andrew, and was impressed with the cordiality and familiarity that existed between him and staff at the school, which suggested to me an established good relationship between them. Andrew attributed the fact that many pupils joined Maincross College with considerable awareness regarding sustainability, in part, to the close links between schools:

“...they come from the primary schools *already* in that mind-frame...”
(emphasis in original)

This suggests that the school's aim to influence the local community towards sustainability is having some success. However, I did not notice the specialism particularly influencing curriculum at Maincross: sustainability was present in Science and Geography lessons I observed but was not a feature of the Religious Education or Citizenship curricula, according to Stan, and I did not see its influence in other subjects either. There seemed to be far less sustainability in extra-curricular activities than at QCA as well: what learning about sustainability there was tended to come from the buildings and grounds rather than activities.

In terms of the classroom culture at Maincross, based on the observations I made and documents I collected, I found some similarities with Underwhin and QAC, with well-planned and clearly structured lessons. Lessons were mostly defined in terms of what students 'must' be able to do, 'should' be able to do, and 'could' be able to do: on two occasions, the 'could' element, designed to stretch able students, had a very clear sustainability focus on the consequences of human actions for the environment (L3a: where does your water come from; why is access to water important? Also L3b: what are the consequences of a lack of water?).

The lessons I observed at Maincross were a little more didactic in their format, arguably running counter to the ethos of sustainability generally, with a lot of information imparted by the teacher and students contributing less often than at the other two case-study schools (for example, in L3a, a major part of students' contribution to the lesson was in reading out information from handouts; high ability students in L3b were extremely reluctant to give examples of local geographical features when asked by their teacher). It seems likely that this is

associated with the school's focus on improving poor examination grades, although whether it partly explains the grades (student attainment and knowledge is poor), or is partly caused by it (teachers are eager to ensure that a certain amount of information from the syllabus that may be useful in examinations is covered), I am not able to say.

6.2.7 School 'Theme Weeks'

A second area where the school's Specialism and Local Links were especially strongly evidenced by the data involved the 'Theme Weeks' celebrated annually. 'Theme Weeks' involve taught lessons around a chosen subject, with the normal curriculum 'collapsed' temporarily. The chosen theme of the week is always related to the school's Specialism, and has been explicitly linked to sustainability six times in the eight years Theme Week has taken place. However, activities outside of the taught curriculum are also part of Theme Week, particularly so where the launch event, 'Family Day', is concerned. This whole-day event involves displays and activities around the theme for that year from various departments within the school and from local external groups (charities and businesses exhibited at the one I attended, selling products, displaying information and running activities); the public are encouraged to attend, with plenty of local publicity (a small fee is charged for parking and for some activities). Gayford (2009) notes that the students he interviewed liked this sort of sustainability-related event, but it is worth noting that other sources (e.g. Dixon, 2010) tend to criticise schools for relying too heavily on one-off events instead of integrating sustainability throughout their practice.

Steve described the importance of Family Days, the school's key event in Theme Week, in terms of their significance to Maincross College's overall sustainability aims:

"...it is creating that...sustainable message, if you like, that 'this is what we do regularly, within our college', and, hopefully, what's happening throughout the [Family Days] is, the message is getting spread from the student, up to parents, grandparents, et cetera. That's what we were trying to do..."

The link to the local community is important in itself, then, but it is also a chance for the school to influence the behaviour of local families via its pupils. This seems similar to the sort of focus on behaviour-change that the previous government assigned to sustainability (see Section 2.3: Ofsted, 2009; 2010) but which is criticised in other sections of the literature on sustainability in schools (Breiting *et al.*, 2005; Wals, 2009; UK National Commission for UNESCO, 2010).

6.2.8 Behaviour

Steve also mentioned the idea that the new campus had been designed for "intelligent occupants", suggesting that the design team had been aware that a campus with so many sustainability features – automatic lights, buildings management and so on – might lead to non-sustainability behaviours. Steve mentioned the example that users of the school might become so used to lights switching themselves off after a room is vacated that they no longer switch off lights in rooms where the lighting is not automated. This suggests not only a sophisticated understanding of sustainability and the complicated issues around behaviour change, but an ambition to see sustainability as a long-term project for Maincross College.

One area where sustainability behaviour did seem to be established as the norm was recycling. This topic came up many times in interviews, with Laurel's organisation of student-led recycling noted by several interviewees. The College website lists the specialism themes since Specialist Status was achieved: the first theme was Recycling, in 2004/05. Recycling was also mentioned in documentary sources, with the school having a Recycling Policy/Procedures document, something I did not encounter at either of my other participant schools. This Policy, dated 2008, lists the materials collected for recycling at that time: white paper, shredded paper, cardboard, tins/cans, plastic bottles (all collected by one company), batteries, computers, furniture, mobile phones (all collected via special arrangements at different points around the campus). This is an impressive list, and the involvement of the College Eco-Schools committee is mentioned, with a note that the Committee's development might lead to an expansion of "recycling opportunities". However, it should be noted that there was no sign of this Committee in operation when I visited. I believe that this is what Laurel referred to when she told me that there was no official student group running when I first met her. She talked of things having been allowed to "lapse" in our interview.

Two more policy documents have mentions of recycling. The Vision Into Reality plan for the new campus describes an ambition to have "Recycling bins and separate litter bins" and a recycling area west of the building was obviously heavily used when I saw it. The Purchasing Policy includes a note that "Staff should consider re-using envelopes for internal mail wherever possible". It is also unusual to find this included in a policy document, in my experience, even if the guidance is only to "consider".

A member of Students Sixth3b summed up the situation described by several interviewees:

“I think, at school, I think it’s quite...subconsciously you’ll do it [recycle]...’cause it’s just there...it’s just the norm, really, just to go, ‘Oh, green bin: paper’...”

Stan described how there had been a change in culture around recycling since he had joined the school:

“When I first came, 6 years ago, recycling basically hardly ever happened, it didn’t happen, and the difference now is, for all the students, it’s just the norm.”

Andrew again attributed this at least in part to behaviour that Maincross College students learned before they reached the secondary school:

“...children *starting* Year 7 have already got this background...that recycling isn’t a new concept, it’s just something they do as an integral part of the day...” (emphasis in original)

All three quotes use language – ‘norm’, ‘integral’ – that suggests that recycling *is* embedded in the culture of the College.

The Catering Manager, Patrick, was one interviewee who discussed recycling and waste with me in some detail, describing the various substances recycled through the College kitchens and how the College uses biodegradable packaging – for example on sandwiches – even though this costs more to buy. However, Patrick was not convinced that recycling at Maincross College was a complete success, saying:

“I mean, we’re not ‘winning the battle’ with recycling...we’re doing the biodegradable packaging, it doesn’t always go in the right bin!”

When I asked him what he thought the problem was, Patrick explained:

“[It’s] just education, now, isn’t it? The facility’s there *to* recycle it properly, then...education...is the bit that will...‘put the puzzle’ together isn’t it?” (emphasis in original)

More positive accounts were given by teaching staff, but Andrew's comment, compared with Stan's description of a fairly recent change, made me wonder whether part of the widely-perceived success in recycling was partly down to students now being 'recycling natives' who have grown up with recycling as normal behaviour, rather than owing to influences from their time at Maincross College. Patrick's statement also suggests that putting facilities in place will ensure that recycling happens as long as people are taught about it, which seems rather simplistic, although of course recycling cannot happen *without* the facilities to recycle.

6.2.9 Student Voice

Deputy Principal 'Alastair' was very direct in his view of the student voice group at the College:

"They're the client group, admittedly, but we're also the professionals...ultimate decisions are going to be made by those people who are paid to make the ultimate decisions."

Given this, perhaps the attitude I found in interviews with students that the Student Council and student voice in general at Maincross was a waste of time is not surprising. A member of Students Sixth3c answered my question, "What do you do if you want something in the school to change? Can you do that?": "No, we've tried, it doesn't really work...we don't get any say". YrEight3a1 were equally negative when I asked them about the issue, saying that they were not allowed to voice negative opinions and not asked their opinion often.

6.2.10 Overview of Main Strengths and Weaknesses in Sustainability at Maincross College

Strengths

New campus

'Theme weeks'

Weaknesses

Focus on examination results at expense of sustainability

Few links to new campus in teaching and learning

6.3 Commentary

6.3.1 Comparing Maincross College with Scott's Descriptors

Summary of Match with Scott's Descriptors at Maincross College:

	Leadership	Human & Social Capital	Natural & Built Capital
Step the School is mostly closely aligned with based on my research (see Figure 4.2)	2	1	2

Maincross College was chosen for this research because it had a reputation as a sustainable school, so comparing with Scott's Descriptors of what this might entail is especially pertinent here. Again, I have made comparisons with each of the three 'foci' Scott uses individually (see Figure 4.2), and also provide an overview across all three of these areas.

Leadership

In terms of Leadership, the message from the data analysis is possibly less clear than in any other area at Maincross, and indeed the other two schools. The passages in the Step 1 'Initial exploration' Descriptor, "[Leadership] does not actively support teachers and others who...carry out this work" and "There is little or no financial contribution to making sustainability-focused changes" are obviously not applicable. Steve was heavily involved in sustainability at Maincross, and a massive investment in a new campus was partly acquired on the basis that the College specialised in Science, with a focus on sustainability. Neither is "Sustainability work in the school...characterised by the work of lone teachers or of small groups..." – there are two Environmental Education Co-ordinators, for example. However, I found that the College's work on sustainability generally *does* have a "behaviour-change focus", also described by Scott as an attribute of Step 1 Leadership (Scott, 2010, p.16).

Generally, therefore, Maincross College is beyond 'Initial exploration', and there are several parts of Step 2 ('Some assimilation') and Step 3 ('More strategy') which could equally describe what I found there. Scott's Descriptor for Step 2 starts:

"School leaders have some limited awareness of what sustainable schools initiatives set out to do, and understand something of the utility for learning that a focus on sustainability can have. A co-ordinator post may be funded with schemes such as Eco-schools in place...." (Scott, 2010, p.16)

As noted above, two co-ordinators have been appointed, Eco-schools was in place until 2009 (although not since), and the school has made it clear, by promoting their sustainability activities, that they recognise some value from sustainability in terms of both learning and community-school relations.

Also part of the Step 2 Descriptor are three more statements applicable to Maincross College. Firstly, "...a critical consideration of sustainability is not actively promoted through the curriculum...". Secondly, "narrow behaviour change is the main focus" (Scott contrasts this with "learning as well as...behaviour change" in the Step 2 Descriptor for Human and Social Capital – see below). Thirdly, "enthusiasts are getting things done" (recycling at Maincross College would be one example of relatively successful action) (Scott, 2010, p.16).

At Step 3, Scott expects 'More strategy': "appropriate plans and policies will be written" (Scott, 2010, p.16). This is true to a certain extent at Maincross College, with its Recycling Policy and the Governors' sophisticated suggestion that a dedicated 'Sustainability Policy' is not necessary if sustainability is written into all College policies (although, of course, I found little evidence of this when I visited). Also at Step 3,

“Increasingly, there will be emphases on making sustainability a significant aspect of the school...and one of the things the school is known for. There may well be a vision that addresses sustainability...” (Scott, 2010, p.16)

This sort of approach can be seen in the image projected via the College website and Eco-schools work and in the Vision Into Reality document. I would not have chosen to research Maincross College had sustainability not been one of the things the College is known for.

The Vision Into Reality document was also the precursor to monetary investment, which Scott also deems necessary at Step 3:

“Greater investment is seen to be essential...and plans are made... to enable the significant expenditure that will be needed if the barriers to greater sustainability presented by current infrastructure are to be surmounted...” (Scott, 2010, p.17)

There is no doubt that sustainability was central to the design of and bidding for the new campus: this can be seen in the campus itself and the way it is managed, as well as the planning documents I saw.

However, not all of this Level 3 Descriptor applies at Maincross College. Sustainability is *not* “central to student learning” and the view of sustainability at Maincross College is not such that a need “to identify...how teaching has to change” would occur to many people there. The College is not, according to any data I gathered there, focusing “on raising social capital as the school and its community develop together” (all Scott, 2010, pp.16-17): nonetheless, I think that this is *an ambition* for the College, whether they would use the term ‘social capital’ or not, based on interviews with Steve, Kerry and the Governors. This is all be down to the lack of understanding of sustainability at the school, which also explains why Maincross College does not meet Scott’s expectation at Step

3 of a

“more critical approach to learning and to schools management...seen to be necessary as the tensions and uncertainty inherent in sustainability are exposed, and the implications of the breadth of sustainability for the entire operation of the school begin to be fully appreciated” (Scott, 2010, p.16).

Overall, sustainability in terms of Leadership at Maincross College is closest to the Step 2 Descriptor, albeit with elements of Step 3 showing advanced sustainability behaviour in some areas.

Human & Social Capital

In terms of Human & Social Capital, the second of Scott’s three foci for describing a sustainable school, they are less advanced. Much of the Step 1 Descriptor applies:

“[Many of the sustainability activities in the school] tend to focus, fairly uncritically, on externally-identified behaviour change with little link to the curriculum. There is formal, but mostly unconnected teaching...through mostly conventional takes on curriculum where the *campus* and *community* are mainly seen as resources...Learning, and learning outputs, are predominantly viewed in academic terms...” (Scott, 2010, p.18, emphasis in original).

This certainly agrees with my assertion that, while sustainability *is* important at Maincross College, examination results and achievement are seen as the main priority and separate from sustainability. I found several staff *aiming* to use the campus in their teaching, and two staff (Kathy and Laurel) who stated that they did, sometimes, do so, but of course Laurel also said that this sort of practice was not part of the College culture yet.

Not *all* of the Step 1 Descriptor was a clear ‘fit’ with what I found at Maincross College, but at Level 2, Scott also describes an “...investment in...changes to infrastructure [that] means that there is growing scope for using the school as a positive teaching resource...” (Scott, 2010, p.18). There was no mention of sustainability in the school CPD plan, but there has certainly been investment,

and there have been changes to infrastructure as a result, leading to the potential to use the school in this way. However, as I noted above, this potential was not always being realised at Maincross College when I visited.

More of the Step 2 Descriptor does *not* match what I saw at Maincross College. The “tensions within sustainability” do not appear to be recognised. As a result, there is not an effort to combine “learning as well as behaviour change” or recognition “that a focus on sustainability will contribute to enhancing student achievement”. My time at the College and the data I collected there led me to believe that sustainability and improved learning, and sustainability and improved student achievement, are seen as separate issues. I did not interview anyone there who linked the two, even when I asked this directly. There was no sign that anyone was prepared to challenge this status quo, so there was no way in which “[t]he limitations of student learning only in terms of exam success [could be] recognised” either (Scott, 2010, pp.18-19).

I did not get the impression that “the formal and informal curriculum [are] seen as an integrated whole” (Scott, 2010, p.18). Neither did I see many people questioning

“[the] value, in themselves, of eco-schools and similar approaches...where they are recognised as initiatives isolated from the curriculum and the life of the school as a whole” (Scott, 2010, p.18)

The understanding of sustainability necessary to view this situation critically was not evident at Maincross College when I visited. None of the Step 3 or Step 4 Human & Social Capital Descriptors coincide with my findings for Maincross College. I saw a College operating at Step 1 with the beginnings of Step 2 in some areas but a fundamental change in the understanding of, and attitude towards, sustainability would be needed to move further.

Natural & Built Capital

The brevity of Scott's Descriptors for Natural & Built Capital again proves a little problematic when looking at Maincross College's approach in this area. However, in terms of action, the College fits, in some ways, Step 1, 'Initial exploration', which begins, "Limited, responsive, changes are made following conventional framings..." (Scott, 2010, p.22), and, in others, Step 2, 'Some assimilation', which reads, in part: "With awareness raised, piecemeal, opportunistic change occurs...". Some of the Step 2 Descriptor does not seem like the situation at the College: "...all improvements that are feasible without a strategic review or significant investment have been made" (all Scott, 2010, p.23). Not *all* improvements, surely: more could be done to improve biodiversity and to encourage sustainable travel, for example.

Despite this, some of the Step 3 Descriptor *does* seem apt: it mentions revisioning and a school review, which *did* happen from 2005/06 onwards, resulting in the sustainability features of Maincross College's new campus. The visioning was *not* limited to, or specifically focused only on sustainability, however, so perhaps the spirit of Scott's Descriptor is not met by what I found at this College. The "carbon reduction strategy [and] biodiversity enhancement strategy" he mentions are not in place, and cannot therefore be monitored "as a normal part of school review" (Scott, 2010, p.23).

Overall, Maincross College appears to be closest to Step 2 for Natural & Built Capital, with planning having occurred, signalling a potential move towards Step 3, but with some areas no further on than the "Limited responsive...conventional framings..." described at Step 1 (Scott, 2010, p.22). Across the three foci for Scott's Descriptors, the College is generally at the stage of 'Some assimilation'

– Step 2 – with the ambitions of the leadership and the planning and features of the new campus heading towards a Step 3 ‘More strategy’ status, but Human & Social Capital really only at Step 1.

This is partly because Scott’s descriptor focuses on awareness raising and understanding as much as it does on actual infrastructure. However, it also seems to confirm what data analysis suggested about the aims of building a new campus and promoting Maincross College as a ‘sustainable school’ not quite being realised *in terms of the actions of its members* or the policies and influence of the College. Failure to commit completely to sustainability as a fundamental part of, and benefit to, education, may lie at the root of this.

6.3.2 Comparing Maincross College with Models of Culture

Artefacts

I have already discussed the campus itself at length above, but another example of the ‘surface’ Step of the model, ‘Artefacts’ (Schein, 1990; see Figure 4.3), is the Maincross College website. This is one part of the ‘face’ of the College, how it presents itself to the ‘rest of the world’. As such, one would expect the content to be carefully chosen to represent the views of the Leadership of the College, and plenty of the content is written by senior members of staff, for example in the College newsletter, available on the website. The website, when I visited, had a dedicated section on their Specialism, stating that the school had dual status, including sustainability; there was also a section under ‘College Information’ about their Eco-Schools work and other sustainability-related projects. The ‘Welcome’ section of the website, written by the Principal, mentions the Specialism and work in the community and about the environment that this has included. Something very

similar can be found in the 'Welcome', introductory section of the College Prospectus, also available via the website ("There have been a number of key events where students have worked alongside [the community] to broaden their knowledge...in particular, of environmental issues"). Table 6.2 includes further examples of surface manifestations of culture at Maincross, and their implications:

Manifestation	Impacts	Implications for Sustainability
Ponds and Planted Beds on School Campus	Demonstrates school's understanding of the benefits of a variety of habitats; that they were un-cared-for and littered demonstrates the difficulty the school had in moving to the new campus while maintaining a commitment to sustainability	Mixed messages: the school gave a positive message about biodiversity and habitat by including variety of areas around the campus, but a negative one by allowing them to become extremely neglected
Wind Turbine/Sedum Roof	Both demonstrate the importance of aspects of sustainability to the new campus; both were rather remote in terms of actual student experience	Generally positive: including these features in the new building shows that sustainability ideas were important in the building of the new campus, though they were not yet being used in teaching and learning
School Website	Large volume of sustainability-related information on the 'outward face' of the school; sustainability (unofficially) recorded as part of the school specialism	External members of the school (especially parents) are presented with a very positive image of sustainability and its wide-ranging importance to the school
Display Screens	Taking the place of wall displays, these screens showed a looped display of information about school events and other notices	Possible negative effect on student participation in school leadership: these screens limited the opportunity for students to display their own notices
Locked Doors	Corridor doors were locked during lessons: anyone without the necessary pass was unable to move about the school	Reinforces impression of a school where rules must be followed: possible negative impact on student involvement in leadership
Waste Area	Materials recycled from classrooms and other school areas	An excellent example of reusing and recycling resources, although not accessible to students, and many staff may have been unaware of the facility

Table 6.2: Surface Manifestations of Culture at Maincross College

Espoused Values

Part of the 'surface' image of the College is its work on Science and sustainability, and comparing data analysis results to the second Step of Schein's (1990) model, where 'Espoused Values' may be evidence of the philosophies of the members of the organisation in question, seems to give a similar direction. Where values around sustainability were espoused, particularly by the Leadership of the College, they made it clear that they were proud of the fact that they had successfully bid for the new sustainability-enhanced campus, and had established strong links with the community through their Specialism Theme Days and primary school links that allowed them to consider spreading the sustainability 'gospel' that way.

Assumptions

However, the same interviewees also made it clear that examination success was the main priority and task of the College. This leads me to speculate that the 'Basic Underlying Assumptions' (Schein, 1990) at Maincross College are that education *is separate from sustainability, and more important than sustainability*. Sustainability *is* important, but examination results are the *true* aim of education and are therefore *more* important: this explains the pause in sustainability work caused by the move to the new school, for example, when, as several interviewees explained, the priority was the "prime function" (to use Laurel's phrase) of improving examination results.

Examination results were mentioned by several staff I interviewed, and it seemed to be their assumption that educating students towards examination results and sustainability were not naturally compatible. When pressure increased to improve examination results, Maincross College chose to focus on

what was perceived as 'education' because this, not sustainability, would improve results. This contrasts markedly with Scott's phrase in his Step 2 Human & Social Capital Descriptor (see Section 6.3.1, p.224): "a focus on sustainability will contribute to enhancing student achievement" (Scott, 2010, p.18).

Meyerson & Martin's Model

Using Meyerson & Martin's model (1987), which suggests looking for subcultures, I did not find any evidence of any different cultures in the College, at least as regards sustainability. One member of staff that I interviewed, Andrew, seemed to have a more sophisticated understanding of sustainability, and Steve, the Vice Principal, discussed the need to change behaviour around energy use, rather than designing the new buildings to do this entirely automatically. The Governors discussed whether it was necessary to have a single 'Sustainability Policy', or better to include sustainability across the board in policies. Andrew, Steve and the Governors all showed some understanding of the *complexity* of working towards becoming a sustainable school, but the Governors also said, in the same interview, that examination success was the main priority for the College. Even where there is a sophisticated view of sustainability developing at Maincross College, sustainability is still separate from, and inferior to, educational achievement as a priority. The fact that sustainability was side-lined shortly before, during and after the move to the new campus seemed to be accepted as natural and inevitable by all participants. I found no-one who differed from this view, so I found few suggestions of a sustainability-orientated subculture. The culture at Maincross focused much more on student behaviour and examination success: it is again worth emphasising that staff members were conscious that their GCSE results

were poor compared to the national average, and this was a big preoccupation at Maincross.

6.4 Maincross College: Chapter Synopsis

In Chapter 6, we have seen what the data from Maincross College suggest about the College's approach to sustainability. In terms of their beliefs, sustainability is seen as an important part of the school and there is plenty of pride there regarding successful school projects related to sustainability, especially those involving the local community and the new campus. However, 'Lisa', Head of Science when I visited, pointed out a difference between these beliefs and the way the College operated, and data analysis provided more evidence of this gap. This school has publicised its sustainability credentials, but, during my visit, there was little emphasis on sustainability in lessons, there was no organised student involvement in sustainability, and even the new campus was used very little in teaching. I found stronger emphasis in the school culture on improving examination results, which was perhaps not surprising given that academic achievement as measured by GCSE results was below the national average.

