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LEARNING FOR SUSTAINABILITY

One School at a Time – A Decade of Learning for Sustainability

MAKING THE CASE FOR A PARTICIPATORY, WHOLE SCHOOL APPROACH TO LEARNING FOR SUSTAINABILITY IN PRIMARY AND SECONDARY SCHOOLS IN THE UK

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EXECUTIVE SUMMARY

WWF-UK has been working with education professionals since 1981. Recently in the UK, the distinct fields of development education, global dimensions education, environmental education, citizenship education, peace education and others have been challenged by education for sustainable development (ESD). WWF continues to recognise and promote work in all these fields, but has developed its own unique approach to integrating them – an approach it calls *Learning for Sustainability*.

Learning for Sustainability refers to all the different processes that advance the knowledge, skills, values and attitudes that empower and enable individuals, schools and communities to pursue social justice, economic security, environmental stewardship and civic democracy as complementary goals – now and in the future.

Learning for Sustainability is a lifelong process, or journey, influenced by the social and environmental contexts in which it takes place. It's not a new field or merely a cross-cutting theme; it's the essence of a whole school or community ethos that helps people of all ages make better sense of their world.

Each school's *Learning for Sustainability* journey is unique. *Learning for Sustainability* is different in each place it is practised. Its key concepts, processes and design practices reflect the character of the local community – its environment, social setting, economic development practices and links to the global community. Each school sets off on its journey with a unique set of human and financial resources, and a range of institutional capacities to embrace and develop a whole school approach to *Learning for Sustainability*.

From 1994 – 2004, WWF-UK sponsored school award schemes as an incentive for interested schools to use an action research approach to advance *Learning for Sustainability*. In each of five award schemes, we selected a small number of schools and worked closely with them to both support and learn from their experiences. Participating schools were offered professional development services, technical support and funding. These schools developed innovative practices that focused on many individual aspects of ESD in schools, including school culture and ethos, school assessment, teaching and learning, pupil involvement, community links, school leadership and school estate management.

We have used what we learned by working this way to inform and influence government and non-governmental organisations with an ESD remit in England and Scotland. In England, our schools' case studies have inspired and contributed to the development of national curriculum

requirements for ESD, government-sponsored ESD websites, and a range of classroom resources and professional development opportunities.

What we viewed initially as independent levers for advancing *Learning for Sustainability* in schools – school culture and ethos, school assessment, teaching and learning, pupil involvement, community links, school leadership and school estate management – we now recognise as a system of levers that can be addressed together. Although we always acknowledged the systematic relationships among these, our experiences with schools revealed a framework through which schools successfully could advance a whole school approach.

WWF-UK continues to learn from the experience of educators. We have collected more than 33 individual school case studies and continue to support schools' *Learning for Sustainability*. In the past 10 years, an ESD-focused community of professional practice has emerged in the UK. The experiences of this community have, and continue to make, *Learning for Sustainability* accessible to a growing number of schools in England and throughout the UK. In the coming decade (2005 – 2014) – coined the 'Decade of education for sustainable development' by the United Nations – the formal education sector in the UK and around the world will face new opportunities and challenges. We hope to support the efforts of UK schools, to learn from them, and to share their learning as they continue to build whole school approaches to *Learning for Sustainability*.

PREFACE

A short history

WWF-UK was founded in 1961 as a conservation organisation with an education mandate. In 1981, it formed its Education Department. Headed by education for sustainability pioneer, and former teacher, Peter Martin, the new department targeted a number of education audiences including primary and secondary schools around the UK.

From the start, the Education Department's Formal Education Unit engaged schools in an active and open-ended learning process. This approach complemented the conservation and environmental education materials for which the department quickly became well known. This method of engaging schools encouraged them to take an action research approach to the development of good practice – an approach through which the cyclic process of learning, practice, reflection, and revision generated fresh and contextually-appropriate educational practices.

To support schools and educators in the UK taking this approach, over the years WWF-UK sponsored a variety of national award schemes. These schemes initially focused on environmental action (two schemes from 1984 – 1987) and curriculum development (11 schemes from 1982 – 2000), but later were broadened to consider whole school policy (five schemes from 1994 – 2004).

Five of these more recent school award schemes – and the schools throughout the UK that participated in them – are the focus of this publication.