This is not intended as a criticism of the way the school operates, more of a comment on the difficulty of integrating sustainability into the teaching and operation of a school in the wider context of pressure to achieve examination results, cope with social deprivation in the area and so on. The gap between rhetoric and reality might have been the result of the severe disruption caused by moving to the new campus, which was undoubtedly a great interruption to the normal routine. That the move was *allowed* to disrupt sustainability at the College quite so much (their Eco-Schools Green Flag Award has lapsed, there

is no student group, and so on), however, is also owing to the prevalent culture around sustainability at Maincross College. Most, if not all, staff do not see the full potential for linking sustainability and education and integrating sustainability across the 'Whole School'. Sustainability is separate from education, and education towards examination results is the *raison d'être* of Maincross College, not sustainability. Where disruption put pressure on the school, 'something had to give', and that something was sustainability, because it was not seen as contributing enough to examination results to be worth the time and effort involved. I had expected Maincross to be the most advanced of the three case-study schools, but I found that this was not the case. The large investment in transforming the physical school had not (yet) led to a similar transformation in the school culture.

Chapter 7: Discussion & Review

7.1 Chapter Introduction

This chapter provides a cross-cutting analysis and review of the key findings emerging from the three case-study schools, after a final phase of analysis. I also refer back to Chapter 2, in order to locate the broader themes which have emerged in the context of the literature review, and to Chapter 3 to re-introduce the two further schools I visited for much shorter periods, Valleyside and Maunder. These schools were named repeatedly among those I consulted as among the leading examples of sustainability in secondary schools in England. As such, it is fruitful to look at the approaches Valleyside and Maunder took to the inclusion of sustainability in their everyday practice, and compare this with what I found at Underwhin, QAC and Maincross. These two ‘benchmark’ schools will also be useful for comparison where I have drawn more general conclusions about certain aspects of my data. In Chapter 3 I discussed the extent to which I could generalise from my case-study data, and including these two additional schools allows me to do so with more confidence.

Chapter 3 contains a section describing how I identified the key topics that appear in this chapter (see Section 3.9.2). I identified five topics that were prominent in *each* of my three sets of data and which are also discussed in the literature about sustainability in secondary schools. They are treated separately below, but I will also make it clear that they are intimately inter-related. After a brief statistical review of Valleyside and Maunder, these key topics provide the framework for this chapter, which discusses each one in turn:

- Understanding the concept of sustainability (and sustainability education).

- Leadership for sustainability education and the ‘lone champion’ model of sustainability in schools.
- Contradictions associated with sustainability education.
- Links between campus and curriculum in sustainability education.
- The importance of action in sustainability education.

7.1.1 ‘Benchmark’ Schools

As discussed in Chapter 3, I made brief visits to two schools that are widely considered by school sustainability experts to be among the leading proponents of sustainability in UK secondary education. Although I was able to look at school documents before and after my visits, I was not able to undertake the same level of data collection at these schools as I did for my main case-study schools, and no attempt was made, therefore, to grade these schools using the Scott (2010) model. However, their inclusion is useful, even in this more constrained form. In both cases, these schools are located in towns with fewer than 20,000 population, making them comparable to my case-study schools.

Immediately below are standard profiles of the two schools. Details of their approaches to sustainability are woven into the chapter’s text as and when appropriate to the themes under discussion; to provide confidentiality, the schools’ real names are not used.

7.1.2 Key Statistics for Maunder School

All the statistics included in these tables are from the Ofsted website, using their terminology. Figures have been banded or averaged wherever possible to aid anonymity.

Criteria for Selection	Location	Eco-Schools Awards
Recommended by national ESD experts as an outstanding example of a sustainable school. A 'benchmark' school.	Market Town area with 10-15,000 inhabitants.	4 Green Flags over a ten year period.

Pupils on Roll, 2011	Specialism	Provision
1000-1249	Languages & Technology	11-16

	Average, 2008-2011
%age achieving 5+ A*-C GCSEs (or equivalent) including English and Maths GCSEs	59.00%

2011 GCSE Grades	Low attainers	Middle attainers	High attainers
Average grade per GCSE	E-	D+	B

2011 Figures	
Total headcount of teachers	70-79
Number of teachers (full-time equivalent)	60-69
Total headcount of teaching assistants	15-19
Number of teaching assistants (full-time equivalent)	10-14
Total headcount of support staff	30-39
Pupil: teacher ratio	17-18

Last 3 Ofsted Inspection Grades (most recent first; see Appendix 1)			
	2(2)	1	No Data

The nearest state secondary school to Maunder is less than 2 miles away. According to the most recent Ofsted report on the school, Maunder is slightly larger than the average 11-16 comprehensive. Most students are of White British heritage, but this figure is nonetheless below the national average, as are the percentage of students entitled to free school meals and the proportion of students with special educational needs and/or disabilities. The school has received a National Teaching Award³⁴ for its contribution to ESD.

³⁴ See http://www.teachingawards.com/how_it_works.

7.1.3 Key Statistics for Valleyside School

All the statistics included in these tables are from the Ofsted website, using their terminology. Figures have been banded or averaged wherever possible to aid anonymity.

Criteria for Selection	Location	Eco-Schools Awards
Recommended by national ESD experts as an outstanding example of a sustainable school. A 'benchmark' school.	Parish area with 15-20,000 inhabitants.	1 Green Flag

Pupils on Roll, 2012	Specialism	Provision
500-749	Technology	11-16

	Average, 2009-2012
%age achieving 5+ A*-C GCSEs (or equivalent) including English and Maths GCSEs	56.75%

2012 GCSE Grades	Low attainers	Middle attainers	High attainers
Average grade per GCSE	F+	D	B-

2012 Figures	
Total headcount of teachers	40-49
Number of teachers (full-time equivalent)	40-49
Total headcount of teaching assistants	15-19
Number of teaching assistants (full-time equivalent)	10-14
Total headcount of support staff	15-19
Pupil: teacher ratio	15-16

Last 3 Ofsted Inspection Grades (most recent first; see Appendix 1)			
	1(1)	3	3(2)

NB 2012 figures used: 2011 figures unavailable.

There are 3 secondary schools within 4 miles of Valleyside School. The most recent Ofsted report says that the school is smaller than average and has a higher proportion of White British students than the national average figure. The proportion of students with special educational needs is higher than the national average; the number of students entitled to free school meals is very close to the national average. The school was naturally delighted to be

awarded a top grade in its last Ofsted inspection, an outcome which reflected a clear trend of improving academic results.

7.2 Main Themes from Meta-analysis

7.2.1 Understanding Sustainability and Sustainability Education

I have already noted (see Sections 1.3, 2.1, 2.2 and 2.4) the difficulty in defining sustainability as a concept, and, as long ago as 2005, the Select Committee Report on Environmental Audit (Environmental Audit Committee, 2005, Para.72) found that there was “a genuine lack of knowledge about what this concept actually means’ on the part of teachers”. I found the same lack of understanding in the data from all my case-study schools, but it was not limited to teachers: the students, parents, non-teaching staff and governors I interviewed generally had only a very limited understanding of the concept. I also found evidence to support Martin *et al.*’s (2013, p.1527) finding in their review of ESD in the UK that “whilst the phrase ESD was increasingly used, this did not imply a shared understanding”.

At my three case-study schools, a large proportion of interviewees did not have a clear understanding of sustainability. Ofsted (2008, 2009) and Symons (2008) in the UK, and UNECE (2008) and Wals (2009) overseas, all found that schools attempting to focus on sustainability tended to focus heavily on the environmental aspect only; WWF-UK (2009) found that economic aspects of sustainability were over-emphasised in schools *in general*, and Wals (2009) suggests that this may be the case in some of the countries included in his study. Many of those I spoke to who did have an understanding equated sustainability with environmental concern or action, identifying for example that

their school had a recycling scheme, or used alternative energy sources. The areas my interviewees identified as examples of sustainability in their school were also impacted upon by financial considerations, typically: for example, they stated that alternative energy sources saved the school money.

Given these findings, it is hardly surprising that very few of my interviewees identified the *social* aspects of sustainability in their school's approach. Where they did, it tended to be in terms of staff taking personal responsibility as an example to students (in most cases, interviewees mentioned this in the context of their *failure* to set a good example) and 'Pippa' at QAC identified the fact that the social aspect of sustainability was often forgotten in her experience (see Section 5.3.2). All three case-study schools had a record of raising money for charity, and had many links with the local community that met with the sustainability requirement to support community cohesion and increase social capital, *but there were scarcely any examples of an interviewee – or a policy – connecting this to wider issues of community links in sustainability* (Ofsted, 2003, 2008, 2009; Birney *et al.*, 2006; Symons, 2008). Comparing understanding across the three case-study schools is, of course, an imprecise measure³⁵, but, roughly speaking, at Underwhin I met only one or two staff with a good knowledge of sustainability; at QAC I met between five and eight staff with this level of understanding; and at Maincross I met between three and five. This reflects my impression of the level of understanding of sustainability across each school and also its importance in the culture of each school.

At Maincross, an agenda to spread a message about sustainability to the local community was made explicit by the Deputy Principal there, Steve, who was a

³⁵ And I have not included comparable figures for Valleyside and Maunder, as I met many fewer members of these schools.

central figure in the school's stated commitment to sustainability. However, this did not necessarily seem to be the same as building relationships with the local community: it was at least partly a case of passing on a message and trying to influence behaviour – talking to the community, rather than acting with them – in the form that Steve expressed. It seems to me that Steve's position was in line with that of the government's, in terms of trying to influence behaviour, but relying on passing on knowledge rather than developing skills and exploring values and attitudes through discussion (Ofsted 2003, 2008, 2009; Huckle, 2006; Scott, 2009; Martin *et al.*, 2013).

I believe that this is a basic misunderstanding of sustainability, which requires critical thinking, whereas directly influencing behaviour is an attempt to bypass that. This seems to me to lie at the heart of the problem with sustainability in education: there are fundamentally different views about *what education is for*, based often on different political views. The current paradigm demands the pre-eminence of economic considerations, resulting in an expectation on education to influence behaviour directly by passing on knowledge, whereas sustainability requires economic considerations to be balanced with societal and environmental concerns, which is extremely difficult to achieve in that current paradigm. Vare & Scott (2007) explain the need for *both* approaches: sometimes, it is necessary to transfer knowledge, but higher order learning is always necessary too.

A few individuals at each of my three case-study schools did show greater understanding of sustainability. Certainly, I found the 'Economy, Society, Environment' model of sustainability in use in KS3 and KS4 Geography lessons at Underwhin, and the Head of Geography at QAC gave me the Brundtland

definition of sustainability virtually word for word when I asked him if he was happy that we could use the term in our interview. Andrew, who was the Science Liaison Coordinator at Maincross, also talked very knowledgeably about the societal aspect of sustainability. Given that his role was based on good relationships with the local community, perhaps this is not surprising, but it was very unusual during my three case-study visits. These schools included sustainability in *lessons* but failed to promote or include it in other areas.

By contrast, at Valleyside and Maunder, the 'benchmark' sustainable schools I paid short visits to, *a great deal* of the discussion I had with senior members of staff with sustainability responsibility in each school centred around the roles their schools played in the local community. 'Jeff', a Vice Principal at Maunder, with whom I spent most time during my visit there, went so far as to say that he thought the societal aspect of sustainability was more important than either of the other two.

Given that 'strong' sustainability (Neumayer, 2011) tends to emphasise all three aspects, this is a rather controversial view, but I believe that he was trying to make the point that the societal aspect is the one most neglected in schools where sustainability is less of a priority. If one aspect of the balance required for a truly sustainable approach is to be favoured, then that which is currently most neglected seems arguably to be the best choice: a case of redressing the balance, as it were.

Valleyside was also very strong in terms of community links, and Maunder seemed to be well aware of the need for strong community involvement, whilst working towards improving in this area further. I noted, in the Valleyside website, a page on their specialism, stating that the school considers climate

change to be the most urgent crisis facing humanity, but that this must be balanced against working to eradicate global poverty and helping students to become better citizens: suggesting a full understanding of the concept of sustainability.

Although staff at both Maincross and QAC talked about their school being or becoming a focus of the local community, from what I saw, in my much shorter visit there, I believe Valleyside fulfilled that role more fully than either of these other schools (or Underwhin). This is based on a number of pieces of evidence I found at Valleyside. 'Jerry', the Deputy Principal, and 'Vince', the Principal there, both mentioned the school's choice of specialism having been taken with the needs of the local community in mind. Vince also told me that the school had worked closely with local sustainability experts when establishing sustainability as one focus of their specialism, and discussed the school's links with four local secondary schools in a Trust and with local primary schools; local primary school students spend a year going through Valleyside's 'Transition' process in Year 6 before they join the school for Year 7. A letter to parents available on the school website, about the school's latest Enrichment Week, showed that this event included a day working on their links with a partner school in Africa, a day tidying up the local town, and a Community Day.

Valleyside were praised in their most recent Ofsted report for their work with the local community, receiving a Grade 1 for 'promoting community cohesion' via sustainability. The school website contains a page on their specialism, with a comment that it is focused through three areas: one of these is community; the other two of these areas are sustainability and Science, Technology and Maths, subjects through which they particularly emphasise their specialism. All three of

these are also recorded on the school's internal audit report mapping where their specialism occurs in school operations. Some of these community links were present in my case-study schools (for example Maincross also has a focus on their local community through their specialism), but never in the quantity and combination I found at Valleyside.

7.2.2 Reasons for a Lack of Understanding

The reasons for a lack of understanding of the concept of sustainability are hard to determine exactly, but it seems very likely that its relatively recent adoption by government and its complicated, multi-faceted, contested nature all mean that it is a term that few members of schools have genuinely fully grasped (Environmental Audit Committee, 2005). However, it is probably also fair to assume that there was a certain lack of interest in finding or working out what sustainability in all its possibilities meant in all the case-study schools. It was abundantly clear from my data that sustainability was a much lower priority than examination grades in all three case-study schools I visited (see Section 7.2.4).

Sustainability practice does not necessarily need to be based on a sound or detailed understanding of the principle; nor does it need to be *labelled* as sustainability to be a successful part of sustainability at a school. However, although unintended advances are, of course, to be welcomed, they are absolutely no substitute for a properly planned and coordinated approach based on the school's culture and values. One solution for this may be to increase the priority given to sustainability in Initial Teaching Training and CPD so that teachers are better prepared when they begin their jobs and are able to develop their sustainability skills and understanding while they are working (see Section 8.3). Nonetheless, my research showed that at least some important

sustainability success *can* be achieved where the institutional sustainability culture is not strongly developed.

For example, at Underwhin, I found established sustainability practices within the Catering Department. Here, I encountered distributed leadership, to a certain extent, and student involvement in some aspects of policy; links between teaching and learning and the operation of the campus; a purchasing policy based on ethical considerations and favouring local suppliers; the beginnings of a system where food was grown by students on campus and used in school meals; and wider recycling of waste materials than anywhere else in the school. The broader understanding of sustainability I found when I interviewed the Head of Catering, Micky, who explained the social significance of their ethical purchasing policy and praised the employment in school kitchens of the parents of schoolchildren, was surely no coincidence – there appeared to be a better *understanding* of sustainability in this department.

As recommended by Birney & Reed (2009), both Maunder and Valleyside also carried out extensive audits to identify current sustainability-related practices, thereby developing a more thorough understanding of the schools' *existing* relationship with sustainability. Valleyside mapped sustainability activities by school 'house' and by subject, but also included the school library and related staff and resources, ICT support, the school careers service, the Inclusion team and the Work-based Learning team. This indicates that Valleyside recognised the need for a whole-school approach to sustainability (and therefore had a fuller understanding of the needs of sustainability). Carrying out this kind of audit was also both a signal of the school's commitment to sustainability and a means of promoting a shared expression of the school's understanding and

practices. None of the three case-study schools had carried out this kind of audit or review, suggesting that they did not recognise the value of doing so.

I have already said that my five key topics for this chapter are inter-related. This topic, understanding the concept of sustainability, is, in a sense, at the heart of the problem schools have with sustainability, as misunderstanding or a partial understanding of sustainability contributes to the other concerns I have identified. For example, believing that one person can be responsible for sustainability in a school suggests an insufficient appreciation of the holistic, whole-school and shared-responsibility approach sustainability requires (see Sections 7.2.3 and 7.2.5); in terms of priorities, sustainability education requires a focus away from a concentration simply on examination results (see Sections 7.2.4 and 7.2.6); it needs to be embedded in the culture of the school, as it applies to all aspects of school, and this means for example that combining campus and curriculum is essential (see Section 7.2.7); sustainability in school requires both thought *and action* (Sterling, 2001; Orr, 2004; Vare & Scott, 2007; see also Section 7.2.8). At present, my research suggests that very few school members are sufficiently confident of their knowledge and understanding of sustainability to feel equipped to engage with it whatever their role in school.

7.2.3 Leadership for Sustainability Education and the 'Lone Champion' Model of Sustainability in Schools

Scott (2010) suggests that looking at leadership for sustainability in a school is the most important part of any study in this area; I came across a variety of references to leadership when gathering data. For this section, I will focus on the overall model of leadership used by schools rather than specific aspects of leadership. The idea that one person should be appointed to take responsibility for sustainability at a school (Symons, 2008), was prevalent, to a greater or

lesser extent, at each of the three case-study schools. At Underwhin, several interviewees who favoured a greater engagement with sustainability suggested that the situation would be improved by the appointment of a co-ordinator to oversee work towards becoming a sustainable school, or identified the absence of such a person as a hindrance to progression towards sustainability at Underwhin. However, if an individual is given responsibility for sustainability at a school and then leaves the school, there is a danger that their work will not continue (although the post they filled, for example as a Science teacher, might).

At QAC and Maincross, less emphasis was placed on the importance of having a single person with overall responsibility for sustainability, but certain individuals were identified as being 'the ones' interested in sustainability in both schools. Responsibility for sustainability at QAC lay with the Finance Manager but two other members of staff were identified by their colleagues as leading on sustainability in an informal sense; at Maincross, a Deputy Principal had some responsibility, with two teachers appointed as Environmental Education Co-ordinators and a third as a Science Liaison Coordinator working with the local community. None of the three schools had developed the sort of collective responsibility for sustainability that is recommended by Harris (2008), UNECE (2008) and Birney & Reed (2009).

This is a particular concern when considering the situation I found at Underwhin, where responsibility was abdicated by students who said that recycling at the school would not improve because their fellow students would not take the personal responsibility to recycle. It is interesting to assess this in the light of studies by Harris (2008) and Birney & Reed (2009) above:

individuals would not take the responsibility at Underwhin, according to students (and some staff), but the literature calls for a *collective* responsibility, which includes but goes beyond individual actions. Collective responsibility may not be the same thing as a school's culture (culture embraces more than this – see Chapter 2), but sustainability in the culture of a school will promote shared responsibility, as it will become the 'norm'.

A further, subtly different criticism of any reliance on individuals is provided by UNECE:

“The concept of collective competence is vital, as it serves the demand of ESD far better rather than the individual competence (*it seems unlikely for a single person to possess all components needed for SD competence*).” (UNECE, 2008, p.4; my italics)

Members of a school *must* take collective responsibility in order to have *between them* the knowledge, skills, resources, authority, time and energy to work successfully towards sustainability.

However, Clive, the Science teacher at QAC who was identified by other staff members as the person responsible for establishing a recycling routine at the school, argued that he would not have been able to make the progress he did *without working alone*. Clive told me in our interview that he had tried to involve students and other staff in establishing a routine where recycling was collected regularly from all over the school campus, but had experienced so many delays and so much frustration that he had decided to continue the project alone, resulting in an established system which now works effectively. Clive's preference for working on his own is not supported by the findings of Harris (2008), UNECE (2008), Birney & Reed (2009) or (Ofsted, 2008).

Both Valleyside and Maunder had one strong, capable, and vocal sustainability advocate with influence based on their positions as Deputy Principals and members of the Senior Management Team of the school. I am not in a position to say if these schools were advanced in their relationship with sustainability *because* they had appointed senior staff to sustainability roles, or if the appointment of a senior staff member *resulted from* an existing commitment to and engagement with sustainability. There are differences between the roles of these two staff members – advocates of sustainability in ‘high places’ – and the role of a ‘lone champion’ for sustainability. In Maunder and Valleyside, these advocates for sustainability do not have sole responsibility: it is shared. In addition, they are senior staff appointed to oversee sustainability, and therefore in a position where they are involved in strategic decisions about school policy. In both schools, school members involved in sustainability had worked on creating an overview of sustainability across the school (Gareth, a member of staff clearly very interested in sustainability at QAC, criticised *the lack* of this sort of overall view there), and student involvement was much greater than in any of my three case-study schools.

Maunder had a tradition of student involvement in, and leadership of, sustainability issues (Symons, 2008; Birney & Reed, 2009; Gayford, 2009): the school has a number of student groups that are self-organising, established, and influential within the school. Most were originally started by students, and these groups, for example, run a Fair Trade café in the school, monitor energy use, raise money for and maintain links with schools in Kenya, and look after a vegetable garden. Four teachers *are* involved (receiving remission time from their teaching to act on sustainability), out of five school staff with responsibilities including sustainability roles: their involvement with the student

groups is as sources of information about the running of the school and as general overseers of the running of the groups. With the Deputy Principal, Jeff, the four teachers act as ESD Coordinators leading sustainability at Maunder, but do so principally by providing support for *student-led* activities.

Vince, the Principal at Valleyside, considered that student participation was at the heart of their work, and that pupils were involved in all sustainability activities at planning, action, and monitoring stages. This was reflected in the school's many sustainability-related policy documents, including audits that had identified how students were involved in community-based activities. Valleyside also saw student participation in school life in general as an important part of their school culture, conducting an audit via the school's information management system to identify how many extra-curricular activities students were involved in. The percentage of students participating in more than one extra-curricular activity doubled to 82% after the school focused on encouraging student participation.

This was also part of a concerted effort on the part of the school to improve community cohesion locally, backed by the school's Community Cohesion Policy, and to involve local people in the school's sustainability work – another indicator of a culture of inclusive approaches to the 'leadership' of sustainability. Valleyside staff audited across the school to identify community engagement and 'extended' services in the local community before creating their Community Cohesion Policy, which includes sections on consultation with students and local people, promoting interaction with the local community, and promoting student voice. A Community Cohesion Policy, promoting social sustainability, is

an advanced notion with regard to sustainability compared to the situations I found in my case-study schools.

There is a possible explanation of the situation that accounts for models emphasising a 'lone champion' and models with more distributed leadership *both* being effective. I noticed while reading the Ofsted descriptors (2008, see also Scott, 2010 and Section 2.2.2) of a sustainable school that the role of a sustainability coordinator is mentioned at lower levels of development but not at the highest level described. This may be an oversight or coincidence, and it may be because the descriptors rely on higher level schools having put in place all the measures described at lower levels (a high-achieving school with regards to sustainability has met and gone past the stage of appointing a sustainability coordinator). However, it made me speculate about whether the presence of a sustainability coordinator is beneficial when schools are struggling to get to grips with the idea of sustainability and working out how to engage with it, but that this model will be abandoned when the school becomes more adept and advanced in sustainability terms, and more members of the school embrace sustainability via the school culture. Perhaps it is a 'phase they have to go through': as discussed above, responsibility must ultimately be shared if sustainability is to be genuinely embraced and embedded.

7.2.4 Contradictions Associated with Sustainability Education (1): Sustainability versus Examination Results

I found clear evidence in the data from all three case-study schools that almost all staff considered the pursuit of sustainability to be unconnected to their school's aim of improving examination results, particularly GCSE examinations (see Figure 1.1). These examinations are taken by most students; until 2013, students were not required to continue their education past Yr 11, in which

GCSEs are taken. This probably explains why so much emphasis is placed on these particular examinations, also because these results are used in the school 'league tables' ranking secondary schools in England (see <http://www.education.gov.uk/schools/performance/>)³⁶.

Teachers focusing on GCSE grades in my case-study schools are by no means alone in this aim (Watkins, 2001, in Reed, 2009). Even advocates of sustainability like Laurel, who was Environmental Education Co-ordinator at Maincross, saw sustainability as excluded from the school's "prime function" (see Section 6.2.3, p.120). I do not believe, based on this and the other interviews I held with staff, that the perceived tension between the goals of sustainability and improved exam results was necessarily based on a belief that sustainability was irrelevant. In fact, I think it is highly unlikely that any clearly-thought-out position on sustainability was common among staff: it was simply not considered a sufficiently important function of the school to address. In fact, staff at Maincross actually distinguished between "education" and "sustainability", and it was clear that "education" was the school's priority.

Given Chatzifotiou (2002) and Winter's (2007) suggestions that governments have not given a strong signal to schools that sustainability is important, it is not a surprise that these schools decided to accord it a low priority. This situation is not limited to my case-study schools, as Reed (2009, p.144) suggests:

"In order to meet the pressures of policy requirements and the inspection of their implementation the improvement agenda has gradually become synonymous with the best student assessment

³⁶ For these reasons, because not all secondary schools in England provide education at KS5, and because there is a wider variety of subjects which may be taught at KS5, leading to greater differences between schools, I have tended to focus somewhat more on KS3 and KS4 in this thesis.

outcomes...Resilience in the system is publicly defined by test scores.”

It is worth re-stating Ball’s (1981) definition of school culture here: he suggests that culture defines *acceptable practice* for staff, and that *it is based on what the school sees as valuable*. It is unlikely that a most schools see sustainability as particularly valuable, so sustainability is not part of their culture, and, until it is more highly valued, this will not change.

I am aware that I hold strong views about the necessity for education to engage urgently with sustainability and that these views are not held by everyone. However, staff at both the benchmark schools made the point that they regarded exam success and a good education as *inseparable* from a focus on sustainability at their schools. It was not a case of ‘either’ exam results ‘or’ sustainability, but ‘both’. Although the school does not have a ‘sustainability policy’, Maunder’s prospectus includes “becoming a sustainable school” as one of the school aims: this suggests a culture focusing on sustainability and an open commitment to it. Valleyside’s school website states that sustainability is “at the heart of” the school development plan.

More tellingly, Jerry, the Deputy Principal with whom I had most contact at Valleyside, showed me a booklet the school had produced in 2010 which detailed the rise in the percentage of students achieving A*-C GCSE Grades including Mathematics and English in the first four years of the school’s specialism in, and focus on, sustainability. The percentage of pupils gaining 5 or more A*-C Grades at GCSE rose from 52% to 85%, and the percentage of pupils gaining 5 or more A*-C Grades at GCSE including Mathematics and English rose from 37% to 58%. Additionally, the percentage of pupils gaining A* or A Grades at GCSE rose from 12% to 21% in the first four years of

Valleyside's sustainability specialism. Jerry also pointed out Valleyside's improvement in Ofsted inspection grades from 'Satisfactory' (a grade 3) to 'Outstanding' (a grade 1) in this period. In addition, several studies have shown that the benefits of focusing on sustainability are wider than a simple growth in expertise in sustainability itself (Birney & Reed, 2009; Ofsted, 2009; Symons, 2008): Birney & Reed (2009) describe benefits in engagement, participation, leadership, attainment and behaviour, for example.

I have not used the grades at Maunder for comparison: the project to incorporate sustainability has been in place for considerably longer (more than 15 years), and so the same early statistics are not readily available, or indeed relevant. What is clear from Maunder's example is that the school's results have not been *hampered* by a focus upon sustainability. I recognise, therefore, that the evidence presented here is limited, and it is not possible to attribute the Valleyside improvement in GCSE grades directly and unequivocally to the school's work on sustainability. However, the two did coincide, and in this case benefits of educating for sustainability successfully were identified by the staff; alluding this to the findings of other studies (see above).

There is a growing body of evidence that schools focusing on sustainability benefit more broadly in terms of educational outcomes associated with, but not directly connected to, sustainability. Ofsted (2009) note a correlation between focusing on sustainability and improvements in teaching and learning; DCSF & Training Development Agency for Schools (2010, p.2) state that:

"Multiple sources of evidence now show that being a sustainable school raises standards and enhances well-being. This is because sustainable schools engage young people in their learning therefore improving motivation and behaviour; they also promote healthy school environments and lifestyles. In addition, the evidence shows that sustainable schools advance community cohesion by making

valuable connections between the school and its parents, carers and the wider community.”

Keep Britain Tidy (2013) make a similar assertion, and The Co-operative (2011, p.7) make strong claims for the benefits of the Eco-Schools programme:

“Eco-Schools are successful schools. That’s the headline message from the research.

But environmental improvement is only half the story. In many cases, the benefits to pupils, staff, parents and the wider school community stretch far beyond simple environmental efficiency gains. The research has found evidence of improvements to wellbeing, behaviour, motivation and cognitive skills that bring benefits to the whole school community.”

The link between a sustainability focus in schools and wider benefits has been noted elsewhere, though without the causative element (‘being a sustainable school directly causes improvements in other areas’) described above. For example, The Scottish Government (2010, p.5) say that ESD “promotes a good learning atmosphere in schools”. Cotton et al’s (2012) study is based on HE, but it is safe to assume that a similar effect is felt in secondary education: they argue that benefits from ESD in HE may arise from the similarity between ESD pedagogy and ‘good’ teaching and learning, noting HEFCE’s (2008, p.34) assertion that “In general, good sustainable development pedagogy is often simply good pedagogy”. The link between broader improvements and a focus on sustainability in schools is established, but more work needs to be done to provide stronger proof of causation.

Jerry and Vince both told me about Valleyside’s approach to embedding sustainability into the curriculum. The school is a Specialist Technology college, with an emphasis on alternative energy: this was chosen with the history and culture of the local community in mind, but also based on a moral judgement that sustainability values were essential. Through this specialism,

and via the eight 'Doorways' (Huckle, 2006; DfE, 2012c), sustainability was incorporated *into* teaching: not *at the expense of* the "main curriculum" as Vince put it. Like Maunder, Valleyside does not have a sustainability policy *per se*, but sustainability permeates policies; the school website includes a page on their specialism, stating that they aim to raise attainment by motivating students, and that focusing on technology and environmental responsibility in their specialism provides a framework for raising standards in literacy, numeracy, and teaching and learning more generally. Staff at Valleyside certainly believe that a focus on sustainability does not *detract from* focusing on improving grades, it is *responsible for* raising grades.

On the other hand, at both Underwhin, which received a Grade 1 in its most recent Ofsted inspection, and at QAC, which received a Grade 3, there was the same belief that improving GCSE grades meant focusing away from sustainability. These schools felt *different* pressures with regard to examination results, in order to improve their next Ofsted inspection grade. Underwhin felt pressure to maintain good results, and QAC to improve results, despite their only differing by 5% on average in terms of the percentage of their pupils achieving 5+ A*-C GCSEs (or equivalent) including English and Maths at GCSE: both felt pressure based on Ofsted grades. This resulted in sustainability being seen as an 'extra' requirement, taking away from the school's ability to help pupils pass their exams, even at the sustainability 'specialist' Maincross, and at QAC, where the local populace has an unusually high regard for sustainability.

Jackson & WWF (2007) make it very clear that incorporating sustainability successfully into schools requires the adoption of an approach that considers

far more than examination results, and Wals stresses the need to move away from an 'assessment culture' (see Sections 2.4-2.5). This might explain the unexpected finding, after consideration that Scott's (2010) model of the sustainable school, as set out in the form of descriptors, that QAC was the closest of my three case-study schools to being 'a sustainable school'. QAC was not selected as an example of an 'advanced' sustainable school, but there I received the most and clearest indication from staff that they disliked an emphasis solely on examination results as the measure of a school's success, and I found the most staff with an interest in and good knowledge of sustainability. The school prospectus reinforced the point several interviewees made to me that QAC's educational philosophy emphasised the importance of moral values in education.

Jerry's comments revealed the same approach at Valleyside: sustainability at Valleyside was about much more than the school's improved GCSE grades. Students learning about sustainability, Jerry said, "makes them better human beings": presumably, he meant that they were exposed to a culture where moral values were important, and he favoured development of the whole person rather than a focus solely on intellectual abilities and examination passes. This portrays a different vision of what education is 'for' in a fundamental sense.

Ofsted's view on these issues is clearly important, but seems ambivalent. The 2009 Ofsted Report *ESD: Improving schools – improving lives* contains the following quote:

"Most of the head-teachers [interviewed] found that, over the course of the survey, education for sustainability had been an important factor in improving teaching and learning more generally."

This seems to support Valleyside staff's view, but this finding was followed up on only by a requirement for Inspectors to look at sustainability in schools in parts of 2009 and 2010, and even then no grade for sustainability was given. This evidence, considered with the lack of clear advice from government for schools about what sustainability is and how to approach it (see Section 2.3), leads me to believe that central government, especially through Ofsted, gave a clear message that sustainability need *not* be a high priority for schools despite the wider benefits. Chatzifotiou (2002), Winter (2007), Reed (2009) and Martin *et al.* (2013) suggest the same.

Ofsted reports for Underwhin, QAC and Maincross contain *not a single* direct use of the word 'sustainability', and few references to wider issues relating to sustainability in general. This is particularly striking and perhaps surprising in a report on 'sustainability specialist' Maincross which followed an inspection during the successful process of bidding for funds to build the new showcase sustainability campus, and only shortly after the school adopted sustainability as a specialism and was awarded the Eco-Schools Green Flag (see Chapters 2 and 6). By contrast, the most recent Ofsted reports I read on Maunder and Valleyside made several, prominent mentions of their sustainability focus and its success.

This suggests that *the expectations of the Ofsted inspection regime are at odds with recognised good practice for sustainability in schools*. Inspectors were instructed to look for evidence of schools incorporating sustainability, but evidence of this is not present in many of the reports I read. Unlike examination results, which were reported upon whether good or otherwise, sustainability

appears only to have featured where the school considered it to be an outstanding strength.

Reed (2008, p.145) suggests that this may be because there are differing priorities between government bodies:

“...the section of the government department concerned with the Sustainable Schools agenda may or may not be talking to the section of the same department concerned with school standards and effectiveness in a way that will promote more widespread...coherence on the ground.”

However, I believe that the position Ofsted have taken *is* in line with that displayed by the rest of the government, in the case of the previous Labour government (rather confused, with responsibility passed to individual schools; Huckle, 2008) and the present Coalition government (virtually no guidance at all).

Aside from any other contradictions between Ofsted priorities and sustainability, Rauch (2004) remarks that sustainability is a ‘regulative ideal’. By this, he means that sustainability is a concept or state at which we can aim our actions, but which can actually *never be achieved* in its truest sense. Rauch does not make this claim as a criticism of sustainability, or to suggest that sustainability is an unrealistic expectation: regulative ideals should be attempted, in the full knowledge that they cannot be completely achieved, as they are laudable aspirations. However, this does not align easily with the culture of achievement expected by Ofsted – and seen in Underwhin, for example. Neither does it fit with the model of education favoured by recent UK governments: Sterling (2001) is among the sources that make it clear that movement towards sustainability is a continuous learning process (not a finally achievable end) for the whole school. Recent governments have favoured a ‘behaviour-change’

model of sustainability, reliant on transmitting information to students: sustainability education is about the whole institution learning, so there is a clash of cultures here (see Sections 2.2-2.3).

It is clearly difficult to reconcile an unattainable concept with an education system based on celebrating final outcomes like examination results. In the short term, it appears that Valleyside's example shows that *focusing on sustainability can improve GCSE grades*, but, elsewhere, *a focus on grades has been detrimental to sustainability in a school*. I am not seeking here to make an argument that sustainability should necessarily be prioritised above examination results, but rather that it is possible to achieve both aims, with a focus on sustainability helping to improve examination results.

Ofsted's own report (2009), quoted on p.253 above, suggests that teachers in schools successfully integrating sustainability are noticing improvements in other areas of the school. Previous research (Birney *et al.*, 2006; Symons, 2008; Gayford, 2009; Ofsted, 2009) and the data I collected suggest that this *may be* because students prefer the sort of locally-focused, real-life information typically used in sustainability education, they are motivated by being included in the distributed leadership model favoured by sustainability education, and they are aware of the problems to which sustainability may be a solution, and want to take their part in solving them. As such, there is not a great deal of difference between sustainability education and 'good education', which engages students and enables them to learn and act successfully, in general.

Literature on school culture suggests what could be done to help secondary schools in England to focus somewhat less on examination results and integrate sustainability more fully. Meadows (1997), Levin & Riffel (1998) and

Seel (2000, 2005) all make the case that change in any organisation has to come from within. My findings indicate that schools themselves need to change from within in order for school members to be fully committed to change; it has to be 'their' change: they have to 'own' it. Van Houtte (2005) suggests that organisational change comes from the interactions between members of the school with each other and with their environment, and the sustainability principle that social considerations are as important as all others suggests that it is vital for schools to change in line with their local communities. In fact, Argyris and Schön (1978) state that true change comes only from double-loop learning – that is, *when the system from which a culture comes is changed*. Therefore, change eventually needs to be broader than individual schools and even broader than their communities: it needs to be a systemic change in education – which results in turn in society changing too.

I feel optimistic about the possibility of this happening for several reasons, one of which is that Sterling (2001) notes that the sort of genuine change required (in terms of 'double-loop learning') comes about when there is incongruence between the system in the process of changing and external factors. Schools are currently operating at odds with the requirements of sustainability as far as climate change, social sustainability and other factors are concerned, so the conditions are in place. Reed (2009) notes that Mulgan's (2007) work on social innovation shows a very similar result: change comes from new combinations of existing practices. If schools identify that their goals do not seem to be in line with those of the education system within which they operate, they will be able to change significantly. The practices they need are already in existence: it is a case of identifying them. I also suggest that this incongruence works in both

directions, and that, as schools change, they will influence others by providing a different model of approaching sustainability.

7.2.5 Contradictions Associated with Sustainability Education (2): Student Voice

The tension between emphasising examination results and successfully incorporating sustainability in schools is not the only one I noticed in my analysis. Trying to incorporate a sustainability principle such as shared responsibility and leadership highlights another contradiction inherent in our current education system. There are clear expectations on schools to socialise their pupils and produce citizens who join society successfully, but at the same time, they are expected to produce critical thinkers who can innovate (Sterling, 2001; Huckle, 2008). These two positions are not *necessarily* mutually exclusive, but the difficulty of trying to 'fit into' society while also innovating to produce *change in* society is a real one. There is also a tension between the hierarchical nature of schools and the aspiration for democratic student involvement in school affairs. At all three case-study schools, I found problems with regard to 'student voice', which suggested to me a fundamental difficulty in accommodating the need to give students a 'say' in the running of their school. This requirement does not appear to fit easily with the 'top-down' power structures conventionally found in schools (at Underwhin, for example), or with another conventional expectation on pupils, namely 'doing as they are told'.

Harris (2008), Symons (2008) and Birney & Reed (2009) all see functioning student voice, where students are included in decisions about school policy and involved in organising subsequent action, as a signifier of the distributed leadership model necessary for successful integration of sustainability into a school and its culture. Ignorance of the requirements of sustainability (see

Sections 7.2.1-7.2.2) and its treatment as a much lower priority than examination results (see Section 7.2.4) meant that my case-study schools did not focus on involving students in the leadership of sustainability. At Underwhin, even students thought their fellows could not be trusted to recycle correctly, but this conflicts with Jackson's assertion that, in her study:

“pupil engagement was the least significant barrier which, coupled with their potential influence, indicates the value in enabling them to actively participate, and even lead, aspects of sustainability...this must be considered to be the case for both secondary and primary pupils” (Jackson & WWF, 2007, p.41)

In fact, Gayford (2009) found that *students thought that adults did not take sustainability matters seriously enough*, and Reed (2009) suggests that young people want more authentic sustainability education: they appear to have thought that education for sustainability was failing them, not the other way around.

In all three case-study schools, the vast majority of students I spoke to about student voice expressed negative views on the subject, including a class representative, part of student voice at QAC, and the members of the Student Council recycling group at Underwhin. Student voice was not seen as an effective forum for students to have a say in the way their school ran, not democratic, not an autonomous body, and not representative of student views, even at Underwhin, where meetings, unlike at QAC and Maincross, were at least regular and organised. Regular, organised meetings are, of course, not necessarily a sign of an effective body, and their absence does not necessarily indicate poor student voice. At QAC, three staff told me that they thought students were very capable of expressing their opinions, but that this often took the form of inappropriate behaviour in lessons, rather than being 'channelled' through student voice. The 'keen student' I spoke to at QAC led a group trying

to organise in order to promote sustainability at the school, and impressed me with his maturity and eloquence: his group had already organised a concert to raise money (an achievement not matched by the formal Student Council).

This might suggest that effective student voice is not necessary, or not necessarily the best way, for students to become involved in sustainability at their school: this is absolutely plausible in the same way as it is perfectly reasonable to argue that a full awareness of sustainability is not essential for one to act sustainably (see p.241). In both cases, however, there is a difference of quality between definite, planned behaviours resulting in the desired effect, and coincidentally effective behaviours. An efficient, effective, long-term approach to incorporating sustainability in a school – one that embeds it in the culture of the school – requires a conscious understanding of the requirements of sustainability, as can be seen at Valleyside and Maunder (see also Sections 7.2.1-7.2.2).

I have described what I found in my three case-study schools in terms of student voice being somewhat lacking. Had I only looked at documentary evidence, my conclusions would have been different. Underwhin, QAC and Maincross all had policies stressing how important student voice was considered to be at their respective schools; all three had appointed staff members to oversee student voice. Written provisions had been made and staff allocated, but there was a large difference between these actions, appearing to show commitment to student voice, and the relatively inadequate Student Voice *in practice*. Judging from what I saw in the three case-study schools, I do not believe that this was a deliberate course of action, but rather that the schools felt the need to have these policies in place in order to satisfy the demands of

Ofsted inspection, while feeling unable to put the required actions into place for much the same reasons. Satisfying the demands of Ofsted meant that a policy was necessary, *but these demands were too great to allow the policy to be carried out properly.*

7.2.6 Contradictions Associated with Sustainability Education (3): Sustainability and the Current Education System

Huckle (2006) points out a further tension involving sustainability and the current education system: he notes the widely held view that it is impossible to prescribe a definitive set of information/knowledge that constitutes sustainability. This goes against the usual model of education in UK schools, where a curriculum that is described in quite a lot of detail is followed; this was particularly the case under the previous Labour government, where the National Curriculum became more and more prescriptive, but is *still* the case despite the new Coalition administration's "guiding philosophy for smaller and less directive government" (Martin *et al.*, 2013, p.1525).

Vare & Scott (2007), Jones (2008) and Winter (2008) all point to a problem with delivering sustainability in schools: it cannot really be taught simply by passing on information. Orr (2004) concurs, and explains that sustainability education is about *how* learning takes place, not just what is learnt. Gayford (2009), looking at sustainability education from the point of view of the students involved, developed a set of descriptors, and categorised learning in terms of 'Content/Knowledge' *and* 'Process Abilities' – he suggests you need a balance between the two. These can also be broadly compared to 'ESD 1' and 'ESD 2' as described by Vare & Scott (2007). I commented at some length in Chapter 4 on the focus at Underwhin on external measures of success in education, and

here is another 'culture clash' between a conventional model, focusing primarily on outcomes, and sustainability education, focusing also on *processes*.

There may be room here for schools to work on the 'hidden curriculum' (Winter & Cotton, 2012) - the 'side effects' of education, like the learning of norms, values, and beliefs from spending time in the classroom and the social environment of a school. If schools feel restricted by the National Curriculum and the external emphases on examination results and league tables, those areas typically less closely associated with exams – outside the taught curriculum – may be easier to work on in terms of sustainability. Changing aspects of the school less associated with teaching and learning may feel easier, though genuinely sustainable schools would of course include sustainability inside *and* outside the taught curriculum, with the two aspects making sense in conjunction and supporting each other mutually.

I did not see any evidence of pedagogy specifically developed to reflect or promote sustainability values at any of my case-study schools. Coverage of sustainability in the taught curriculum was reasonably similar across these schools in that all approached Science and Geography in the same way (Science compulsory to the end of KS4, Geography to the end of KS3), but otherwise varied depending upon individual teachers' inclinations to include sustainability in their teaching (or not to do so). This was the case even in subjects like Design & Technology that feature sustainability in their National Curriculum; the approach to Technology at QAC was focused very strongly on sustainability, but I did not see this at the two other case-study schools. KS5 provision at each school was different, depending on staff expertise: A-Level Environmental Science was offered at QAC and Maincross, for example, a

subject taken by very few students nationally (Vidal Rodeiro & Sutch, 2013). Sustainability outside the taught curriculum also relied on individuals' keenness for the subject, and again QAC did more in this regard than the other two case-study schools.

The focus on outcomes and on detailed curricula has led some exponents of sustainability education to attempt to improve the situation with regard to sustainability in schools by examining curricula and trying to influence their contents to introduce more references to, and use of, sustainability ideas. However, Symons (2008) makes it very clear that simply changing the curriculum is not enough in this situation. Martin *et al.* (2013, p.1524) examined the difficulties in influencing educational systems, with regard to sustainability education, and found that small adjustments were insufficient to promote genuine change.

Finally, sustainability and the current education system do not fit well because, as Huckle (2006) points out, success in sustainability education is difficult to measure. Because it is not simply a matter of establishing what students *know* (as is the case with much of the examination process at the moment), progress in individuals is hard to measure. In terms of measuring schools' progress towards sustainability, I have already commented in Chapter 2 on the difficulty of finding a method, and I comment in Section 8.2.2 on the suitability of the model I chose. Sustainability does not fit well with the education system we have: it appears that *the system* needs to change for sustainability to be incorporated more widely and effectively (see Section 8.3 for recommendations on how to do this).