Focus on England

The school award schemes advanced *Learning for Sustainability* in England as well as in the other devolved countries of Scotland, Wales and Northern Ireland. In each place, education for sustainable development (ESD) has secured a place in the curriculum, and this has encouraged many organisations and agencies to develop resources and services to support ESD in schools. In England, the utility of a growing body of evidence has advanced both the scope and the quality of sustainability initiatives in the formal education sector. It also has informed evolving formal education ESD policies, and school and estate management.

During the time when these award schemes were running, a government panel, sponsored by England's Department for Environment, Farming and Rural Affairs (DEFRA), was convened to articulate the role of education for sustainable development in the formal education sector. Peter Martin sat on the DEFRA panel and many of his valued contributions were based on the evidence of good practice reflected in the CMAS schools' case studies. This

Recent school award schemes

The Curriculum Management Award Scheme (CMAS) offered schools training, consultancy services and financial support over two years in order for them to plan and implement a strategy to introduce, expand or integrate education for sustainable development. The programme ran from 1994 – 1999.

The Luton Peshawar Initiative for Sustainability (1997 – 1998) added an international exchange element (between English schools in Luton and Pakistani schools in Peshawar) to the CMAS.

The **Bright Sparks Award Scheme** was developed in partnership with Scotland Hydro Electric for schools in Scotland. It aimed to stimulate good practice in relation to Environmental Studies 5 – 14, particularly the Developing Informed Attitudes strand. Schools were invited to submit classroom projects on the themes of 'People and Trees', 'People and Energy' and 'People and Water' and to write a case study documenting the projects' outcomes, outputs and lessons learned. The Generators and Live Wires extension programmes encouraged, respectively, further or new project developments and the dissemination of experience.

Making it Happen (MIH), ran from 1998 – 2000. Winning schools developed and implemented a two-year project that introduced a whole school approach to ESD. As with earlier award schemes, the MIH schools developed case studies that documented their experiences.

Our World (2002)
aimed to engage schools in the World Summit on Sustainable Development and give young people a voice at the Summit.

was a time of intellectual debate and pedagogical innovation. Ultimately, education for sustainable development (ESD) emerged as a new statutory requirement of the revised National Curriculum (2000) which not only identified ESD as an overarching educational theme, but it also articulated subject requirements for science, geography, design technology, and – in time – citizenship.

With the statutory ESD requirement came increased interest and support from non-governmental organisations (NGOs) and government agencies with formal education remits. Many NGOs, previously engaged in environmental, development or global dimensions education, expanded their work to include ESD. Government agencies in England – notably the Department for Education and Skills (DfES), the Qualifications and Curriculum Authority (QCA) and Ofsted (Office for Standards in Education) – recognised their role in promoting ESD and launched a number of projects and initiatives.

QCA was the first government body to develop a website to support ESD practice in England's primary and secondary schools. This site was developed in consultation with ESD practitioners and featured ESD case studies, including case studies from schools participating in the WWF-UK school award schemes.

In 2003, Ofsted conducted a study to explore the possibility of including ESD in its school inspection procedures. Like the QCA website, the Ofsted study also benefited from the case studies and ongoing practice of schools whose efforts had been catalysed by the WWF-UK school award schemes. The outcome of the Ofsted study was a report about the good ESD practice developing in schools, and a decision not to include ESD in inspections at this time.

In September 2003, the Secretary of State for Education, Charles Clarke, launched a DfES action plan for ESD. The plan focused on both learning and school estate management. In support of the action plan, DfES launched their own web-based ESD resource within its popular TeacherNet website. WWF-UK supported the initial development of the new website and, in Autumn 2004, was asked to contribute its newly piloted *Development Framework* as the organisational backbone for the re-launch of the site.

The *Development Framework* is a flexible, non-prescriptive set of sequenced activities and tools that offers schools a participatory process for a whole school approach to *Learning for Sustainability*. The framework was piloted by 11 UK schools (eight schools in England) that participated in the 2004 school award scheme. No longer called a school award scheme, but rather the School Support Service, the project was similar to, but not exactly the same as, previous award schemes. The most notable difference was the

common approach to context setting, self-assessment, strategic planning, and monitoring and evaluation outlined in the *Development Framework* and utilised by the participating schools.