7.2.7 Links Between Campus and Curriculum in Sustainability Education

One aspect of models of sustainability in education that I hoped to see in my case-study schools was the ability to link teaching and learning and the running of the physical school campus, buildings and so on. This combination of 'campus' and 'curriculum' is one clear manifestation of the holistic approach essential to sustainability, and is widely recommended by commentators (Sterling, 2001; Orr, 2004). It is also suggested by the '4 Cs' model of sustainability education (see Section 2.5), where campus and curriculum are usually shown as overlapping or otherwise integrated.

I directly asked members of staff at my three case-study schools if they could suggest ways in which features of the school infrastructure and administration were included in teaching and learning at their schools (see Appendix 6). Many were given pause by the question, and, although most thought of examples (often a lesson taken outdoors in Art, Science or Geography), these were few in number. The examples also did not show much real integration of school *operation* and teaching: lessons featuring the 'campus' often consisted of a class going out into the school grounds but not any aspect of school management or administration. I believe that this also fits with the 'conventional' model of education I have described at my three case-study schools, which asserts that *learning takes place in the classroom*, and the rest of the school functions more or less separately, merely to support this. A sustainable school would take an holistic view and see teaching and learning and other functions of the school as closely linked, with the result that there would be much less division between the two (Orr, 2004).

There were a few exceptions to this general rule: for example at Underwhin, food cooked by catering students in 'lessons' was served in the school canteen. However, the general pattern was one where campus operation and curriculum content met only very rarely. I see links between this and the lack of an effective student voice I described above: in a sense, both situations portray a school culture where students are expected to focus heavily on a conventional model of learning, to the exclusion of other aspects of school membership like helping to run the organisation.

What I found at Maunder and Valleyside showed a different approach, with far more combination of campus and curriculum. The student groups at Maunder were heavily involved in certain parts of running the school: travel, energy use and purchasing, for example. At Valleyside, as at Maunder, the school grounds included well-used garden areas where lessons took place more frequently than at my main case-study schools. From this admittedly limited evidence, schools who are 'better at sustainability' are also better at integrating curriculum and campus.

Additionally, I began, through my analysis, to see a clear signal that what I encountered at Maincross showed that having a 'sustainable campus' did not necessarily mean that the campus and curriculum were combined. Perhaps it is unfair of me to draw conclusions based on a visit so soon after the school moved into their new campus, and the sustainability specialists Laurel and Fred at Maincross talked to me about being able to incorporate the sustainability features of their new campus in their teaching more as they settled into working there, which is absolutely what one would expect. Nonetheless, many staff did not seem to have considered the idea, despite the new campus design

including the key design principle that *sustainability features would have educational functions*.

Perhaps the opinion of students at Maincross helps to explain this apparent discrepancy. They told me that they had learned about sustainability having been at the school during the planning of, building of, and move to the new campus but *not* from teaching, just from proximity to the project. This suggests that perhaps they hold the limited view that teaching is limited to lesson times, but their perception nevertheless provides insight. Again, I believe, sustainability and education are seen as separate; again, campus and curriculum are seen as separate. Also, the evidence suggests that prioritising examination results has led to this situation in part, but I also believe that the (mis-)understanding of sustainability (see Sections 7.2.1-7.2.2) plays a part. Failure to identify the holistic nature of sustainability may have led to a situation where combining campus and curriculum was barely considered, if at all: understanding sustainability would suggest that it is impossible *not to* consider these two elements in relationship. Even investing millions of pounds in a 'flagship' sustainability campus did not establish the link with curriculum. This evidence suggests that fully emphasising sustainability in *existing* facilities might have been a more effective way of integrating sustainability into the school's culture than building a new campus which might be perceived as having 'done the job' of making the school sustainable.

7.2.8 The Importance of Action in Sustainability Education

Orr (2004), Breiting *et al.* (2005), Symons (2008) and Gayford (2009) all emphasise the necessity of action as part of sustainability education. It is insufficient to identify ways of being more sustainable, or merely to discuss and

clarify the idea of sustainability: it requires action based on these ideas. Maunder and Valleyside were both excellent examples of *action*, with ongoing projects working with their local communities, for example.

In my case-study schools, I found that most members of the school community I interviewed were able to give some definition of sustainability – enough for us to conduct the interview – but often found it hard to give many different examples of the way their school was putting sustainability *into action*. Similarly, where elements of sustainability were dealt with in policies and other school documents (this was rare at my case-study schools), the practice based on these policies was not consistent with the intention expressed in the documents. This was true to a lesser extent at Underwhin, where policies and school documents did not emphasise sustainability to any great extent.

Schein's model (1990, see Figure 4.3) allows us to interpret this in terms of the schools' cultures. Schein suggests that there are different levels of culture, some of which are more obvious to the observer (artefacts, actions) and some less obvious (underlying assumptions). Between these lie the espoused values of the culture, which, in my study, came in the form of interview data (directly from school members) and school documents (less directly). This suggests that it is important to demonstrate the content of institutional culture through actions, or to 'set a good example', as schools are supposed to according to the Sustainable Schools Framework (DfES, 2006; Huckle, 2006; see Section 2.3).

Of course, written, oral and observed data are all mediated through the lens of my interpretation, and I have to allow for the effect my presence had on all of this. Written documents are least likely to have been influenced – they were certainly not written with me in mind – but they *were* written to be available to

members of the school, Inspectors and so on, and are, as such, 'public'. It is difficult to interpret 'messages' from written data like this, but what I did find was a culture at each of my case-study schools that was not strong with regard to incorporating sustainability (Meyerson & Martin, 1987; Schein, 1990). The 'surface' and 'lower' levels matched reasonably well. There was a strong sustainability-favouring sub-culture I identified at QAC: elsewhere, school cultures excluded sustainability or saw it as a lower priority than academic achievement, and were consistent throughout the school in this regard.

The discrepancy between what I saw in terms of surface manifestations of school culture and evidence of espoused values has further implications. Several staff at Underwhin and QAC told me in interviews that they had been questioned by their students about the relative lack of recycling at their school: the students could not understand why they were able to recycle much more at home. This was not the only criticism of schools' sustainability behaviour I heard, directly or otherwise, from students, but it occurred more often in the data I collected. Generally, many student criticisms amounted to a concern that their school's actions did not match the messages regarding sustainability they received through the formal curriculum, and I heard from students at each of case-study schools that 'the school doesn't set a good example on sustainability' or something very similar. Gayford (2009) describes the need for pupils to feel that their school is acting on the policies and principles expressed to them and through lessons learned in their time there. If there is a discrepancy between what schools are 'saying' and what they are 'doing', there is the possibility that students will become disillusioned, seeing their role models failing to act as they are instructed to act themselves.

During my visits to schools, and afterwards, as I worked through the process of analysing the data, I considered *why* there might be a gap in the area of sustainability between intentions expressed occasionally in policies and other documents on the one hand, and actions on the other. Cynically, one might suggest that the schools were presenting an image of their work, via public documents, that they wished to portray, but failing to act in accordance with the contents of these documents. However, I have found plenty of evidence that sustainability was not a very high priority even in the policy documents at my case-study schools, at least, and I suggest that deliberate, calculated ‘deception’ of this sort is very unlikely: why would any of the schools bother?

Instead, I suggest that the schools found it relatively easy to create policy documents around, and express intentions towards, sustainable behaviour (which did not seem to be *opposed* by anyone I interviewed); putting policies into practice (and, in two cases out of three, writing any *dedicated sustainability policy*) was considerably harder. As Symons (2008) points out, knowing about sustainability and awareness of the need to act does not necessarily result in action. I believe that this was particularly the case at Maincross, where specific circumstances meant that some sustainability practices had been suspended when I visited. I was impressed to see that the school had, for example, a detailed policy relating to recycling, but I found that the practice of recycling was considerably less widespread and thorough than the policy seemed to suggest. It is easier to write a policy than to change the school culture.

I also encountered a situation at Maincross where the new heating system, intended to improve and demonstrate sustainability at the school, was causing problems for staff who found it difficult to operate effectively. This was an

example of a school taking an action to improve sustainability that was initially ineffective and negatively affected the educational function of the school: it certainly led to staff criticising the 'sustainability campus'. However, I wonder whether some problems might actually be beneficial: if the problems with the heating were solved it would have the benefit of raising awareness among school members of the sustainable nature of the campus and the reasons for this; perhaps more importantly, it would result in real-life learning from a situation staff and students are intimately involved in – the very 'stuff' of sustainability education.

In comparing my three case-study schools, I found that, according to the assessments I made of their sustainability using Scott's model of the sustainable school (2010; see Figure 4.2), QAC seemed a somewhat more consistently advanced sustainable school than either Underwhin or even Maincross with its 'flagship' sustainable school campus. I suggest that this is because more is required to achieve a truly 'sustainable school' than the (admittedly useful) facilities that enable sustainability behaviour: action is the key. Maincross had greater potential to run as a sustainable school when I visited, but was not consistently fulfilling that potential. Although Maunder and Valleyside *were* able to stimulate action on sustainability, they seem to be in a tiny minority, and I suggest that writing policies and making changes to campus are both easier to achieve than changes to behaviour.

7.3 Chapter Synopsis

In this chapter, I have introduced in more detail the two 'benchmark' schools I visited for their input as sustainability 'experts'. Both schools adhere to the National Curriculum and face the same demands in terms of examinations and

league tables as the three case-study schools I visited, but have managed to focus *much* more on sustainability. I compared their policies, philosophies and practices against what I found at the three case-study schools, where I spent much longer periods of time, and I have highlighted several areas in which these two schools have clear differences from my case-study schools which appear to give them an advantage when dealing with sustainability:

- In both of my 'benchmark' schools, I found a more widespread, deeper, understanding of the concept of sustainability (albeit that I spoke to a very small sample of school members, who were at least partly a 'self-selecting' sample). This included a focus on social sustainability in both schools, which I believe is a key piece of information.
- Both schools have members of staff in senior positions who are heavily involved in sustainability, but they have also managed to include students in a meaningful way in decisions about sustainability and actions arising from these decisions. Their leadership structures allowed for sufficient devolution of power so that leaders in sustainability emerged at different levels of the leadership structure and in different groups within the school. This seems to confirm the findings of earlier research on sustainable schools.
- Both schools have been better able than my case-study schools to combine teaching and learning with the running of their campus and buildings so that students get real-life experience and the campus becomes a learning resource. This is one way in which they have been able to take action on sustainability, acting on policies. This again is supported by, and supports, previous research.
- Schools should have no concerns that an emphasis on sustainability will negatively impact their examination results. In particular, Valleyside's

example shows that improving sustainability in a school can also improve examination grades.

I have noted two areas in which there are unresolved tensions in sustainability education. One of these is the involvement of students in running their own school through the vehicle of 'student voice'; there is also a problem with the current single-minded focus on examination results and league tables, which makes sustainability extremely difficult to implement fully in schools. In the next chapter, I further reflect on these conclusions, suggest some ways in which they might be acted upon in terms of changes in policy and school practices, and reflect on the process of research.

Chapter 8: Conclusions & Recommendations

8.1 Chapter Introduction

The previous chapter reviewed the results of my cross-cutting analysis of the data from the five schools involved in my research. The key findings that emerged fell into five categories:

- Understanding the concept of sustainability (and sustainability education).
- Leadership for sustainability education and the 'lone champion' model of sustainability in schools.
- Contradictions associated with sustainability education.
- Links between campus and curriculum in sustainability education.
- The importance of action in sustainability education.

In Section 8.2, I reflect initially on the methods and methodology I followed in researching sustainability in secondary schools. I also critique the theoretical models (Schein, 1990; Scott, 2010) used to provide a comment on findings from data from my participant schools.

Section 8.3 contains recommendations based on my findings and experiences. I consider what might have to change in order for sustainability in secondary education to become firmly established. This section also explores what schools might do, outlining what a sustainable school might 'look like' and what the main barriers to achieving this seem to be, and then providing some key recommendations for schools and policy makers.

Section 8.4 evaluates my research, returning to my original aims, and discussing both how this PhD thesis contributes to our understating of sustainability in secondary schools and the limitations of the research. Section

8.5 contains some suggestions for future research, and I conclude with a note on my own feelings about the situation.

8.2 Reflective Commentary on Research Methods

In general, I was satisfied with the methods used to collect and analyse data and to present my findings. I have gained a useful grounding in qualitative research methodologies and a selection of related methods through this PhD thesis. I particularly enjoyed my time visiting schools and meeting people who are grappling on a daily basis with the problem of integrating sustainability into their already-busy working lives; I aimed to gain an accurate impression of their opinions and to reflect these whilst also drawing out recurring themes in the larger dataset.

I now reflect chiefly on the approaches I used in analysing the data collected. Firstly I consider data analysis, a topic discussed further in O'Sullivan (2013), then the theoretical models used. My thesis has utilised research methods that will be familiar to many readers and have been used widely in education research – with the exception of the models from Scott (2010) and Schein (1990). Therefore I have commented below more thoroughly on these two, with most attention on the Scott model, which is the newest and least used. Further reflection, on the impact I had on the research sites and participants, and on the data collected, is in Chapter 3.

8.2.1 Commentary on Theoretical Models used (1): Sustainable Schools Descriptors

As part of my analysis, I used Scott's model (2010), which is a set of descriptors for assessing the extent to which a school has embraced sustainability in Leadership, Human & Social Capital and Natural & Built Capital (see Appendix

11 for the full model, and Figure 4.2 for a summary). It is worth noting that *Scott does not state anywhere that he intends this model to be used in the way I did*. Whilst I found that there were some inconsistencies in the descriptors, it is certainly very challenging to ensure absolute consistency in this sort of tool between the sets of descriptors.

It is interesting to note that the area in which least progress had been made in two of my case-study schools was Natural & Built Capital (see Sections 4.3.1 and 5.3.1), despite this being one where a school can make progress towards sustainability without so much emphasis on involvement from the staff and members of the local community (which, of course, is centred in this model in Human & Social Capital). One might expect this to be the other way around: where a school is beginning to address sustainability, putting measures in place around the campus without having (where necessary) to persuade people in and around the school to be part of the change can often be *easier to achieve* (although, as I have noted in Section 7.2.8, facilities do not necessarily result in action).

However, Scott's descriptors for Natural & Built Capital are considerably briefer than those for the other sets, meaning that judgements about whether a school is at one stage or another will be much more 'cut and dried' with this set of descriptors than with the other two. This is clear when considering both Leadership and Human & Social Capital, where judgements between stages were hard sometimes to make, as part of the descriptors for Step 1 were met, but, equally, those for Step 2 were partially met as well (e.g. see pp.148-151). For this reason, a system of classification with the capacity to grade schools as being 'between' levels (e.g. Level 1-2 or 1+/-), as I did, might be useful if

Scott's model is used further. The relatively small differences in grading between schools can be explained by these factors, as well as the fact that schools are severely restrained in what they can do towards sustainability (Scott & Gough, 2003).

I am also interested to see that Scott says that "progress through each of these [areas] is independent of each other, and leadership sets limits on what can be achieved" (Scott, 2010, p.24). This seems contradictory to me: if leadership sets limits on the overall situation, then surely progress through the other two areas is dependent on progress in leadership? It seems likely from looking at data from QAC, for example, that progress in each area *is not independent of the others*. For example, leadership decisions to appoint a fund-raising member of staff resulted in:

1. the school's ability to undertake projects that improved built capital, in the form of renewable energy sources, and
2. the appointment of more members of staff to work on sustainability-related projects, improving the school's human capital (and, through their work, social capital and natural capital too).

Scott's assertion (2010) that leadership is extremely important – particularly in the early stages of progress towards sustainability – was supported by my research. Where there is not the social capital to facilitate the emergence of leaders in sustainability, the existing leadership structure is clearly the mostly likely source of leadership on sustainability. As social capital increases and other members of the school community are more involved and feel more empowered, leadership across a broader set of people becomes much more likely. This gives weight to my suggestion (see Section 7.2.3) that a 'lone champion' for sustainability may be of use to schools early in their attempts to

address sustainability, but is a position that should prove redundant as they become more advanced.

I also note that Huckle (2006) and Scott (2009) highlight personal comments from fellow academics making the point that the best indicator of a school's progress towards sustainability would be one drawn up *by the school itself*. I agree, in that this would demonstrate an advanced understanding of sustainability and of the situation in which the school found itself, but even my benchmark schools would currently struggle with this task, and it seems unrealistic to expect schools to do this. Perhaps, like the goal of sustainability itself, this is one to aim at in the knowledge that it will not be achieved yet.

Scott's model was extremely useful, despite the criticisms above: it was simple enough to use but thorough enough in most areas to be a genuine 'test' of a school's progress towards sustainability. However, I also saw great merit in the Australian AuSSI-SA model (see Section 2.5), although I decided that I would not use it to evaluate progress of schools in a different country. The fact that it has culture at its centre and that it includes understanding as an equal factor to the 'curriculum, campus and community' found in UK models add great strength to it. In Section 8.4, I recommend its use in further research in this area, on the basis that it includes these additional factors absent from other models, and that it has been designed practically to assess sustainability in schools, albeit in a different educational system.

8.2.2 Commentary on Theoretical Models used (2): Institutional Culture

I used Schein's (1990) model of institutional culture, on the basis that this model is widely recognised as an excellent one (Van Houtte, 2005; Maslowski, 2006; Schoen & Teddlie, 2008). It also complements Scott's (2010) model and my

overall interest in sustainable schools, with its holistic approach to an institution's culture, working on three levels. Some useful insights were gained, but I had some difficulties using this model, though they were perhaps more to do with investigating culture as a subject than with the specific model I used. Schein's model was the most thorough and comprehensible model I found, although it still left the meaning of 'culture' rather vaguely defined. I had a limited opportunity to apply Schein's model to data collected in my pilot (see Section 3.6), but this was one area where my pilot did not indicate future problems effectively. Full analysis of the data and a thorough comparison with Schein's model were not really practical with the limited amount of data I collected.

As a consequence, when I came to investigate cultures in the case-study schools I visited, I found that it was difficult to 'pin down' the culture of the school, despite preparing lists of things to look for, documents to read and people to meet. Schein's model defines culture in different ways, but identifying the elements of such a culture in practice proved significantly more complex. This is perhaps no surprise, as culture is generally considered to be a difficult phenomenon to analyse: Schein's model is likely to be no harder to apply than any other. Culture is an abstract concept, and questions remain about how easily it can be effectively used in research. Despite this, I identified elements of the cultures in all three case-study schools, and was able to establish to my satisfaction the extent to which sustainability was part of these cultures.

8.3 Recommendations

Having considered my findings in Chapters 4-7, I have identified some specific ways in which sustainability in secondary schools in England might be

improved. These are summarised in four sections below. I start with a list of criteria for the form a sustainable school might take, followed by specific recommendations for actions schools can take and for educational policy changes. I conclude with a discussion of the main barriers currently preventing this, as a guide to what schools should be aware of in terms of challenges.

8.3.1 *Becoming a Sustainable School*

My research confirms and reinforces much of what has been found previously, but there are also some new contributions to knowledge. From my extensive reading and my research experience of schools, a picture has emerged of what a sustainable school might be. The list below focuses on those points which were most powerfully emphasised in my own research.

Although current conditions are not particularly conducive to schools becoming more sustainable in a fundamental sense, there are nevertheless steps that they can take towards greater sustainability. I am assuming that most schools are early on in the process of incorporating sustainability, and have listed 10 areas upon which secondary schools can focus in aiming to become sustainable schools. These points are not intended to be considered as separate tasks: they are all very much inter-connected, which is evident in the cross-referencing included. This is a vision, from which strategic steps could be developed: Section 8.3.2 contains more specific and practical measures that could be taken to work towards this vision.

1. **The whole school must be involved.** This means that all aspects of the school's operations are included: 'curriculum, campus and community' is a useful model with which to look at this objective. It also means that all the people who constitute the school are involved: leadership, including

governors, teaching and non-teaching staff, pupils and ideally other local organisations with which the school has a link. It was clear to me that my two 'benchmark' schools had many more members of the school actively involved in sustainability, and had made a deliberate effort to achieve this broad base of support and engagement.

2. **The school must create a shared vision.** For all members of the school community to be involved meaningfully (see Point 1), it is important for the school to create a shared vision of what their sustainable school will be. Reference to Schein's model (1990: see Section 2.6.3) shows us the power of a group establishing its own understandings of what is 'right' behaviour. Creating a shared vision and goals will influence the school culture. This has happened at Maunder via the school aims document, but it requires planning towards the agreed goal.

3. **Distributed leadership is vital.** Involving the whole school (see Points 1 & 2) means that pupil involvement in the school's leadership must have substance and be meaningful. They must be involved in creating a vision, planning how to work towards it, and working towards the vision. This requires substantial changes in student voice compared with what I encountered at Underwhin, QAC and Maincross. The involvement of pupils should be part of a broader model of distributed leadership. By leadership, I mean decision-making as well as the leadership of actions; leaders on sustainability can be identified in, and included from, all elements of the school community. Furthermore, everyone in the school has *responsibility* for sustainability. This is another reason to focus on establishing a *culture* of

sustainability in schools, and to identify leaders on sustainability in all parts of the school.

4. **Good communication is key:** as Djordjevic & Cotton (2011, p.392) state: “In a context where work pressures are increasingly severe, there needs to be a highly consistent and clear communication strategy in order to engender change.” To start the process of forming a school culture with sustainability prominent, discussions about sustainability need to take place. After an audit of what the school is already doing about sustainability, findings need to be communicated to all members of the school. Celebrating achievements helps to maintain the momentum of change towards sustainability. QAC had an Environmental Policy when I visited, but only a handful of people knew about it. Some members of the SMT were not aware of it when questioned about formal school sustainability policies: how could it possibly be truly effective in those circumstances?

5. **Actions should reflect values.** As Orr (2004, p.66) says: “[educational establishments] educate by what they do as well as by what they say.” Several students and teachers I spoke to reported that they felt that their schools did not do enough in terms of sustainability, and some felt that their schools did not behave in ways which supported what they had to say about sustainability in policies. It is essential that schools do not simply put in place a sustainability policy: this policy *must* also be acted upon. This must be reflected in the ‘hidden curriculum’ as well as in taught lesson (Winter & Cotton, 2012). Clearly time and money have to be invested to show how seriously the school is taking sustainability. Those leading on sustainability

need time to consider what the school is doing and what they would like it to be doing (see Points 2 & 3 above). If everyone is to be involved and share responsibility, there must be enough time for discussion, consultation and planning, especially early in the process.

6. **Spending on campus, infrastructure and training should support sustainability.** One aspect of this investment will be in infrastructure: for example, recycling without recycling bins is challenging! However, a more important investment, as can be seen from Maincross' experience, is in training members of the school. Staff CPD policies must include sustainability-related activities as a high priority. I have already made the point that understanding the concept of sustainability is important in establishing sustainability practices in schools (see also Point 7), and school members are lacking this at the moment. Being helped to form their own understanding of sustainability – what it means to them as individuals and members of their school – will be extremely important, and will require the guidance of those more familiar with the complexities of the concept, via CPD. This should include school leadership in the form of school Principals and Governors, according to the importance of leadership Scott (2010) and others note. In the three case-study schools, I found very little sign of engagement with sustainability-related CPD.

7. **Understanding is as important as behaviour.** It is important for the members of a sustainable school to know *why* it is that they act as they do. This is another reason for everyone to be involved and feel ownership of a sustainability vision and actions (see Points 1 & 3), but is just as important

for signifying that they have the skills of critical thinking and analysis necessary to deal with what will be a changing concept. The sustainable school will evolve as society changes (and as social, economic and environmental considerations change with society), so members of a sustainable school will need to understand the rationale behind their project in order to be able to adopt it. Students at Maunder spend a week at the end of their first year in school, during Curriculum Enrichment Week, exploring with older school students what it is that Maunder does with regard to sustainability, and why this is important. This is their 'induction' into the culture of sustainability at their school.

8. **Pedagogic change is complex but necessary.** Even my two 'benchmark' schools were finding it hard to move so far towards sustainability as to be able to change their pedagogy. Jeff at Maunder School talked to me about this idea, but he felt that it was something that they were not advanced enough to tackle yet, constrained as they are by the National Curriculum and Ofsted inspection. However, Huckle (2006) and Symons (2008) say that the best Sustainable Schools will have an appropriate pedagogy, and if a sustainable school incorporates sustainability into every aspect of the whole school (see Point 1), it seems obvious that this must be the case.

Part of this will be the use of **cross-curricular approaches in teaching and learning**, allowing for topics to be explored in depth from a variety of perspectives, helping students to find the balance between different considerations necessary for sustainability actions. These approaches will also help students to acquire the *skills* they need to develop their own

opinions. QAC have a similar model in operation for Year 7 students, and all the schools I visited had 'theme weeks' where they collapse the regular curriculum and focus on one or a few themes. As schools favour this approach for part of the year, they might at least be able to *work towards* this form of pedagogy, despite the facts that the curriculum is well established with subject divisions, and that a major change such as this is always potentially disruptive.

A cross-curricular approach should include **a focus on 'real-life' learning**, with subjects relevant to students' everyday lives chosen, to encourage engagement with the topic and the development of useful life skills. This model of curriculum would also provide plenty of room for active citizenship among students. Just as it is important for all members of the school community to see the school acting sustainably (see Point 5), it is important for students to have opportunities to *act* on the things they learn. This links well with choosing relevant, local topics and also with a focus on improving student voice. Both Maunder and Valleyside have undertaken student-led projects with the local or global community, providing students with really valuable experiences and helping them develop leadership, team-working and other skills.

9. **Sustainability must be monitored – by students.** Students should be heavily involved in auditing and monitoring sustainability in their schools. This process helps in identifying a shared vision, in reinforcing that sustainability is a priority for the school, and in putting into practice the devolved leadership model vital to a sustainable school (see Point 3).

Students should have an important role in sustainability in their school, and the authority to report on aspects that could be improved. The 'Energy Police' group of Year 7 Students at Maunder is an excellent example, including new school members in a meaningful activity that gives them influence and responsibility in their new school.

10. Linking with external organisations benefits a sustainable school. Just as no individual can be expected to have all the skills to be able to run sustainability in isolation (Birney *et al.*, 2006; UNECE, 2008) no school can be expected to run along sustainability lines in isolation from the society in which it is so firmly embedded. Local community and business groups, national educational organisations, other local schools, NGOs and local and national government all need to be involved in a partnership with any sustainable school. The school benefits in terms of expertise, volunteers, finance and other resources, educational opportunities, work placements and so on: the wider community benefits from having sustainability-literate young people and a potential hub for sustainability in their midst. Schools need to be part of an education system and wider society which prioritises sustainability (see also Section 8.3.4).

8.3.2 Recommendations: How to Promote Change in Schools Towards Engagement With Sustainability (1): Schools

Change needs to occur at various different levels of society for sustainability to be addressed in a truly effective way, but this will not necessarily happen at the school, local and national levels at the same time or at the same rate. Whether, as sustainability challenges become more apparent, society will change and a different climate for sustainability in schools will result, is currently very hard to

say, but there is the alternative of trying to effect change from the other direction (Reed, 2008): working on how to change schools and thus influence society.

Therefore, I am concentrating firstly on how schools can change their culture without relying on change in the social system they fit into, and following Birney *et al.* (2006) in suggesting that education is (in part at least) the solution to the contextual problems in which it finds itself. These **process points** are *not listed in an order which must be followed*; I have included a 'first step' of auditing the current situation regarding sustainability, but this itself relies on school members having sufficient knowledge of what sustainability *is* and what it entails.

I have detailed **the features of a sustainable school**, above (see Section 8.3.1), and refer schools firstly to this list in terms of **goals to work towards**. They are based firmly in my research, and contain examples from the schools I visited. Further ideas could be gained by referring to the '8 Doorways' model (DCSF/TDA, 2010, p.8) and the AuSSI-SA (2010) model of what a sustainable school might be. SEEd (<http://se-ed.co.uk/edu/>) is also an invaluable source of ideas, resources and CPD in this area.

1. This first step in this process is to conduct the kind of **whole-school audit** of sustainability that both Maunder and Valleyside have completed. This should involve representatives of all groups of school members (see point 6 below) and cover the school's teaching and learning operations, administration, purchasing, governance and policy, and links with the local and global community (see point 6 below). This is a sizeable task and should be undertaken gradually, with results shared and celebrated (see

point 3 below). This task will also identify areas in which further work can be begun.

2. Schools also need to provide a range of **communication** channels (Birney & Reed, 2009; Gayford, 2009), which includes a continuing 'conversation' about sustainability at the school, including all the school members. I found problems with communication about sustainability at QAC and Maincross, where some good work was being done towards sustainability, but school members did not know about it. Seel (2000) suggests that communication helps members of an organisation to identify clearly how they see themselves and the *culture* of their organisation. Djordjevic & Cotton (2011) indicate that clear communication around sustainability is extremely important: although their study focused on Higher Education, I believe there are strong parallels with schools. They suggest a number of strategies for enhancing communication including: using vivid, captivating, memorable information; targeting communication specifically to the anticipated audience (e.g. lecturers or students); ensuring that the source is credible and trusted; and focusing on action and targets or goals. All of these suggestions could usefully be adapted in the school context to increase the opportunity for developing a culture of sustainability across the school population. Furthermore, Djordjevic & Cotton (2011, p.392) suggest that "communications which are supportive...and work from an understanding of the contextual issues are more likely to be successful than attempts to impose changes". They also cite Lozano's (2006) suggestion that different media are used to communicate a sustainability 'message', including the

Internet, and direct educational sessions, but stress that face-to-face communication is vital in this process.

3. Meadows (1997) stresses the need to involve the **whole organisation** (including students) in this discussion, and for leaders to be prepared for unexpected results: they can prepare the ground for change but cannot predict precisely what form it will take. Many more school members were involved in sustainability at my two 'benchmark' schools than at the three case-study schools. Maunder had a meaningful 'discussion' with all school members about what the school valued and documented this for all to see and to act upon (see also point 3), inviting contributions from pupils, staff, governors, parents and local community groups. This sort of inclusive project makes a statement that sustainability is important and invites all sections of the school to become involved.

4. **There are opportunities for schools to address sustainability through the 'hidden curriculum'**. For example, by using an integrated curriculum, as QAC use in Year 7, through opportunities associated with PSHE, and via assemblies, theme days and enrichment weeks. Being creative to try to introduce sustainability appears to be essential where the curriculum is so rigid and excludes sustainability in the majority of subjects. For example, the school environment can be used to enhance informal learning through the use of posters, displays, signage and so on (the Geography Department display at Underwhin was a good example of this in a school that otherwise rarely addressed sustainability).

5. **Leadership** is extremely important in this process. Seel (2000, 2005) suggests that leaders within the school need to begin the 'conversation' on sustainability, and are the best placed to take measures to counter any resistance to the change that may follow. Both of my 'Benchmark' schools had a Deputy Principal in charge of sustainability. For these reasons, I suggest that one member of the SMT and one member of the Board of Governors – as a minimum – be appointed to oversee and represent sustainability in their school. In the short term, this model may be useful as a way of establishing sustainability in the school's culture, but will be superseded as more members of the school become involved and assume responsibility. Training like the 'Connected Leaders' courses run by WWF is a good model to follow here (Dixon & Greenhill, 2012).
6. Schools also need to empower **individual members to act**. They will certainly have plenty of other priorities, but can do their best to find time to make small (or bigger) changes. Many of the sustainability groups at Maunder were founded by keen individuals. Just starting conversations about sustainability in the school will raise the topic's profile, and Gayford (2009) makes the point that students are generally keen to act. It is vital that school members *act* on the issues they identify and that pupils get the chance to make a difference by being *involved* in school projects.
7. To address the lack of understanding common in schools at present, **CPD for school members** is essential. In addition to the SEEd resources mentioned in point 1, WWF have some good resources for teachers and other school members

(http://www.wwf.org.uk/what_we_do/working_with_schools/resources/online_resources/sustainable_schools_sustainable_futures.cfm). I also suggest that interested individuals research and contact their local sustainability education groups. There are certainly active groups in various areas (for example, the South West Learning for Sustainability Coalition: <http://swlfsc.blogspot.co.uk/>; ProjectDirt is a London-based network: <http://www.projectdirt.com/cluster/lssf/>; in the North East, the NESPSS has coordinated schools' efforts: <http://www.sustainableschools-ne.org.uk/home.htm>). Contacting other local schools and this type of local network fits with the idea of working with the local community that is so important in sustainability, and is also a good way to get useful experience and ideas, and, above all, to feel like part of a group of like-minded people.

8.3.3 Recommendations: How to Promote Change in Schools Towards Engagement With Sustainability (2): Policy Context

Clearly, the changes I have recommended for schools will be considerably easier to make if they are supported, or even better, *encouraged* by government policy. Martin *et al.* (2013, p.1522) suggest that:

“...a wider adoption of ESD would result from the development of a strategic framework which puts it at the core of the education policy agenda...This would provide much needed coherence, direction and impetus to existing initiatives, scale up and build on existing good practice, and prevent unnecessary duplication of effort and resources”.

This is supported by my research findings, and Martin *et al.* (2013, p. 1537) go on to give more details of how this might be achieved, calling for a UK sustainable development strategy, with education's role in achieving SD made clear; a “strategic framework” which makes ESD a central part of all education; a commission to establish how best to include ESD in the education system; and a forum to oversee ESD, promoting and evaluating it across the UK. My

research also shows that sustainability in education needs to be emphasised more strongly in policy: as it is, school members have always been unsure what status it has. This is particularly the case now, and Martin *et al.* (2013, p.1534) suggest that there is a “reduced...focus on sustainable development” from the present government. They also note that this is having an effect in schools:

“Climate change is not the strong driver it was largely because of the uncertainty over the government’s actual policy in relation to this...

...(DfE) support for a school focus on sustainability no longer exists, despite evidence of its effectiveness” (Martin *et al.*, 2013, pp.1533-34).

Research into effective sustainability in schools shows that schools must make it clear what a priority sustainability is (Gayford, 2009): the same applies in terms of government policy showing schools that sustainability is a high priority. With this in mind, it is unfortunate that the present UK government’s policies are “influenced by a guiding philosophy for smaller and less directive government” (Martin *et al.*, 2013, p.1525), so there is even less guidance to schools than there was under the previous administration, whose contradictory approach I criticised in Section 2.3.

Although it seems unlikely in the short term, were this situation to change, and government legislated to improve the situation regarding sustainability in secondary education, I would expect to see the following, in addition to the recommendations made by Martin *et al.* (2013) outlined above:

1. **Ofsted inspecting for sustainability in schools**, to reinforce the message that sustainability should be present across the curriculum and in all other areas of school operation. The current Ofsted regime appears to be putting even more pressure on schools to achieve a certain level of examination results and pupil behaviour: this is making the situation regarding

sustainability in schools *worse*, as they are even less likely to focus on sustainability. I recognise that Ofsted inspections are currently a barrier to sustainability in secondary schools, but if they are not to be abolished, they need to be changed to reflect sustainability's high priority, at least as a short-term measure leading to greater change in the long term.

To aid schools in this process, I would expect to see Ofsted produce a guide explaining how schools are assessed with regard to sustainability. This would give school members the reassurance of knowing the criteria against which they were to be judged and would signal the importance Ofsted afford to sustainability in schools.

2. A subsequent **change of philosophy, so that less emphasis is given to examination results and discipline**, and more emphasis is given to sustainability. This is not a policy recommendation in terms of specific pieces of legislation being passed, but a call for government to re-evaluate what they expect of education and move away from the idea of producing students who can meet the needs of unsustainable business and towards the idea of producing fully rounded people with a sense of moral purpose, a greater sense of individual and collective wellbeing, and a fuller understanding of sustainability. However, one specific change that would aid sustainability by reducing the current emphasis on examination results, would be to abolish school league tables. As with Point 1 above, this is unlikely in the short term, so perhaps league tables could measure aspects of schooling more suitable to an emphasis on sustainability, such as energy used and/or generated on-site, biodiversity and so on.

3. **Greater emphasis given to sustainability in Initial Teacher Training (ITT) and CPD** for existing school members, to help with the process of prioritising sustainability. This requires funding, to put in place the resources for training and other forms of CPD and to allow staff the time to attend the necessary CPD activities.

Co-ordinated CPD across the whole education sector would help to ensure that *all* teachers, Principals and Governors received appropriate support in developing the skills and knowledge necessary to deal with sustainability in their schools. The use of Inset Days to help in achieving this is absolutely necessary, allowing time for staff to develop their own understandings of sustainability and form a whole-school approach, and signalling how important sustainability is across the school.

A sustainability-specialist qualification for teachers would also signal the importance of sustainability in education, but although this is a worthwhile ambition, the same caution about creating 'specialists' who become the only ones responsible for sustainability in their schools applies. A new qualification, nationally recognised, could be introduced on the basis that my recommendations regarding Ofsted and school leadership above are also implemented.

Sustainability principles suggest that change often comes 'from the bottom up' and that democratic participation is important. On this basis, policy is less important than it might otherwise be construed to be. Certainly, there are examples of success in sustainability in secondary education (as illustrated at

Valleyside and Maunder), which have happened despite an unclear situation with regard to policy. I have argued that schools will influence the society they operate within, and this *may* be a strong driver for the spread of sustainability in education.

However, as confirmed in my research, it is also the case that leadership is very important in institutional change and in sustainability in education (Deal & Kennedy, 1983; Busher & Barker, 2003; Van Houtte, 2005; Maslowski, 2006; Harris, 2008; Symons, 2008; Birney & Reed, 2009; Scott, 2010), and therefore the leadership provided by government is important. I have already noted that it was my experience that school members were very concerned about examination results and the way these were used to compare them with other schools: this is as a result of central government policy, which has clearly had a huge influence in schools. Legislating to make sustainability one of the core principles of education in this country could have the same widespread, influential effect.

Banathy (1991, 1992; in Sterling, 2003) suggests that it is not a question of whether to change schools (or education) from within through the actions of the school members, or from without, across society, through policy: *both need to change*. Sterling (2003, p.297; emphasis in original) asks 'how can education and society change together in a *mutually affirming* way, towards more *sustainable patterns* for both?', and notes that Banathy (1991, p.129; my emphasis) suggests that this may come about "through *co-evolutionary* interactions, as a future-creating, innovative and open system." Clayton & Radcliffe (1996) concur, stressing that complex adaptive systems, such as schools, interact with their context and change in response to change, so

effective change towards sustainability would be manifested through schools, the education system and society in a co-evolutionary relationship.

8.3.4 Barriers to the Sustainable School

As well as knowing what they could do, it is important to understand why schools find it so hard to focus on sustainability. This section outlines four principal factors combining to provide barriers to sustainability in schools, and then discusses some of the wider issues: the purpose of education, and the concept of sustainability. As my visits to Maunder and Valleyside showed me, that is not the case in all schools, these two schools have successfully chosen to focus on sustainability, with impressive results in terms of pupil engagement, relationships with the local and global community, and, particularly in the case of Valleyside, greatly improved GCSE results (see Section 7.2.4). They seem successfully to have embedded sustainability into the school culture; if they can do it, why not others?

Unsurprisingly, the answer is complex (see Figure 8.1). Put relatively simply, my findings suggest that schools looking to improve their approach to sustainability need to be aware that:

- Sustainability generally has a low priority in schools: it is, at best, a peripheral part of schools' culture.
- The low priority given is caused by confusion in schools about whether and how to tackle sustainability.
- This in turn results from problems with understanding and implementing the UK governmental approaches to sustainability education.
- Underpinning all of the above are problems with the concept of sustainability generally and sustainability education specifically.

All of these factors, along with competing priorities such as the need to be seen to succeed in terms of examination results and Ofsted inspections, constitute barriers to sustainability education (see Figure 8.1).

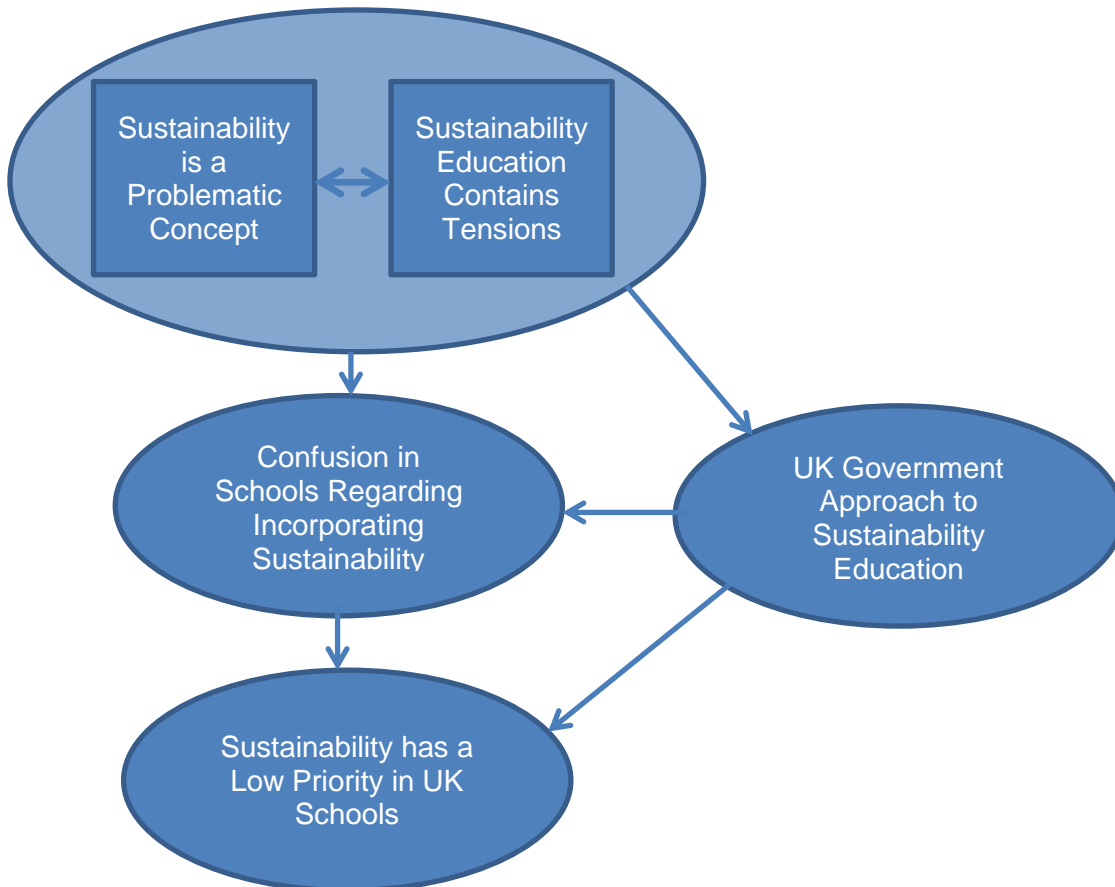


Figure 8.1: Barriers to Sustainability Education

Sustainability: a low priority in UK schools

Secondary schools face enormous pressure to achieve the best examination results for their students, to the exclusion of almost every other educational agenda. They are, therefore, required to consider every policy and action in terms of the effect it will have on examination results: this was clear from every one of my case-study schools, with even students commenting on it at Underwhin. Wiggins & Tymms (2002, p.45) looked at the effect that league tables had on primary schools in the UK, reporting that:

“...results showed that the English schools are more likely to concentrate on their [examination] targets at the expense of other important objectives...A longitudinal study (Pollard and Triggs, 2000) of pupils who started primary school in 1989 found that they had moved from being ‘learning orientated’ to ‘performance orientated’, and that many avoided challenge and had a ‘low tolerance of ambiguity’. The research attributed this to the continual pressure of testing throughout their school lives.”

Although Wiggins & Timms focused on primary schools, I suggest that there is a similar situation in secondary education: in fact, such is the level of importance accorded to public examination results that the situation may be *worse* for secondary schools and their students. Thus, it is highly improbable that the Government’s target for all schools to become Sustainable Schools by 2020 (Ofsted, 2008) will be met. A focus as all-pervading as this is bound to influence the culture of the school dramatically: in terms of Schein’s (1990) model, the unspoken rules underlying the espoused values and the surface actions and artefacts are dominated by this one goal.

What is education ‘for’?

The previous section raises a question concerning what education is ‘for’. Recent and present governments in the UK have all prioritised the economy over all other considerations and based their education policies on the premise that education should operate for the benefit of the economy, in that it provides students with suitable skills for the workplace. Sterling (2001, p.25) notes that education systems typically have four main functions:

“To replicate society and culture and promote citizenship – the socialisation function;
To train people for employment – the vocational function;
To develop the individual and his/her potential – the liberal function;
and
To encourage change towards a fairer society and a better world – the transformative function.”

He also notes that there is a tension in education between maintaining society (which I believe is the role of the first two listed above) and either reflecting or encouraging change (the role of the other two functions). Sustainability is a response to a time of great change, and the need for rapid change, and is better fitted to the latter two functions. Although I note that Sterling argues that all four functions are necessary, and ideally would be brought together in a new paradigm of what he terms 'sustainable education', currently the socialisation and vocational functions of education provide *resistance to sustainability*. A short term compromise might be to emphasise the needs of the 'green economy' more in education, by changing the way we view the vocational function, which might help the economy, society and the environment.

This conflicting view of the purpose of education, I believe, is a more important contributory factor to the equivocal position taken by recent governments than any problems with the concept of sustainability: in fact the problems may be directly linked to the governments' focus on the country's economy (Huckle, 2006). Winter (2007) says that SD is a flawed concept because it allows governments to claim to be acting and yet fail to deliver on that claim. This would explain the half-hearted approach to sustainability taken, and the situation has continued to develop in a way that tends further to side-line sustainability: Martin *et al.* (2013, p.1534) note that Ofsted's previous emphasis on sustainability "...has diminished since 2013. The role of the lead inspector for this area ceased in January 2013."