The *Development Framework* reflected more than 10 years of school experience and so it was not surprising that pilot schools found it easy to use and highly effective. With the *Development Framework*, WWF-UK had reached the point where more than a decade of working intensively with small numbers of schools at a time offered insight into a process that could enjoy popular support. The *Development Framework* does not depend on the presence of a highly innovative individual with a working knowledge of sustainability principles (a person like this was one of the hallmarks of virtually all of the schools that participated in the award schemes over the years). The *Development Framework* opened-up whole school ESD approaches to all school leaders prepared to address this increasingly accessible National Curriculum requirement.

As WWF-UK reflected on its own learning, it commissioned a 2004 Case Study Mapping project. The intention of the project was to re-examine the school award scheme case studies in an effort to summarise what we had learned by working over the years with 'one school at a time'.

The schools' collective experiences offer insight into both the evolving complexity and the sophistication of whole school approaches to *Learning for Sustainability*. They also reflect the immeasurable importance of the local and global context on *Learning for Sustainability* practice. Most powerful, however, is the creative enthusiasm that is expressed by educational professionals inspired to cultivate learning communities that empower and enable children to imagine a future in which people live in harmony with other people, and with the ecological communities to which they are inextricably linked.

Although this brief history has focused on the ways we have used our experience working with schools to influence policy in England, we have worked in similar ways in Scotland, and to a lesser extent in Wales and Northern Ireland.

Innovation and change

WWF-UK has long been interested in effective ways to encourage change – in this case, change that places sustainability at the heart of the school ethos. Our 'one school at a time' approach has offered exceptional opportunities to work with innovative education professionals with the imagination and talent to help their schools chart a new path. Their work often takes the form of experimentation, followed by reflection and further experimentation that

takes into account earlier learning. This action research approach has produced examples of good practice that have inspired early adopters – education professionals who confidently apply or adapt innovations.

However, these innovations are unlikely to be taken up by education professionals, other than the early adopter, without having support systems in place. These support systems take the form of continuing professional development, pre-service training, and easy access to a wide range of classroom resources and technical support services – the basic elements of our past and present school award and support projects.

The identification and refinement of these support system elements has been as important to the popularisation of whole school approaches to *Learning for Sustainability* as are the specific good practice exemplars. The fact of the matter, however, is that the innovators do not depend on these support systems – and may not even use them when they are available. The support systems are, however, very important to the early adopters and to the next tier of education professionals whose willingness to pursue whole school approaches to *Learning for Sustainability* is fuelled by the experience, practice and success of the early adopters. So the range and content of the support systems is necessarily informed by the early adopters, rather than the innovators.

As both these groups have been represented in the school award and support schemes, WWF-UK has applied its own learning to the development of its website, **www.wwflearning.co.uk**, and to its professional development and classroom resource offerings. What we have learned through the development of these support systems has enabled WWF-UK to make meaningful contributions to government-sponsored ESD websites and to a variety of system-building projects undertaken by other NGOs and government.

We have found that this transition from experimentation by innovators, to piloting by early adopters, to the development of systems to support the wider popularisation of whole school approaches to *Learning for Sustainability* is the key to the changes in formal education that drive our work. We offer this compilation of case studies from UK primary and secondary schools as the evidence base on which we continue to build our understanding of the possibilities and importance of whole school approaches to *Learning for Sustainability.*

SECTION 1

CASE STUDY MAPPING

Introducing the case studies

The case studies contained within this publication do not cover the whole of each school's journey towards *Learning for Sustainability* (LfS); rather they illustrate aspects that the teachers felt would particularly help other schools. Some are curriculum-based, illustrating the process of developing a 'sustainable' curriculum throughout a school, or focused on particular subjects such as literacy, maths, music or PSHE. Other case studies address aspects of the hidden curriculum relevant to LfS, such as how Christmas is celebrated, how decisions are taken, and relationships between the school and parents or the local community. The schools range from small rural schools to large, inner-city schools and from infant and nursery to secondary and special schools.

Key elements of *Learning for Sustainability*

The 'key elements' illustrated in this narrative reflect those identified by educators with whom WWF has worked – they are not exhaustive. Related elements have been grouped under six theme headings (see below) which reflect Ofsted's school self-evaluation form and can be used by schools to identify current strengths and areas for improvement. There are many overlaps between the elements, eg 'links with the community' are often part of 'quality teaching'; participation in 'monitoring and evaluation for good practice' may lead to 'pupil empowerment'; and 'school grounds' may be developed in a way that increases understanding of biological and human 'diversity'.