8.4 Research Evaluation

8.4.1 Meeting my Original Research Aims

My original research aims were encapsulated by these questions:

- What kinds of approaches are English secondary schools taking with respect to sustainability?
- To what extent does sustainability feature as part of these schools' culture and values?
- Based on the research evidence from this thesis, what steps could be taken to strengthen and improve sustainability education in English secondary schools?

With regard to the first of these questions, I have illustrated some of the approaches schools are taking, and summarised what I found, in Chapters 4-7. My case-study schools suggest that many schools are engaging with sustainability only to a very limited extent, and largely in terms of curriculum requirements, where sustainability enthusiasts make an effort to engage, and where financial considerations overlap with those of sustainability. Where schools do focus on sustainability more, they tend to appoint individuals to take responsibility, an approach which carries with it the risk of isolation and lack of authority to make real changes. The best proponents of sustainability in secondary education have a more inclusive approach and ensure that students are involved in a meaningful way in decision-making about sustainability and that there are leaders at all levels within the school community

With regard to the second question, Chapters 7 & 8 contain sections on the extent to which school cultures focus upon sustainability. This question is largely answered by the previous one, in that the majority of schools do not

accord sustainability a high priority: therefore, it is not a significant part of their cultures. However, Valleyside and Maunder illustrate that it is possible for sustainability to be a significant part of a secondary school's culture and for such a school to succeed in the current environment of school inspections and league tables. In fact, Valleyside's example supports (to some extent) claims in the literature that focusing on sustainability has wider benefits for a school in terms of academic success, pupil behaviour and engagement and so on.

In terms of the third question, Chapter 8 contains recommendations for schools and policy-makers that would strengthen sustainability in secondary education. Sections 8.3.1-8.3.3 draw on my experiences working with the five schools I visited and the literature I consulted to outline a vision for the sustainable school and practical steps for school members and education legislators.

8.4.2 'Contribution to the Literature'

This PhD was innovative in a number of key respects, as outlined below:

1. There are relatively few detailed empirical research studies in this area. A substantial part of the current work being undertaken on ESD is focusing on Higher Education, and there are relatively few studies that have specifically researched schools: still fewer have looked at secondary schools. Those that have focused on schools have sometimes concentrated on one aspect of sustainability in schools: for example, leadership (Harris, 2008; Symons, 2008; Birney & Reed, 2009) or children's perspectives (Gayford, 2009). **My study focused in part upon school cultures, which is innovative in itself**, and this is a subject which necessitates a very broad approach, which I suggest differs from some of these earlier studies. **I see the more holistic approach I have taken as being best suited to examining sustainability.**

2. Most of the studies of sustainability in schools in the UK, where they have focused on specific schools, have chosen 'good' examples for their case studies in order to show what can be achieved (for example, Ofsted, 2009). While this is absolutely understandable, **I chose to look at a range of engagement, in order to see what is happening in more 'typical' schools** and potentially to give those working in such schools an idea of what is happening in schools that are actually similar to them rather than 'impossibly' advanced. My experience, and that of others (Ofsted, 2003; 2008; 2009), is that the majority of schools are struggling with sustainability: I chose to look at these schools in more detail.

3. **I have also applied two models that have not been used in this research field before.** Schein's (1990) model of institutional culture is widely respected in the field of business organisation but has not been applied to sustainability in education before: the idea of concentrating on the culture of sustainable schools is also a new one.

Scott's (2010) model of the sustainable school is relatively new and designed as a heuristic model, designed to provoke readers' consideration. However, I felt that Scott's work in examining other models and producing a new approach was very valuable, that his model was detailed enough to use without being so unwieldy as to be impractical, and that applying it to three actual schools would give insights into its strengths and weaknesses.

4. **My research focused largely on a small number of in-depth case studies**, a model that has rarely been used in the study of sustainability in schools in this country before. The 2009 Ofsted report on sustainability in schools was based on a longitudinal study of schools, but they were visited over the course of three years, rather than for an intensive visit like mine. I believe that this intensity was particularly helpful in my gaining insights into the workings of the schools I visited and the cultures of my case-study schools.

5. My findings extend our understanding in the following ways:

a. **I have identified the need for more widespread and improved understanding of the idea of sustainability in schools**: it requires a balanced view, so much broader than the 'environmental' approach still widely held in schools. On the basis of this finding, I also recommend the future use of the AuSSI-SA (2010) model of the sustainable school in sustainability education research.

b. **I have identified different approaches that schools are taking to sustainability in schools**, including a focus on campus and buildings, community, democracy, curriculum and leadership. I have also identified the **different approaches taken to leadership in schools with regard to sustainability**.

c. In the area of leadership, **I have established that the dominant vision of leadership for sustainability in schools seems to be the 'lone**

champion' model. This model has its benefits, and may be the most suitable for schools beginning to engage with sustainability, where a focal point is useful, but is ultimately self-limiting, as *all* school members should be involved and all their capabilities will be required.

- d. Related to the area of leadership, I have also identified a problem in sustainability in schools in that **the present situation allows abdication of responsibility at all levels.** I have also made the argument that government did not truly take responsibility for sustainability, 'passing the buck' to schools (Huckle, 2006, 2009). As a result, we have a situation where *no-one* takes responsibility for sustainability in schools: it is passed from one level of authority to the next, with each continuing the trend.
- e. I have established that **increasing focus on academic outcomes (particularly GCSE League Tables) and Ofsted Inspection results has resulted in sustainability being given a low priority in schools.** I recognise that schools and individuals have a limited resource of time, energy and will-power, and it is natural for them to concentrate these on the most pressing demands they have; they have my greatest sympathy. However, this currently means that sustainability is very rarely given a high priority.
- f. I have found **very limited links between curriculum and campus.** Linking the way the school runs with teaching and learning did not even seem to have occurred to most of the staff I spoke to, and many of those

who *had* considered a link between campus and curriculum mostly saw this as equating to nothing more sophisticated than lessons being taught outside the classroom. Disconnection between different aspects of schools goes against the principles of sustainability and will not result in fundamental changes in the way schools deal with sustainability.

- g. A particularly clear finding is the existence of **tensions between sustainability and the conventional model of education currently prevalent in England**. There are clear tensions between the current aims of education and those of sustainability, which are based on opposing philosophies, but there is also a more specific tension between the hierarchical nature of schools and the democratic nature of sustainability. This manifests itself particularly clearly in the difficulty schools seem to be having with putting into place the conditions for a meaningful 'student voice' where students have a genuine involvement in the strategic running of their schools. Sustainability demands a devolved leadership model, and the current dominant model of school leadership does not encourage a significant devolution of power beyond Senior Management and Governors.

8.4.3 Limitations

All research has weaknesses, and I reflect below on what I might have done better – or differently – in this research:

- The quantity of data was both a strength and a weakness of my research. A more experienced qualitative researcher might still have struggled with the sheer amount of data collected. However, I could have targeted interviews

more specifically, although I did get a good cross-section of school members. In retrospect, I also might have undertaken the process of analysis differently, perhaps by dealing with smaller 'chunks' of data at a time, and by making greater use of the opportunity to write vignettes and getting feedback on the process.

- I also found it hard to operationalise the difficult concept of institutional culture. Despite reading from many sources, I found it hard to identify clear methods for capturing culture with any degree of precision. This became somewhat easier as I worked more with Schein's (1990) model and I became more familiar with and understood some of its subtleties, but I had to work hard to make as explicit as I could the evidence I found and my interpretation of its meaning *vis-a-vis* school culture.
- It is probably the case that I tried to do too much, hoping to get a genuinely all-round picture of school from the perspective of students, parents, teaching staff, non-teaching staff, management, governors and so on. I even spoke with members of groups interested in sustainability but more loosely connected to two of my schools. I have had to acknowledge that my research was unable to do 'everything' that *might* have been achieved during my school visits. I had to find a balance between trying to learn from collecting data on field visits, analysing this data, and reading 'the literature' to guide these two other processes and the general management of my PhD.

- The visits I made to my two 'benchmark' schools are a particular case in point. I wanted to get a quick flavour of the schools, see some of their sustainability work in action, talk to important 'players' in sustainability at the school and meet some students and parents. This was hard to achieve in two days, but I felt that I could not afford the time or money needed to stay longer – nor did I want to disrupt the schools I visited beyond what seemed reasonable. I did gain a useful insight by conducting these visits, but could have achieved so much more!
- I initially identified QAC as a 'typical' school and Maincross as an 'advanced' school in terms of their engagement with sustainability, but in fact they were not necessarily very good matches with those categories, QAC being more advanced than a typical school and Maincross not actually being as advanced as I had expected. This may be because I chose poorly, without considering enough options. However, it may also be because there are very few schools that are truly 'advanced', so finding one to work with is extremely difficult (see Appendix 13). It may be because I was restricted in terms of the schools I approached, by resource considerations. I think it is most likely, however, that the 'experts' I asked for recommendations found it hard to identify 'advanced' schools, or were not actually necessarily well-placed to make that decision. It may also be in part because of the public image of the schools in question: Maincross is certainly adept at publicising its successes around sustainability.
- A further weakness with regard to Maincross was that I visited during a time of great disruption: the school had moved to a new campus only six months

before, and all concerned were still finding out how to operate most effectively in the new campus. The school was also operating in a reduced campus at this point, with work still underway on the 'second half' of the campus, due to be opened shortly after I left: a whole school was effectively operating in about half of a campus, so I did not see 'normal' operations. However, I have taken these related facts into account and it is still valuable to see how the school was operating with regard to sustainability in such a time of disruption – the fact that sustainability had been largely side-lined is revealing.

- I am aware that I have drawn conclusions and made recommendations based on a core sample of 'only' three case-studies. However, I have aimed from the start of this research to provide examples of the situation in schools with which others can make comparisons by using instrumental case-studies, rather than express general concepts about 'all' schools, and I have drawn extensively on the literature in this area and made limited use of two 'benchmark' schools in order to make my results a little more generalisable.

8.5 Suggestions for Future Research

The last part of this Chapter outlines areas in which I think further research on sustainability in secondary schools could fruitfully be done:

- My research has brought together ideas which have previously been explored in two fields: sustainability education and institutional change (via business studies), and I suggest that **there is fruitful work to be done in continuing to combine ideas from different disciplines**. I note Reed's (2009, p.156) citation of Mulgan's (2007) work on social innovation: effective

change comes from the *new combination* of existing “forms and practices”. Aside from any other consideration, this fits neatly with sustainability’s requirement to take an holistic view of any situation: researching sustainability across disciplines is a good example to set. Furthermore, the complexity of sustainability suggests that working towards this goal requires ideas from different disciplines to be combined. The work of the Centre for Sustainable Futures (CSF, 2012), in bringing together experts from different academic disciplines with a shared interest in sustainability education seems to me to have been an excellent model. **Future research would benefit from this interdisciplinarity.**

- **More research into sustainability education could usefully be done using the ethnographic methods I applied.** I acknowledge that this methodology tends to require research that is costly in terms of time and money, but there is, again, a close fit with sustainability principles: focusing on the process as well as the product, and using a variety of methods – as well as focusing on the people involved in the situation studied as well as the context. There is room for improvement in our understanding of the views members of schools hold around sustainability, and ethnography is undoubtedly a useful vehicle for exploring these views.
- **Participatory research methods are vital for sustainability,** and I would have preferred to have included my participants as equals in a process where we all learned, but, as I noted above (see Chapter 2), I found that ‘sustainability’ was a difficult word for many people. Nevertheless, sustainability principles suggest that in the process we must follow for

sustainability to be approached, learning is vital (Vare & Scott, 2007), and action research (for example), although it places demands on participants, is a good fit with sustainability.

- **I recommend the use of the AuSSI-SA (2010) model of the sustainable school** to assess sustainability: it is relatively simple, and, crucially, it includes both 'Understanding' alongside the 'Three Cs' *and* sees culture as the way in which these four elements overlap to form the sustainable school. There appears to have been no published research on this model to date. I would like to see this model used to assess the extent to which schools in England and elsewhere have attained sustainability: a useful trial might be to compare it with one of the leading sustainable schools in the UK. Alternatively, **a comparative study of sustainability in schools in the UK and Australia** (especially South Australia) might produce insights into what each education system can learn from the other.
- In terms of specific areas to research, I believe that my decision to focus on schools with a variety of levels of engagement with sustainability will provide further fruitful research. **Further clarifying the differences between leading schools in this area and the large majority of schools that struggle with the idea and practicalities of integrating sustainability** will be a helpful exercise in identifying areas for schools to focus their efforts on, whatever their current level of engagement.
- All three of case-study schools were in towns with populations under 20,000. A large proportion of the population lives in cities much larger than this, and

research into the possibilities of sustainability in school cultures for those schools in other settings, such as inner-cities and suburbs, may produce different findings.

- My research did not include students to the extent that I would have liked: I interviewed many more staff than students, so students' opinions are not as prominent as they might have been. I was conscious of trying not to disrupt the education of students, and of minimising demands on schools: I felt that they would not be willing to remove students from classes for too long, and asking students to participate outside lesson hours was also complicated. Gayford (2009) was able successfully to focus his **research into sustainability in schools on the points of view of students** at his participant school, however, so it is evidently possible to do so.
- Similarly, more research could fruitfully be done on **opportunities for sustainability to be incorporated via the 'hidden curriculum'**. Some of the best practice I encountered – community liaison at Maincross, for example – took place outside the taught curriculum. I appreciate that a whole school approach requires more than this, but it is an area that is under-researched at the moment.
- Another obvious gap in the literature is that **there is very little research on the impact on students of attending a sustainable school**. I identified two suitable schools, with strong reputations among sustainable schools 'experts' in England, with relatively little trouble; of course, any research would have to be negotiated with the School(s), with awareness of the many

demands placed on schools already. I have mentioned the internal records kept by Valleyside regarding their GCSE grades and the change observed since they adopted a focus on sustainability: it could be extremely beneficial to see whether other signs of improvement are apparent, and whether there is clear evidence that these are linked to a focus on sustainability at the school. I would expect to see two forms of research in this area: one examining the literature around the wider benefits of sustainability education (including academic attainment); and the other looking in detail at successful sustainable schools and the effect their focus on sustainability has on their pupils.

- Understanding attitudes to sustainability in UK education might also be aided by **research into the role played by Ofsted** in this area. The various frameworks for inspection followed by Ofsted could be examined for the inclusion of sustainability, and a selection of school reports examined for references to sustainability, for example. This could assess the extent to which the guidance to Ofsted inspectors, of September 2009, “to include an assessment of how effectively schools are working to support sustainable development” (DCSF/TDA, 2010, p.4) has been met. This would help to reinforce or disprove the argument I have made here that English education policy has not given a clear signal to schools that sustainability is important.
- I encountered very little research into the efficacy of **CPD on leadership for sustainability in secondary schools**. I have suggested that schools implement this sort of training, but it would be extremely useful to know how best they should approach such a task. Research could assess the

strengths and weaknesses of existing CPD and explore possible ways of strengthening practice in this area.

- **Cross-sectoral comparisons** would be another fruitful area for research. I noted in Chapter 2 the evidence suggesting that primary schools find it easier to engage with sustainability than secondary schools (Winter, 2008; Gayford, 2009; WWF-UK, 2009), but I am not aware of any work directly comparing the two sectors, or indeed comparing secondary education with FE or HE. I am sure that each sector would find useful lessons from the others.

Endnote: my own view on the urgency of the situation

My argument is that school cultures, if they are dominated by one principle above all others, should be governed by sustainability considerations. I am aware that this is a minority view, with others in 'my' field holding views exemplified by Scott (2009, p.38, my emphasis):

“schools exist to educate young people, and are not primarily agencies to drive sustainable development *or any other social process*”.

I believe that there is merit in Scott's point of view and I am aware of the argument that it is hard to teach any kind of social or personal development, but I also feel that there are flaws in these arguments. Education is never value free (Freire, 1996), and if we try to make it so, we risk students becoming morally sterile and unable to apply the knowledge they learn in a moral way (Orr, 2004). I would rather have an education system, and educational institutions, focusing on sustainability than the present situation where all are focused on GCSE results – and ultimately on the supposed benefit to the economy that this focus is predicated upon (Orr, 2004).

I also feel that there is an urgent need for action on a large scale, moving rapidly beyond what Martin *et al.* (2013, p.1536) identify as

“relatively small initiatives and shifts in policy, none of which are, in themselves, too demanding of government or individuals, [and] which are unlikely, ultimately, to lead to a more sustainable society.”

I have encountered this view widely in my reading, and it is exemplified by a quote from Reed's (2009) chapter on school improvement and sustainability:

“... if we value human life the changes that will secure its future need managing with unprecedented speed” (Reed, 2009, p.141)

I return finally to Stephen Sterling's work once more, and his assessment of the different tasks education is usually thought to perform. He suggests (2001) that what we need is a combination of the “the socialisation function”, “the vocational function”, “the liberal function” and “the transformative function” of education *in a new model*. My question then, is how we do this? We need a new system of education: do we add something to the current system, try to change from it within, or rebuild it? I have argued that the first of these has been tried – unsuccessfully. I have therefore made recommendations for the second to take place, on the basis that this is achievable in the short term, but I believe that what we really require is the third solution: a new form of education based upon and manifesting as, in Meadows' (2001) terms, a paradigm shift. Schools need to understand and incorporate sustainability better, including social sustainability: this ultimately needs a change of education system, if not a change of political system.

Appendices

Appendix 1: Notes on Ofsted and GCSE Grading Systems and Key Stages in English Schools

GCSE Grades

The Department for Education (2012a) makes available (again, via website) information about schools: 'school details', examination performance tables for the end of Key Stage 4 and for the end of Key Stage 5, pupil absence, finance, school workforce, 'education destination measure'. Last year's 'School and College Performance Tables: Statement of Intent – 2012' states the purpose of publishing this information:

“enabling parents, governors and others to find information which allow[s] them to assess levels of attainment and progress of pupils and students in a particular school or college and to compare that with other schools and with national averages” (DfE, 2012b)

GCSEs are examinations taken at the end of Key Stage 4, graded as follows, highest to lowest:

A* A B C D E F G

In addition, a grade of 'U' (unclassified) is awarded where students have not achieved the minimum standard to achieve a pass grade.

The performance tables on the DfE website (<http://www.education.gov.uk/>) focus on certain grades and subjects, however, including:

Percentage [of pupils] achieving 5 A*-C GCSEs (or equivalents) including English and maths GCSEs

Percentage achieving A*-C in English and maths GCSEs

Percentage of pupils achieving 5+ A*-C grade GCSEs (or equivalent)

Percentage of pupils achieving 5+ A*-G grade GCSEs (or equivalent)

This is still the case despite the mooted changes to GCSE qualifications in England, and similar emphases are used in league tables published on-line by The Guardian and Telegraph newspapers (both refer to the Percentage of pupils achieving 5+ A*-C grade GCSEs or equivalent in particular). As such, this is the measure of performance most easily accessible to the public and the one most often quoted in discussions of educational performance in England.

Ofsted (<http://www.ofsted.gov.uk/>)

Throughout Chapters 2 and 4-8, I refer to grades allotted by Inspectors from Ofsted and to General Certificate of Secondary Education (GCSE) grades, on the basis that these are very commonly used to assess the quality of schools' performances. This is how Ofsted (2013a) describes itself:

“We report directly to Parliament and we are independent and impartial. We inspect and regulate services which care for children and young people, and those providing education and skills for learners of all ages.”

The inspection process is complex, but schools are awarded an “overall judgement grade” at the end of each inspection, as follows (Ofsted, 2013b):

- Grade 1 (outstanding)
- Grade 2 (good)
- Grade 3 (requires improvement)
- Grade 4 (inadequate)

Reports were divided into the following headings when I visited my case-study schools:

Outcomes for individuals and groups of pupils
How effective is the provision?
How effective is leadership and management?
Sixth form
Views of parents and carers

The following headings are now used:

Achievement of pupils
Quality of teaching
Behaviour and safety of pupils
Leadership and management

Reports are available to the public via the Ofsted website, and school students are each sent a letter after an inspection summarising the Inspectors' findings. As such, this is a very public judgement of a school's performance. Grades were awarded slightly differently in inspections before 2005, with a letter, A, B, C or D corresponding to the numbers 1, 2, 3 and 4. Since 2005, one grade was given – until 2009, since when two have been given, one for current performance and one for potential to improve, in the form 3(2), for example.

Key Stages

Gov.uk (2013), the UK government advice website describes Key Stages in the following way:

“The national curriculum is organised into blocks of years called ‘key stages’ (KS). At the end of each key stage, [a] child’s teacher will formally assess their performance to measure [their] progress.”

Key Stage 1 includes students aged 4-7, in Reception class, and Years 1 and 2.

Key Stage 2 includes students aged 7-11, in Years 3-6.

Key Stage 3 includes students aged 11-14, in Years 7-9.

Key Stage 4 includes students aged 14-16 in Years 10 and 11.

Key Stage 5 includes students aged 16-18, in Years 12 and 13 (this is also commonly known as ‘Sixth Form’ in England).

Appendix 2: Sustainability & the National Curriculum

At Key Stage 4, the following references are made to sustainability in curricula for subjects in the following areas. Climate change, sustainable energy use, climatic science and energy reduction are currently taught under the National Curriculum through Science (Chemistry, Physics and Biology), Geography, and Citizenship.

Science: Chemistry, Physics and Biology: The environment, Earth and universe (p211); Materials, their properties and the Earth in terms of the drawbacks of fossil fuel use (p216); environmental factors affecting the distribution of organisms in habitats (p217), and evidence gathering on global climate change (p219).

Geography: Exploring sustainable development and its impact on environmental interaction and climate change (p103), and climate change and consumption of energy (p106).

There are also mentions of sustainability and the environment in the current Citizenship (p32), Religious Education (p265, p280) and Design and Technology (p51-52) Curricula. Citizenship also includes an expectation to cover actions that impact on decisions affecting communities and the environment and sustainable practices.

At Key Stage 5, there is considerably more variation in terms of subjects offered by schools, and sustainability is covered in the following A-Levels, as an example:

Biology, Chemistry, Design & Technology, Economics, Environmental Studies, General Studies, Geography, Physics, Religious Studies, World Development.

http://www.sustainability-ed.org.uk/support_materials/curriculum%20links.pdf is a useful source of summarised information on this topic.

Appendix 3: Classification of Data from All Case Study Schools – Summary of Data Sources from all Three Main Schools

	Underwhin	Queen Adelaide	Maincross
No. FORMAL INTERVIEWS	27	29	28
INTERVIEWEES	A-Level World Development Teacher	A-Level Environmental Science Teacher	A-Level Environmental Science Teacher
	Catering Manager	Catering Manager	Catering Manager
	Catering Manager (Kitchen)		
	Chair of Board of Governors	Deputy Chair of Board of Governors	Chair of Board of Governors
		Deputy Chair of Board of Governors	
	Deputy Principal - Curriculum	Deputy Principal - Curriculum	Deputy Principal - Curriculum
	Deputy Principal - Grounds	Deputy Principal - Grounds	Deputy Principal - Grounds
	Deputy Principal - Healthy Lifestyles		Deputy Principal - Student Services
	Finance Officer	Finance Manager	Finance Manager
		Funding Officer	
	Geography Teacher	Geography Teacher	Geography Teacher
	Geography Technician		
	Governor	Parent Governor	Governor
	HoD Geography	HoD Geography	(Ex) HoD Geography
	HoD Science	HoD Science	HoD Science
	'Keen Students'	'Keen Student'	
	'Keen Teacher'	Ex Eco-Coordinator	'Keen Teacher'/Community Liaison
	Maths Teacher	Maths Teacher	Maths Teacher
	Parent Governor	Chair of Parents Association	Parents' Association Member
			Parents' Association Member
	Principal	Principal	Principal
	RE Teacher	RE Teacher	RE Teacher
	Science Teacher	Science Teacher	Science Teacher
		Science Teacher	

	Science Technician	Science Technician	Science Technician
	Site Manager	Site Manager	Site Manager
	Site Supervisor		
	Student Council Recycling Group	Student Leaders	Student Voice
	Teaching Assistant	Teaching Assistant	Teaching Assistant
	Vlth Formers 1	Vlth Formers 1	Vlth Formers 1
	Vlth Formers 2	Vlth Formers 2	Vlth Formers 2
			Vlth Formers 3
	('Vertical tutoring' at this school meant there were no Yr 8 tutor groups)	Yr 8 Group 1	Yr 8 Group 1
		Yr 8 Group 2	Yr 8 Group 2
		Town Councillor/ Member of E&S Group	New College Coordinator

Breakdown of **Interviews** by Interviewee 'Type'/School

	Underwhin	QAC	Maincross
Teachers	8	8	8
Management Staff	7	6	7
Other Staff	5	4	3
Parents	1	2	2
Students	4	6	6
Governors	2	2	2
Other	0	1	0
Total	27	29	28

	Underwhin	Queen Adelaide	Maincross
TEACHING OBSERVATIONS	Yr 7 Geography Lesson (L1a)	Yr 8 Geography Lesson (L2a)	Yr 7 Geography Lesson (L3a)
	Yr 10 Geography Lesson (L1b)	Yr 10 Geography Lesson (L2b)	Yr 9 Geography Lesson (L3b)
	Yr 9 Science Lesson (L1c)	Yr 7 Core Science Lesson (L2c)	Yr 10 Geography Lesson (L3c)
	Yr 10 Science Lesson(L1d)	Yr 10 Science Lesson (L2d)	Yr 9 Science Lesson (L3d)
			Yr 12 Science Lesson (L3e)
		Core Curriculum Lesson (L2e)	
		AS Environmental Science Lesson (L2f)	

SITE OBSERVATIONS	Vlth Form Building	Site 2 Building	Blocks A & B
	Maths/English/Library	English & Media Block	Blocks B, C, D & E
	Drama/Dance/PE areas	Site 1 Main Building	Blocks F & G
	Reception	Site 1 Main cont.	Block H, PE & Reception
	Media Studies/Food Tech/Technology/Vehicle Training	Site 1 Library/Quad	
	Main Building/Mod Languages/Art/Learning Support/Humanities	Site 3	

	Underwhin	Queen Adelaide	Maincross
NOTES FROM MEETINGS	Governors' Meeting 12/10	Board of Governors Learning & Improvement Committee 02/11	
	School Council Meeting 11/10	Student Council Meeting 01/11	
	Vlth Form Council Meeting 11/10	Environment & Sustainability Group 02/11	
	Meeting re Sustainability at Underwhin with Principal 07/12/10	Meeting with Head of Vlth Form	
	Inset Day & Meeting re Starting a Parents' Forum	Chat with IT Manager 16/02/11	Maincross Sustainability Group Chat 14/03/11
		Meeting with keen student	Friends of Maincross College Meeting 03/11

	Underwhin	Queen Adelaide	Maincross
DOCUMENTS	Ofsted Report 2010	Ofsted Report 2009	Ofsted Report 2009
	College Aims	School Vision	8 School Principles
	School Development Plan	School Development Plan	(Unavailable)
	Financial Policy Statement 09/10	Best Value Statement	Best Value Statement
		Budget file	Procurements & Disposals Policy
			Purchasing Policy
	Learning & Teaching at Underwhin	Teaching & Learning Policy	Curriculum Policy
		Curriculum Review 2010-11	Evaluation & Monitoring Scheme
	Enrichment Week	Year 7 Integrated Core Review	Home College Agreement
	School Meals Policy	School Food Policy	Catering Policy
	Whole School Food & Nutrition Education		College Healthy Schools webpage
	Underwhin catering service		
	Travel Plan	Ecoschools Action Plan	Travel Plan
		QAC Green Initiatives Presentation	
	Board of Governors Minutes	Annual Report to the Governors	
		Leadership & Management Committee Terms of Reference	

	SMSCD: spiritual, moral, social & cultural development		SMSC (Spiritual, Moral, Social & Cultural) Policy
			Staff Consultation Policy
			Behaviour Management Policy
	Lesson Hand-outs for 28/02/11		Science Lesson Plan part a - Poo Power
			Science Lesson Plan part b - Renewables for and against
			Geography Lesson Hand-outs for Yr 10
	School Web Site	School Web Site	School Web Site
		Prospectus	
		Vlth Form Prospectus	
		Yr 7 Handbook	
		Options 2011 Booklet	
		College Magazine Summer 2010	
		College Magazine Winter 2010	
		Daily Bulletin 10/01/11	
	Bike Awareness Week 2007	Wildlife Meeting Minutes 01/12/10	Local Arts Project Synopsis
		Wildlife Project Synopsis	
	Inset Day Parent Hand-out 10/10	Email correspondence with keen student	Friends of the College News webpage
		'greenliving' Magazine found in staff areas	College Newsletter 11/10
	School Maps	School Maps	

Appendix 4: Open-Ended Observations Record Form

Event	Relevance	Comment

Appendix 5: Example of Interview Schedule: Student

Who is responsible for sustainability in the school? (Is it one person, a group, a few, or everyone?)

Which aspects of the life of this school is sustainability involved in? Can you give examples of sustainability in curriculum, campus and community? What about the culture of the school?

What is the attitude of the school leadership towards sustainability? Why do you do sustainability at this school?

Can sustainability enhance the experience of pupils at this school? Does it?

(To what extent) is the school a sustainability role model for the local community? Can you give some examples?

What effect does attendance at this school have on sustainable practices in the lives of its pupils? Can you give some examples?

How much do you take advantage of the skills in the local community in terms of visits to the school? How about in terms of trips out of school?

How much is sustainability an everyday feature of this school as opposed to it being special events that highlight sustainability? In what ways? Can you think of examples?

To what extent do pupils here know about sustainability? Can you give some examples? What importance do they attach to it?

To what extent do pupils here act sustainably? Can you give some examples? What importance do they attach to this?

Generic Prompts:
Can you say a bit more about that?

Can you give me a specific example that you're aware of?

I think you're saying.... is this correct?

Active LISTENING

Don't say too much

BEWARE leading ad hoc prompts

Appendix 6: Pool of Interview Questions

A pool of questions which were 'dipped into' to select appropriate sets of questions according to the person interviewed.

Question	Use with...	Tests/Looks for...
1. Who is responsible for sustainability in the school? (Is it one person, a group, a few, or everyone?)	All	Knowledge of sustainability within the school; appropriate leadership style; 'whole school' sustainability; extent to which culture is embedded within the culture of the school
2. Is sustainability included in (curriculum) planning (in your subject/in all subjects)? How big a priority is it? Compared with...	SMT, Head, Governors, HoDs	Importance accorded to sustainability; whether sustainability is a <i>strategic</i> consideration
3. Which aspects of the life of this school is sustainability involved in? Can you give examples of sustainability in <i>curriculum</i> , <i>campus</i> and <i>community</i> ? What about the <i>culture</i> of the school?	All	Knowledge of sustainability within the school; 'whole school' sustainability; extent to which culture is embedded within the culture of the school
4. What is the attitude of the school leadership towards sustainability? SMT? Head? Governors? Why do you do sustainability at this school?	HoDs, teaching staff	Importance accorded to sustainability; whether sustainability is a <i>strategic</i> consideration
5. Can sustainability enhance the experience of pupils at this school? Does it?	SMT, Head, HoDs, teaching staff	Depth of understanding of sustainability issues in education; 'whole school' sustainability
6. Can sustainability improve grades, attendance and behaviour at this school? If so, how <i>does</i> it?	SMT, Head, HoDs, teaching staff	Depth of understanding of sustainability issues in education; 'whole school' sustainability
7. How much <i>money</i> is spent on sustainability in this school? How much in terms of other <i>resources</i> ? For example, how much <i>time</i> is dedicated to it?	SMT, Head, Governors, HoDs	Importance accorded to sustainability
8. Is there a link between the management & administration of the school and teaching and learning, as regards sustainability? Can you give some examples?	SMT, Head, HoDs, teaching staff	Depth of understanding of sustainability issues in education; 'whole school' sustainability

9. Do you think that there are any areas of sustainability where you would encourage questioning or debate? Can you give some examples? How do you deal with controversial areas?	SMT, Head, Governors, HoDs, teaching staff	Depth of understanding of sustainability issues in education
10. (To what extent) is the school a sustainability role model for the local community? Can you give some examples?	All	Depth of understanding of sustainability issues in education; 'whole school' sustainability
11. What effect does attendance at this school have on sustainable practices in the lives of its pupils? Can you give some examples?	All	Depth of understanding of sustainability issues in education; 'whole school' sustainability
12. How much of the raw materials you use in this school are produced in the local community? Energy, water, food, etc?	SMT, Head, Governors, HoDs	Depth of understanding of sustainability issues in education; 'whole school' sustainability
13. How much do you take advantage of the skills in the local community in terms of visits to the school? How about in terms of trips out of school?	SMT, Head, Governors, HoDs	Depth of understanding of sustainability issues in education; 'whole school' sustainability
14. How much is sustainability mentioned in your School Development Plan?	SMT, Head, Governors, HoDs	Importance accorded to sustainability; 'whole school' sustainability
15. How much is sustainability an everyday feature of this school as opposed to it being special events that highlight sustainability? In what ways? Can you think of examples?	All	Depth of understanding of sustainability issues in education; 'whole school' sustainability; extent to which culture is embedded within the culture of the school
16. Can you think of some <i>written policies</i> that deal with sustainability in this school? In what ways?	SMT, Head, HoDs, teaching staff, pupils	Importance accorded to sustainability; 'whole school' sustainability; depth of understanding of sustainability issues in education; extent to which culture is embedded within the culture of the school
17. Would you say that you are exploring sustainability, assimilating the ideas into existing school practice, or working on it at a strategic level?	SMT, Head, Governors, HoDs	Importance accorded to sustainability; 'whole school' sustainability; depth of understanding of sustainability issues in education; extent to which culture is embedded within the culture of the school

18. Do you <i>expect</i> – or require – staff to learn about sustainability as part of their CPD? Is it a voluntary part of this process? Are there higher priorities?	SMT, Head, HoDs	Importance accorded to sustainability; ‘whole school’ sustainability; depth of understanding of sustainability issues in education; extent to which culture is embedded within the culture of the school
19. To what extent do your pupils know about sustainability? Can you give some examples? What importance do they attach to it?	SMT, Head, HoDs, teaching staff	Extent to which culture is embedded within the culture of the school
20. To what extent do your pupils <i>act</i> sustainably? Can you give some examples? What importance do they attach to this?	SMT, Head, HoDs, teaching staff	Extent to which culture is embedded within the culture of the school
21. How much are staff involved in decisions about sustainability at the school? What about Governors? Parents? Pupils? How are decisions about sustainability made? What are the ‘channels’?	SMT, Head, Governors, HoDs, teaching staff	Appropriate leadership style; ‘whole school’ sustainability; depth of understanding of sustainability issues in education; extent to which culture is embedded within the culture of the school
22. How do you monitor the sustainability of the school? What difference does this monitoring make – or the results of it?	SMT, Head, HoDs, teaching staff, pupils	‘Whole school’ sustainability; extent to which culture is embedded within the culture of the school; depth of understanding of sustainability issues in education
23. What are the barriers to sustainability in this school? What are the opportunities? How do you see the next five years in this respect?	SMT, Head, Governors, HoDs,	

Appendix 7: Details of all Sources: Underwhin

		Underwhin		
Pseudonym	Position	Date of Interview	Approx. Age	Recording
Eoin	HoD Geography	23/11/2010	32	
Dave	Principal	18/11/2010	48	
Veronica	HoD Science	29/11/2010	45	
Brian	Finance Officer	28/11/2010	25	
Ian	Chair of Board of Governors	10/12/2010	55	
Lyle	Science Teacher	17/03/2011	30	
Hugh	Deputy Principal - Healthy Lifestyles	09/11/2010	50	
Dougie	Governor	18/01/2011	55	
Wilf	Parent Governor	10/12/2010	45	
Mitchell	Site Supervisor	07/12/2010	25	None
Colm	Site Manager	01/12/2010	55	None
Debby	Catering Manager	09/12/2010	40	
Bob	Geography Teacher	07/12/2010	35	
Jonathan	Science Technician	02/12/2010	50	
Lleyton	Geography Technician	24/11/2010	45	
Chris	Deputy Principal - Curriculum	24/11/2010	45	
Andrei	A-Level World Development Teacher	24/11/2010	50	
Joe	RE Teacher	22/11/2010	30	
Micky	Catering Manager	23/11/2010	50	
Cliff	Deputy Principal - Grounds	17/11/2010	55	
Sally	'Keen Teacher'	16/11/2010	28	None
Diane	Maths Teacher	09/11/2010	30	
Ashley	Teaching Assistant	05/11/2010	50	
Six1a		10/11/2010	17	
Six1b		15/11/2010	17	
SV1		23/11/2010	13	
KSS1		15/12/2010	16	

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Observations

Yr 7 Geography Lesson Reception	HoD Geography	02/12/2010
Yr 10 Geography Lesson Drama/Dance/PE areas Maths/English/Library building Vlth Form Building	HoD Geography	01/12/2010
Yr 9 Science Lesson	Science Teacher 'MC' Science Teacher	18/03/2011
Yr 10 Science Lesson Media Studies/Food Tech/Technology/Vehicle Training Main Building/Mod Languages/Art/Learning Support/Humanities	above	28/02/2011

Documents

Lesson Hand-outs for 28/02/11
Site Map Outline
Site Map OS style (two)
Underwhin catering service
Bike Awareness Week 07
Underwhin College Aims
Enrichment Week
SMSCD: spiritual, moral, social and cultural development
School Meals Policy
Underwhin Financial Policy Statement 09/10
Whole School Food & Nutrition Education
Board of Governors Minutes x6
Ofsted Report May 2010
Inset Day Parent Hand-out Oct 2010

Other Hand-written Notes on:

Governors' Meeting 12/10
Inset Day & Meeting re Starting a Parents' Forum
VIth Form Council Meeting 11/10
School Council Meeting 11/10
Meeting re Sustainability at Underwhin with Principal 12/10

Appendix 8: Ethics Form - Parent/Guardian Assent for Pupils

How school culture affects the teaching and learning of sustainability in secondary schools

Introduction:

Your child is being invited to take part in an innovative research study and has been selected as a possible participant because they are a member of the school council or environmental group. Please read this form and ask any questions you may have before agreeing to let your child be in the study.

I am postgraduate student studying for a PhD in the Teaching and Learning Directorate at the University of Plymouth. This research will form the basis of my PhD Thesis. The results from this part of the study will be included in a short report written for the school, available electronically upon request. I have a current Enhanced Disclosure form from the Criminal Records Bureau (CRB), as required for research with children, which the school holds a copy of.

Background Information:

I am conducting a research project which has been designed to find out about the culture at your child's school, and to explore whether there is any link between this and the way the school deals with issues of sustainability. School culture is made up of the beliefs and values of people in the school, and this affects the way they behave. I am interested in what the culture at your child's school is like, so I want to find out what people believe their school stands for, and what it is like to learn at the school.

The Government has also been looking at the way education works in this country, and all schools have been given the task of becoming 'sustainable schools' by 2020. This means schools have to act sustainably and teach pupils about sustainability. There may be a link between the culture in the school, and the way it behaves sustainably and teaches about sustainability. It may be possible to see the influences of a school culture in all areas of schooling, and so the views of pupils are important, as well as those of staff.

Procedures/Data Collection

If you agree to allow your child to be in this study, he/she will be asked to take part in a group interview with other members of the school council/environmental group about the way their school is trying to behave sustainably and introducing pupils to sustainable ideas and behaviour. I will make a digital audio recording of this interview, to help to make my records accurate, if all of the pupils who participate and their parents agree to recording taking place.

Risks and Benefits of Being in the Study:

There are no risks to participating. Pupils may benefit from reflecting on the way their school operates and on sustainability issues, and may develop a better understanding of these topics. Results of this study may also be used to inform the approach to sustainability of the school, which will benefit all pupils.

Confidentiality:

The records of this study will be kept private and stored on computer in password protected files. The University Research Guidelines state that any research data must be kept for 10 years after collection, but it will be stored

securely on university premises. In anything I publish, I will not include any information that will make it possible to identify your child, either visually or by name. I may need to share data with my supervisors at the university, but they will not be given the names of any children interviewed, and pseudonyms (false names) will be used whenever I use a quotation from anyone interviewed in my written reports. The school will also be given a pseudonym.

Voluntary Nature of the Study and Freedom to Withdraw:

Your decision whether or not to allow your child to participate in this study will not affect you, or your child's education, in any way. If you decide to allow your child to participate in this study, he or she is free to withdraw at any time during the period the researcher is at their school, for any reason, without affecting your or their relationship with the school.

Contacts and Questions:

The researcher conducting this study is: Ciaran O'Sullivan.
The Lead Supervisor is: Professor Brian Chalkley.

If you have any questions or concerns about your child participating in this research study, please contact me at:

ciaran.osullivan@plymouth.ac.uk or on 01752 587617

or Professor Chalkley at:

b.chalkley@plymouth.ac.uk or on 01752 582034

Thank you for considering helping with my research

.....
Statement of Consent:

I have read and understand the informed consent and the conditions of this project. I have read and understand what you want my child to do for this study, and my right to withdraw my consent for my child's contribution to be used at any time during the researcher's work in the school. I hereby voluntarily agree to my child's participation in this project. I may withdraw my consent at any time without penalty.

Audio taping:

Parental Consent to Audio Recording:

I give my consent for you to audio record and interview my child while he/she is participating in this study and use his/her audio and interview data in the research.

Please initial: _____ Yes _____ No

When you sign this form, you agree that you understand the above description of this research. You also agree that your questions have been answered, and that you consent for your child to take part in this research study.

Signature of parent or guardian

Date

Appendix 9: Ethics Form - Informed Consent for Pupils

How school culture affects the teaching and learning of sustainability in secondary schools

Dear Pupil:

You are being invited to take part in an innovative research study. Before you decide whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. *Thank you for reading this.*

The Purpose of this Research

This research project has been designed to find out about the culture at your school, and to explore whether there is any link between this and the way the school deals with issues of sustainability. School culture is made up of the beliefs and values of people in the school, which affect the way they behave. I am interested in what the culture at your school is like, so I want to find out what people believe their school stands for, and what it is like to learn at your school. The Government has also been looking at the way education works in this country, and all schools have been given the task of becoming 'sustainable schools' by 2020. This means schools have to act sustainably and teach pupils about sustainability: I want to see how your school tries to do these two things. There may be a link between the culture in the school, and the way it behaves sustainably and teaches about sustainability. My research involves you as part of a group interview with other members of the school council: I want to know what school council members think about sustainability in your school.

Procedures/Data Collection

If you agree to take part, the results from the study will be included in my PhD thesis (the long report I write about my research), and may be used in any publications or conference presentations I produce, but I will also write a report, available upon request, for your school. A group interview means that I will ask the same questions to several pupils, and ask them to give individual answers and discuss them amongst themselves. With your permission, I will make an audio recording of the interview, to help get an accurate record of what is said.

Risks

Being part of this study will involve no personal risks to you as a pupil. You will not be named in any research published from the results, or in any communication with your teachers. I will make all written records anonymous by giving everyone who takes part a pseudonym (a different name). I will also give your school a pseudonym. I may want to discuss what I record with my supervisors at the university, but they will not be given the names of anyone who is interviewed.

Benefits of this Project

I hope you will benefit from thinking about the things that happen in your school, and discussing them with other pupils. I also think it will help the school as a whole to be thinking about the way it behaves and what is being taught. The school will get a report of what I find, if that will be helpful, after I finish researching.

Confidentiality and Privacy

Your details will not be disclosed to anyone else. The results of this study will be stored on computer and password protected. The University Research Guidelines state that any research data must be kept for 10 years after collection, but it will be stored securely on university premises.

Freedom to Withdraw

If you have any questions about this research, please contact the researcher or lead supervisor. You may withdraw your participation at any time during the data collection period, and for any reason. Withdrawing from this research will NOT affect your relationship with your school, your status in the school, or the assessment of your work IN ANY WAY. To withdraw, please contact me (see below).

Contacts and Questions:

The researcher conducting this study is: Ciaran O’Sullivan.
The Lead Supervisor is: Professor Brian Chalkley.

If you have any questions or concerns about participating in this research study, please contact me at:

ciaran.osullivan@plymouth.ac.uk or on 01752 587617

or Professor Chalkley at:

b.chalkley@plymouth.ac.uk or on 01752 582034

Audio taping:

Consent to Audio Recording:

I give my consent for you to audio record my interview and use the audio and interview data in my research.

Please initial: _____Yes _____No

Permission (statement of consent)

Signed.....**Date**.....

Name (block capitals).....**Form**.....

I have read and understand the informed consent and the conditions of this project. I have read and understand what you want me to do for this study, and my right to withdraw at any time during research at my school. I hereby voluntarily agree to participate in this project. I may withdraw my consent at any time without penalty.

Thank you for considering helping with my research

Appendix 10: Example of Coding Categories: All Sub-Categories from Maincross College

Name

Audit

Buildings

Campus

Charity-Fundraising

Community

Culture

Curriculum

Curriculum Campus Link

Governance

Grounds

Irrelevant

Knowledge

Leadership

Leadership Style

Links with Local Community

Local Food & Purchasing

Monitoring

Parents

Pedagogy

Policy

Purchasing

Responsibility

Responsibility-Responsible Persons

Resource Use

Sense of Place Global Dimension

Student Voice

Subject

Travel

Waste and recycling

Whole School

Appendix 11: Scott's (2010) Sustainable School Descriptors in Full

Capital-based Descriptors, and Leadership

In what follows, a series of stage descriptors are identified, with titles based around the terms recently identified by Webster. Because of its over-riding significance, leadership comes first, as without this, little of any moment will be achieved.