As the case studies have been produced over a number of years, a variety of terminology is used, including 'environmental studies' and 'education for sustainable development (ESD)' as well as *Learning for Sustainability*. The case study examples included in this publication do not illustrate all aspects of the key elements listed below. The italicised sections in the text below are descriptions of the key elements, taken from WWF's *Development Framework* for *Learning for Sustainability*.

The Development Framework's themes and elements

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Element 6.2: School grounds

THEME 1: SCHOOL CULTURE AND ETHOS

Element 1.1 Whole school approach

Each school has different approaches to the ways in which they communicate and make decisions. A whole school approach brings together the entire school community – or an equitable representation of all the stakeholders. This enhances the potential for the school community to govern themselves and strengthen the variety of relationships that exist.

College House Junior School (CS 4) found that a Behaviour Working Party which included pupils, teachers, parents, governors and midday supervisors, working together to define, communicate and reward 'acceptable' behaviour, had a major, long-term impact on improving behaviour across the school, as well as achieving high levels of satisfaction with the process of behaviour management among pupils, parents and staff. This has led to a more 'inclusive' approach to decision-making in many areas of school life.

Brixington Junior School (CS 18) set up a team which would have overall responsibility for ESD. It began with two teachers (who became subject leaders for ESD), but was widened to include a teacher from each year group and four teaching assistants. The subject leaders reported back to

the School Management Team, the Parent Teacher Group and the Governing Body. Prior to this project, Ofsted noted that pupils were not involved in decision-making concerned with the running of the school. A School Council was set up (including representatives from each class, four teachers and a teaching assistant) with a variety of sub-committees (eg grounds, finance, transport) and rapidly became an influential body. Members developed a School Council Policy (approved by governors) and the Council has its own budget and manages a number of projects.

Royton and Crompton Secondary School (CS 13) have developed a Personal, Social and Health Education (PSHE) programme with a strong 'active learning' approach to provide opportunities for students to reflect on a wide range of issues and values and support the knowledge-base for ESD developed in other subject areas. A central aim is developing active citizenship skills. Opportunities for putting theory into practice are provided through a structure which includes a School Council, with form and year group representatives, Assistant Heads of Year and Senior Management; a volunteer Green Group, also represented on the School Council; and an Environment Group, which comprises members of the whole school community, including pupils, teachers, senior management, ancillary staff and governors. Pupils are also involved in the borough Environment Forum and Youth Action Group, and representatives from local groups and the local authority support the PSHE programme.

Element 1.2 Whole school policy

Each school has written plans and policies that articulate its mission and values, and describe the way it operates. By including Learning for Sustainability within these plans and policies, the school signals its intention to address the elements of Learning for Sustainability in all aspects of school life and decision-making.

Policy can be developed at a range of levels. The case studies show that *Learning for Sustainability* principles built into 'charters' developed with pupils, ESD policy statements within curriculum subjects, or whole school development plans, can have considerable impact on the direction of future developments.

Pupils and teachers in ***Craigellachie Primary School*** (CS 25) worked together to develop a charter for their school grounds. The charter included sections on 'action for a sustainable environment' and 'action for children' and shaped the choices made when developing the grounds.

Brixington Junior School (CS 18) invited all subject leaders to write a policy statement about how ESD can contribute to their subject and vice-versa, and to develop their existing schemes of work to include ESD. The process

took a year, at the end of which the school had a document containing ESD lessons which were relevant to the school, linking with pre-existing curriculum topics. A separate ESD Scheme of Work for each year group, taking six hours per year, was written and resourced by ESD subject leaders who monitor teaching and learning, produce a portfolio of good work, and report to governors. The policies and schemes of work were discussed with all staff and presented to the governing body before being adopted as part of the formal curriculum.

After a number of years of involvement with environmental decision-making and action, ***College House Junior School*** (CS 4) recognised the need formally to build up the knowledge and skills that are vital to being an informed and active citizen. They created an Environment Policy to spell out the philosophical reasons behind what they were doing; identify key skills and concepts needed; provide a time-tabled framework in which specific topics would be covered; and raise awareness with new staff and parents. This policy has provided a foundation for building ESD objectives into curriculum planning.

Hope Valley College (CS 8) made ESD a college development priority so that all development plan authors were required to address and be accountable for implementing ESD. This enabled staff to address sustainability more explicitly in their teaching.