Leadership

1. Initial exploration

The school leadership does not understand the significance of sustainability issues to young people's education, has not considered (or has rejected as irrelevant) that such issues might usefully inform young people's current learning as well as their development of awareness, skills and capability, and does not actively support teachers, and others, who already carry out this work. Whilst there may be an awareness of the sustainable schools initiative, its significance is not grasped by school leaders. Sustainability work in the school is characterised by the work of lone teachers, or of small groups which tend to adopt a behaviour-change focus. There is little or no financial contribution to making sustainability-focused changes.

2. Some assimilation

School leaders have some limited awareness of what the sustainable schools initiative is setting out to do, and understand something of the utility for learning that a focus on sustainability can have. A co-ordinator post may be funded with schemes such as Eco-schools in place, and the school may acknowledge the significance of existing school-community interchange resulting in some formal recognition of what already goes on. This falls short, however, of an endorsement of sustainability as a key feature of how the school sees itself, or a recognition that it is important to students' lives and to society's positive evolution. The ethos of the school does not relate to these issues, and a critical consideration of sustainability is not actively promoted through the curriculum whilst narrow behaviour change is the main focus. However, enthusiasts are getting things done, building up experience and developing a critical mass that will increasingly bring internal influence to bear on school leaders to match the external pressures that are building up. Modest investment is available to effect simple infrastructure changes and save recurrent costs (eg, energy efficient light bulbs).

3. More strategy

The school leadership has accepted the idea that a broad view of sustainability needs to be taken seriously in relation to the school's curriculum, and supports the opportunities that exist for mutually-beneficial links with the local community that involve campus and/or curriculum. It provides active leadership and draws staff, governors and students into this process; appropriate plans and policies will be written. Increasingly, there will be emphases on making sustainability a significant aspect of the life of the school, and central to student learning, and one of the things the school is known for. There may well be a vision that addresses sustainability, and a recognition that this is not just about what the school teaches, how it links with the community, or how its own campus is

managed, but is about all three of these in an integrated and managed fashion. A more critical approach to learning and to schools management is seen to be necessary as the tensions and uncertainty inherent in sustainability are exposed, and the implications of the breadth of sustainability for the entire operation of the school begin to be fully appreciated. Greater investment is seen to be essential if pedagogy is to be made more suitable, appropriate learning domains identified, carbon emissions reduced, and plans are made [i] to enable the significant expenditure that will be needed if the barriers to greater sustainability presented by current infrastructure are to be surmounted, [ii] to identify both how teaching has to change, and ideas about learning be developed, and [iii] to enable the necessary focus on raising social capital as the school and its community develop together.

4. Towards restorative

The school, through its re-thought vision / mission statements has reoriented its ethos to a focus on sustainability. This has fundamentally changed how curriculum is conceived, what and how the school teaches, how this links with the community, and how its own campus is managed, and how all of these are integrated. Leadership is active and devolved, encouraging staff, governors and students to participate meaningfully. Sustainability is a very significant aspect of the life and work of the school, which is known for this focus. In the institution, the exchange between school and community is extensive, two-way, and real, and can contribute both as a role model, and as an advocate for socio-environmental change. Owing to focused capital investment, increasingly the school's ecological / carbon footprint is reduced, with the enhanced ability of the institution to lead sustainability initiatives, and serve to enhance open-minded, open-ended learning that is focused on change and on raising student capability and confidence. Crucially, the school's commitment and orientation to sustainability is so embedded in its ethos and practice that this is sustainable in the more quotidian sense

In summary, at this stage, the school has a devolved and shared leadership that has created a social learning community with a systemic view of the world and a heightened sense of place that ...

understands that it can, and should, contribute not just to maximising learning and skills acquisition (its tradition role), but also enhance social cohesion, lessen its need for natural resources and the creation of waste, maximise the efficiency of its buildings, and has a strategy for steadily reducing it, and a strategy for making all these a foci for learning.

is outward-looking, with work in embedded not only in its local context (socially, economically, environmentally, and culturally), but which also has tangible links to real communities in other parts of the world, and recognising that place is a global phenomenon that raises moral issues of inter-dependence and shared responsibility, in relation to social and environmental justice

values outdoor, environmental, experiential and exploratory learning as a means of effectively engaging with real-world issues in authentic settings, and the need for appropriate pedagogies and communications that enables the student voice to contribute to the understanding of their own learning, and to the development of the school.

Human & Social Capital – HSC

1. Initial exploration

Individual staff contribute to uncoordinated clubs and out of school activities that tend to focus, fairly uncritically, on externally-identified behaviour change with little link to the curriculum. There is formal, but mostly unconnected teaching about biodiversity, ecological systems, energy, social structures, development, poverty, trade, etc, through mostly conventional takes on curriculum where the campus and community are mainly seen as resources, with the latter not yet viewed as a source of active partnership in collaborative learning, and the former not itself seen as a valid focus of enhancement. Learning, and learning outputs, are predominantly viewed in academic terms, and sustainability issues tend to be seen as external to the school and its work, with learning mostly seen as something done by students, and then within narrow limits. Where there is a developing understanding of the aims of the sustainable schools initiative (and ESD more widely), there will be growing levels of dissatisfaction with this 'business as usual' approach, and this leads to a greater examination of how well conventional approaches and assumptions meet student needs, and an active exploration of other possibilities.

2. Some assimilation

There is a growing understanding that links between campus, community and curriculum can both enhance student understanding and skills, and potentially result in wider learning, greater community cohesion, and also, for example, enhanced biodiversity and reduced carbon footprint; with this, comes the realisation that the campus and community can be more than mere resources. The notion that the formal and informal curricula will need to be linked, and students helped to make connections if learning is to be optimised, is a growing view, with the school's developing awareness of the significance of the breath and reach of the sustainable schools initiative, with its focus not only on learning, but also on tangible sustainability improvements. As the tensions within sustainability come to be recognised, there is a growing realisation that there is a need to focus on learning as well as on behaviour change, that these are not alternatives, but that each is a necessary but insufficient focus, that a focus on sustainability will contribute to enhancing student achievement, and that student learning can contribute to sustainability, both now and life-long. There is also an increasing recognition that responsibility for stimulating learning has to involve both the formal and informal curriculum, and these must be seen as an integrated whole; there is also an understanding that responsibility for teaching can usefully be seen as a partnership with NGOs and community organisations where the key contributions of the teacher are pedagogical and ethical. The value, in themselves, of eco-schools and similar approaches begin to be questioned where they are recognised as initiatives isolated from the curriculum and the life of the school as a whole. The investment in modest changes to infrastructure means that there is growing scope for using the school as a positive teaching resource, and that the ethos of the school needs to relate to these issues, in a specific way. The limitations of viewing student learning only in terms of exam success is recognised, as is the need to find a way of thinking about how social capital can be conceived, supported and evaluated.

Here, more of the curriculum – and more often – has a sustainability focus, and it draws on what the school is trying to do in its management. The approach here is more critical, and questioning is to the fore in order to open up the tensions and contradictions that are inherent in sustainable development, and ideas of what needs to be learned are opened up.

3. More strategy

Schools start to think in terms of social capital in relation to networks and learning, and how to measure and enhance this. Human capital is understood to involve more than academic knowledge and the development of skills and capabilities are to the fore. Students, teachers, and others, are encouraged to be open-minded learners through expansive and exploratory pedagogies that are open-ended, experiential and negotiated with students and the community. A broad range of themes is identified which capture the essence of the learning necessary for success within which learning outcomes can be agreed. As a first draft, these could be conceived as follows, where school leavers [This set of attributes has been developed from “The Melbourne Experience”: <http://www.unimelb.edu.au/about/attributes.html>] are enabled to be:

Academically excellent:

- have a strong sense of intellectual integrity and ethics
- have age-appropriate knowledge of pertinent areas of study
- reach a high level of achievement in enquiry skills, problem-solving, collaboration and communication
- be critical and creative thinkers, with an aptitude for continued selfdirected learning
- be adept at learning in a range of ways, including first-hand enquiry and ICT

Knowledgeable across disciplines:

- examine critically, synthesise and evaluate knowledge across areas of study
- expand their analytical and cognitive skills through learning experiences in diverse subjects
- have the capacity and willingness to participate in collaborative learning and to confront unfamiliar problems
- have flexible and transferable skills for further study and/or employment

Active in communities:

- participate in initiating and implementing constructive change in their communities (including the school itself)
- have developed interpersonal and decision-making skills, including an awareness of personal strengths and limitations
- mentor future generations of learners
- engage in meaningful public discourse, with a growing understanding of community needs

Attuned to cultural diversity:

- value different cultures
- be well-informed citizens able to contribute to their communities wherever they choose to live, study or work
- have an understanding of the social and cultural diversity in their community
- respect indigenous, and other, knowledge, cultures and values

Active global citizens:

accept social and civic responsibilities

be advocates for improving the sustainability of the environment

have a broadening global understanding, with a high regard for human rights, equity and ethics

In relation to social capital, schools fully accept the idea that a broad view of sustainability needs to be taken in relation to what the school teaches, how it links with the community, or how its own campus is managed, and about all three of these in an integrated fashion. There will be projects in operation that bring benefit to the local community, and there will be more interchange with the community around issues such as transport, gardening and food. As shown above, the exchange between school and community is more extensive, and more real and it adds to social capital. It could be that schools at this stage will be both role models and advocates for socio-environmental change.

4. Towards restorative

If schools are to take the next necessary steps then some substance will need to be added to the skeletal framework of ideas, such as those set out above. In doing this, learning outcomes will need to be specified and agreed. Whilst there is much to be said for these being negotiated locally, there is also the need to identify a suitable framework of ideas from which to begin. A convincing start was made on this over ten years ago.

Following a consultation process, in 1998 the government's Panel for Sustainable Development Education (SDEP) wrote a report as a contribution to the (then current) review of the English national curriculum. In it, it identified seven key concepts (it also called then principles / dimensions) of sustainable development. These are:

1. Interdependence – of society, economy and the natural environment, from local to global

Understanding how people, the environment and the economy are inextricably linked at all scales from local to global.

2. Citizenship & stewardship – rights and responsibilities, participation and co-operation

A sense of responsibility for personal and group actions, and an awareness of their likely impact on natural and human communities, both locally and globally.

3. Needs and rights of future generations

Appreciation that the quality of life of future generations is endangered or enhanced by actions we take now.

4. Diversity – cultural, social, economic and biological

Respecting and valuing both human diversity – cultural, social and economic – and biodiversity.

5. Quality of life, equity and justice

Appreciating why equity and justice are essential to sustainability and that basic needs are vital everywhere in the world.

6. Sustainable change – development and carrying capacity

Understanding that resources are finite and that this has implications for people's lifestyles, and for economic and political priorities.

7. Uncertainty, and precaution in action

Appreciating that there are a range of possible approaches to sustainability and that situations are constantly changing, indicating a need for critical thinking and lifelong learning.

The Panel explained the rationale underpinning this selection:

“The first concerns the interdependent nature of the world. This gives rise to the need for a participative response through the exercise of citizenship and stewardship ... The third through sixth concepts cover further key dimensions of sustainable development, leading to the seventh which, as a logical consequence of those that precede, is concerned with the limits of knowledge and exercise of the precautionary principle.”

Although these ideas were briefly taken up by QCA in the early 1990s, they were not built on when DCSF developed the National Framework for Sustainable Schools with its eight doorways⁴⁵. They remain, however, a valid framework for critical and creative thinking which complement the doorways as ways to think about sustainability across community, curriculum and campus, and as a means of identifying learning outcomes. The Panel recognised this potential, and the report also set a range of generic and indicative learning outcomes for each of the key concepts. It did this in two ways:

[i] in relation to values and dispositions, skills and aptitudes, and knowledge and understanding; and

[ii] in terms of what might be learned at the end of each of the five key stages of formal schooling (age 5 to 19).

This detail is set out at <http://www.bath.ac.uk/cree/publications/index.html>

In its *key concepts* report to QCA, the Panel recognised the necessary limitations of what they outlined, calling for “further elaborative work [and] exemplification”. It is certainly the case that, despite their being 10+ years old, these ideas remain the best starting point for any school wishing to think through what young people might learn in relation to sustainability. This is hardly surprising, given that the issues the world faces have not got any less serious, or more narrow, in those intervening years.

Natural & Built Capital – NBC

In many ways this ought to be the easiest category to write stage descriptors for in that aspects of the area lend themselves to quantifiable measurements, for example, in relation to energy and water. It is also the only one that has some obvious end-points. In terms of stages, the following seem appropriate:

1. Initial exploration

Limited, responsive, changes are made following conventional framings, for example in relation to recycling and composting initiatives by LAs and/or NGOs.

2. Some assimilation

With awareness raised, piecemeal, opportunistic change occurs and all improvements that are feasible without a strategic review or significant investment are made. There is a growing understanding that active steps need to be taken on all fronts, including planning to enhance biodiversity as well as reducing footprints.

3. More strategy

Following revisioning, a carbon reduction strategy is evolved and agreed, along with a biodiversity enhancement strategy; these are implemented, monitored and audited as a normal part of school review that embraces both curriculum and campus activities (ie, human and social capital measures).

4. Towards restorative

In a sustainable school, over time, the ...

1. Net amount of energy imported from the grid reduces, becomes zero, and then net energy exports increase
2. Amount of water brought in from external sources, and the amount of waste water and sewage sent off site for treatment falls to zero
3. Waste organic matter on site that is composted rises to 100%
4. Biodiversity value of the grounds increases
5. Carbon footprint of the school's transport falls to zero
6. Food miles associated with food consumed in the school falls to zero
7. Waste sent to landfill falls to zero
8. Proportion of materials that can be recycled increases, but the actual amount falls
9. Use of virgin raw materials falls to zero

The rate at which progress is made in making these shifts depends not only on leadership and context, but also on the rate of investment in buildings, energy systems and the like. As such, the notion of stages has limited utility, except in that institutions can themselves identify what these should most usefully be, seeing progress in either absolute terms, or as percentage improvements; for example, setting year-on-year percentage reduction targets might be useful in some circumstances.

Concluding Remarks

In all this, however, two things are clear: progress through each of these stages is independent of each other, and leadership sets limits on what can be achieved. If it is effective, school leadership can lead to the evolution of carbon reduction and biodiversity enhancement strategies, to curriculum re-orientation and a rethinking of the school's contribution to social capital. Unless school leaders understand the issues, and are in the vanguard of change, however, little of real substance will be possible. It is for this reason that the recent work of the National College is of such significance.

Appendix 12: School Statistics Summarised by Category

Criteria for selection:

Underwhin	Recommended by local experts as a school beginning to try to become more sustainable
QAC	Recommended by local ESD experts as a school trying to become more sustainable
Maincross	Recommended by ESD experts as an outstanding example of sustainable school buildings; a government exemplar of the 'Building Schools for the Future' programme
Maunder	Recommended by national ESD experts as an outstanding example of a sustainable school
Valleyside	Recommended by national ESD experts as an outstanding example of a sustainable school

Location:

Underwhin	Market Town area with 10-15,000 inhabitants
QAC	Market Town area with 20-25,000 inhabitants
Maincross	Market Town area with 35-40,000 inhabitants
Maunder	Market Town area with 10-15,000 inhabitants
Valleyside	Parish area with 15-20,000 inhabitants

Eco-schools awards:

Underwhin	None
QAC	Bronze; Silver
Maincross	Bronze; Silver; Green Flag (award now expired)
Maunder	4 Green Flags over a ten year period
Valleyside	Green Flag

Pupils on Roll:

Underwhin	1500-1749
QAC	1750-1999
Maincross	1500-1749
Maunder	1000-1249
Valleyside	500-749 (2012 figure)

Specialism:

Underwhin	Sports
QAC	Arts
Maincross	Science
Maunder	Languages & Technology
Valleyside	Technology

Provision:

Underwhin	11-18
QAC	11-18
Maincross	11-18
Maunder	11-16
Valleyside	11-16

Percentage of Pupils achieving 5+ A*-C GCSEs (or equivalent), including English and maths GCSEs, average, last four years:

Underwhin	56.75%
QAC	54%
Maincross	40.75%
Maunder	59%
Valleyside	56.75%

2011 GCSE Grades:

	Low attainers	Middle attainers	High attainers
Underwhin	E+	C-	B+
QAC	E	C	B+
Maincross	F+	D	B
Maunder	E-	D+	B
Valleyside (2012 figures)	F+	D	B-

Teacher Numbers:

	Teachers	Teachers FTE	Pupil: teacher ratio
Underwhin	120-139	100-119	15-16
QAC	120-139	100-119	16-17
Maincross	100-119	80-99	16-17
Maunder	70-79	60-69	17-18
Valleyside (2012 figures)	40-49	40-49	15-16

Teaching Assistant/Support Staff Numbers:

	TAs	TAs FTE	Support Staff
Underwhin	40-49	25-29	60-69
QAC	40-49	30-34	70-79
Maincross	50-59	25-29	60-69
Maunder	15-19	10-14	30-39
Valleyside (2012 figures)	15-19	10-14	15-19

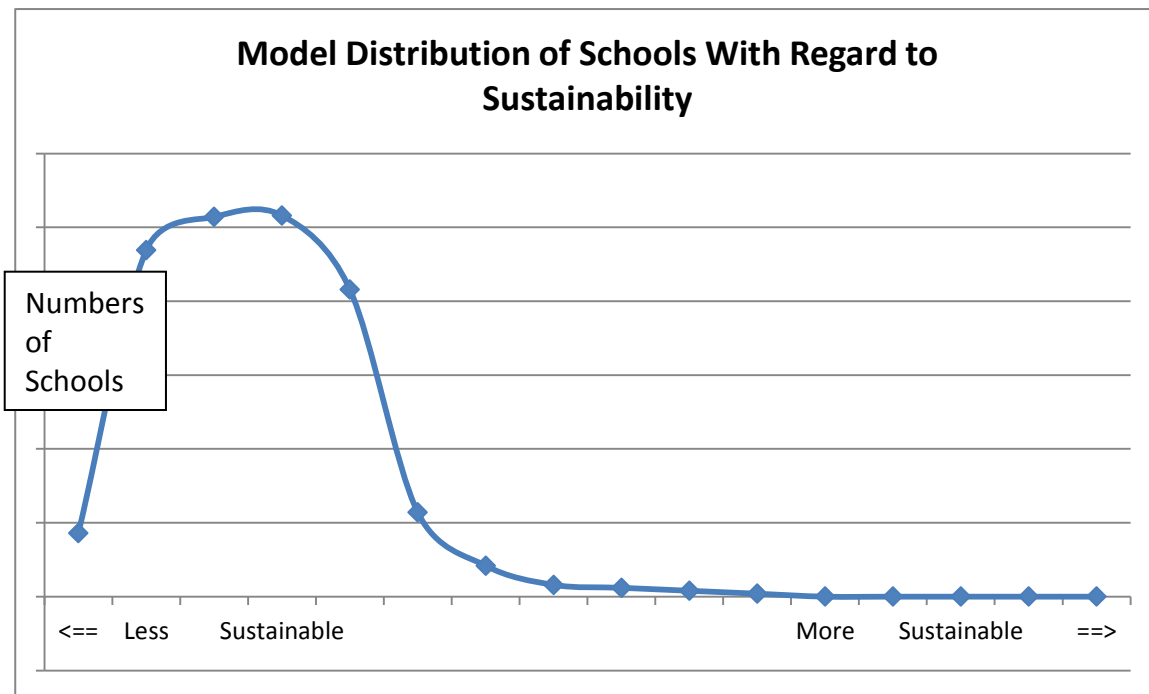
Last three Ofsted Inspection Grades:

	1(1)	2	B
Underwhin	1(1)	2	B
QAC	3(3)	3(2)	2
Maincross	3(3)	3	C
Maunder	2(2)	1	No Data
Valleyside	1(1)	3	3(2)

Appendix 13: Further Suggestions (1) – Modelling the Distribution of Sustainable Schools

It is also worth noting that schools are not distributed evenly across an imaginary model continuum of 'more sustainable'-'less sustainable', so choosing schools to show different levels of advancement towards sustainable schools status is difficult. Even schools that are considerably more committed to sustainability and advanced towards it than almost all others, those which could be considered national leaders in this field, are by no means perfect exemplars of 'the sustainable school'. Based on the fact, noted in Ofsted reports on sustainability in schools, that even the most sustainable schools in this country are still some way from achieving sustainable school status (Ofsted, 2003, 2008, 2009), a 'bell curve' graph displaying the distribution of schools along this continuum would show many towards one side:

Figure 8.1: Idealised Distribution of Schools With Regard to Sustainability



There are a lot of schools finding difficulty in being more like the ideal sustainable school. According to the figures quoted above (see Section 3.5.5), receiving a Bronze Award from Eco-Schools might seem like quite an achievement – by no means 'typical' – but the Eco-Schools award system goes only as far as the Green Flag status, which (see Sections 2.2 & 3.5.5) is a rather limited view of what a sustainable school might be. Martin et al's criticism (2013) of the scheme – that even Green Flags are relatively easy to achieve – identifies another weakness. If schools with Green Flags – even those with several – are short of the ideal, where do Bronze Award winners fit in³⁷? Consequently, the range of actual 'success' across schools is very small relative to the range across the whole continuum. Choosing schools that are very much 'less sustainable' has inherent problems in that these schools are

³⁷ In 2008, there were about 25000 schools in the UK, and 1100 Green Flag awards had been made (see 3.5.5 above)

likely to have other problems; choosing those that are closest to the opposite end of the axis is equally problematic, as there are so few of them: other schools will not be able to compare their situation with such unusual schools.

Appendix 14: Further Suggestions (2) – ‘Recycling Natives’

I noticed in all the schools I visited that staff and students were able to associate recycling with sustainability. This may be a positive sign for advocates of sustainability like myself, in that a strong association with sustainability does at least exist; however, I speculate that no-one in the education system is taking responsibility for sustainability, and a school successfully recycling paper is a very small contribution to sustainability, and not one that should allow them to believe that they have ‘done their bit’. Of course, recycling is not a substitute for reduced use of resources: this may be an indication of the limited, uncritical, understanding of sustainability in schools (and wider society), in that most school members see recycling as unquestionably good sustainability behaviour. An interesting comparison can be made with the findings of Winter & Cotton (2012), who, although researching in HE, found that students had a similar conception of ‘doing their bit’ by performing certain, relatively simple and small tasks around sustainability. One of these was, in fact, recycling.

However, my point here is that recycling does seem to be one area in which schools know what they should be doing, and are generally capable of at least beginning to do that. I was impressed by the attitude of many students towards recycling: even those who were really not *au fait* with sustainability were able to give me details of the recycling they did and home, and to compare this (generally) favourably with the situation at their schools. I attempted in this thesis to establish whether it was possible for a school to have a culture centring around sustainability, and one area in which sustainability was in the culture of my case study schools was recycling. They all had different approaches, and this is not to say that they were very good at recycling compared to other schools I have visited, but it is interesting nonetheless. I suspect that recycling is established as a cultural norm in a wider section of society than simply in schools, and that the students who talked to me about recycling, in the same way that they are ‘digital natives’ familiar with ICT through exposure to it as a norm throughout their lives, may be the first generation who might be called ‘recycling natives’. It also indicates the importance of wider influences, particularly from home, on sustainability behaviour in students.

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