At ***Ansford Community School*** (CS 1), an Environmental Working Party was established, including teachers from most curriculum areas, governors and students. All ideas, issues, audits and evaluation work relevant to *Learning for Sustainability* were coordinated and discussed by this team and a policy was eventually formulated and approved, including a 'What we want to gain' section, so that the group knew what it was aiming for.

THEME 2: MONITORING AND EVALUATION

Element 2.1 Monitoring and evaluation for good practice

Learning is a cyclic process and one that is at the core of educators' efforts to develop good practice. Monitoring and evaluation are essential opportunities to reflect on and record learning. The action learning approach and action research offer educators a structured approach to developing good practice through a cycle of planning, acting, observing, reflecting and revising.

The case studies demonstrate a variety of approaches to monitoring and evaluation, involving different members of the school community. The examples below show that an action learning approach can be equally successful in a pupil-led project and in collaborative curriculum planning.

Year 3 pupils (7 – 8 year olds) at ***St Mary's Primary and Nursery School*** (CS 15) used an action research approach to improving school playtimes as part of a geography topic on the local area. They defined the problem, planned a solution and how to finance it, negotiated the proposal with the Head Teacher and presented it to other pupils and parents through an assembly and newsletter. The idea was then tried for half a term, problems were identified and further solutions tried out. A questionnaire to all pupils at the end of the trial period established that the devised system was successful. The process has continued to develop as needs have changed and other ideas have been suggested through the School Council.

Denbigh Infant and Nursery School (CS 17) uses a number of approaches to monitor and evaluate its efforts to improve home/school liaison. The Coordinator records parental attendance at projects, workshops, clubs and events. Parent governors, tutors and key teachers involved in individual projects are consulted during and at the end of the projects. Parents are consulted to gain insight into ways in which the school can support them in the education of their children. The Home/school Liaison Coordinator and the Head Teacher meet once a term to review work and discuss improvements.

At ***St Paul's Primary School*** (CS 16), staff meeting time is used for action learning. Staff split into Key Stage groups and each person is given 30 minutes to ask for help in planning and solving problems. During this time, the group focuses on the needs of that individual, challenging their thinking in a supportive and confidential environment. At the next meeting, the person reports back on progress. Collaborative planning and action learning have given staff ownership of their projects and 'made things happen', and staff are now trying to give increasing ownership of project development to pupils.

Evaluation is an integral part of the PSHE curriculum at ***Royton and Crompton Secondary School*** (CS 13). Each pupil is given the opportunity to reflect on their own learning and the content and format of each lesson. Every unit of work is evaluated by a 'focus group' of randomly selected pupils from each teaching group who have a written and oral interview with the Head of PSHE. Pupil evaluation includes teaching and learning styles and resources, and feeds into teacher evaluation, so the PSHE curriculum evolves annually into something pupils perceive as a positive tool in their own personal development. In addition, volunteer Year 10 pupils (14 – 15 year olds) have contributed to long-term curriculum development by reviewing the whole PSHE curriculum with the PSHE Coordinator. They identified issues they felt were important but underdeveloped and suggested changing the delivery time of certain topics to match the changing needs of pupils.

THEME 3: TEACHING AND LEARNING

Element 3.1 Formal curriculum (core and non-core)

The formal curriculum is the plan the school has for implementing the national curriculum requirements. Effort must be made to secure the position of Learning for Sustainability within the curriculum because it is a cross-cutting theme. Like the larger curriculum, Learning for Sustainability requires a progression (scope and sequence) that ensures that key concepts, theories, skills, values and attitudes are introduced and reinforced at developmental levels appropriate to pupils.

The case studies show that *Learning for Sustainability* can be built into the whole range of curriculum subjects including literacy, maths, science, ICT, geography, music, RE and PSHE. Some of the case studies contain easily replicable teaching ideas. Others illustrate progression through a subject, and others describe processes of building ESD across a school curriculum.

Maths may not be a curriculum area that springs to mind when thinking about *Learning for Sustainability*, but two of the case studies illustrate its relevance. ***Raigmore Nursery*** (CS 31) describe how an active learning approach to 'environmental numbers' encourages pre-school children to appreciate mathematics as a natural part of their everyday lives while increasing awareness of their environment and developing citizenship skills through collaborative problem-solving. The Maths Department at ***Crispin Comprehensive School*** (CS 5) used the topics of 'Oil Spills' and 'Population Explosion' to develop ICT work on spreadsheets for Years 8 and 9 (12 – 13 and 13 – 14 year olds, resepctively), with support from ICT and science colleagues. The outcome of the pupils' work is group presentations using tables and graphs plus research and data analysis to explain the issues. As well as exploring sustainability issues and giving pupils an insight into the relevance of maths and ICT for describing, explaining and predicting events in the real world, the project helps them develop research, language and cooperative-working skills and critical thinking.

At ***Farnborough Grange Nursery/Infant School and Early Years Centre*** (CS 7), staff felt that, by careful choice of materials and activities, ESD could contribute to fulfilling the National Literacy Strategy. Early language and literacy depends on the motivation to communicate, which comes through challenging, practical and active involvement with meaningful issues. In their case study, Farnborough Grange share ideas for texts, activities and learning approaches which they have found support the development of both ESD and literacy skills, and address aspects of PSHE.

Beech Hill County Primary School (CS 2) have a specialist music teacher, who was able to plan for progression in ESD. She describes how she worked from Reception to Year 6 (4 – 11 year olds), on ideas concerning empathy;

interdependence and team work; emotional literacy; relationships between humans and the natural world; and fair trade, all drawn out while fulfilling the music curriculum.

Selwood Middle School (CS 14) began to integrate ESD into the curriculum through a topic in each year group. A cross-curricular topic, 'Eco-Dome', at age 10 set the scene by exploring how people could live sustainably in a limited area of land. This was followed by an English topic at age 11, a geography topic at age 12 and a science topic at age 13. PSE topics were designed for each year group, which developed the issues raised in the other subject topics. This was a way of linking all the units together, showing pupils that the environment can be studied in various ways, encouraging them to take responsibility for their own impact, and making explicit the values and attitudes underlying the 'knowledge' base developed in the subject areas. To increase understanding of the connections, each pupil has a 'Green Book' – a four year record of work relating to 'sustainable lifestyles', which becomes part of their Record of Achievement.

Golspie High School (CS 26) faced problems common to many secondary schools delivering a cross-curricular theme (ESD) across a fragmented and pressurised curriculum. In response to government advice "...to provide more coherence across the S1/S2 curriculum" (for 12 – 14 year olds), a core group of teachers, representing different faculty areas, chose the theme of waste and recycling as a vehicle for cross-curricular links. The establishment of a wormery for composting school organic and paper waste reduced waste going to landfill, involved the whole school community, and stimulated discussion of related wider issues. Each subject department identified areas in their syllabus where waste was currently being addressed, and small changes in emphasis supported a more holistic approach. ' The environment' is no longer seen as something covered just by the Science Department.

Ansford Community School (CS 1) describe how they progressed towards a cohesive curriculum approach to ESD from one-off environmental projects, through training about sustainability issues, to departmental audits, new subject modules and 'progress tracking'. The diary of 'Stewart, the sustainable student', from age 12 – 16, graphically illustrates his development in understanding through age-appropriate curriculum and extra-curricular activities.

See also 1.2 ***Brixington Junior School*** (CS 18) for a description of how policy led to curriculum integration.

Element 3.2 Diversity

Human and biological diversity is at the heart of our concern for Learning for Sustainability. A deep understanding of different cultures and societies,

as well as the global ecological importance of biological diversity, is rooted in early experiences that build awareness of others and other organisms in relation to self. It is deepened by the exploration of information, values and attitudes that identify sources of prejudice or indifference, and ways to address these. Schools' expressions of, respect for, and value of, diversity model these behaviours for pupils.

Respect for diversity begins with attitudes to others in the school. This is illustrated by ***Tolworth Infants' School's*** (CS 22) work to develop children's emotional literacy and citizenship skills through Circle Time and a School Council. This has been reflected in more inclusive playtimes in which children are actively aware of others' needs and equipped to resolve conflict appropriately. ***Beech Hill's Junior 'Listening Council'*** (CS 3) demonstrates an effective way of enabling children to develop the skill of appreciating the opinions and rights of others.

Woodfield Infants' School (CS 24) describe how, through using picture books about children's lives around the world, the youngest children can begin to develop an awareness and respect for different cultures and ways of life. ***Farnborough Grange Nursery/Infant School and Early Years Centre*** (CS 7) explain how careful selection of texts allows them to utilise the National Literacy Strategy for England and Wales to explore ESD values and attitudes, and list books which have helped them raise awareness of both human and biological diversity.

Hope Valley College (CS 8) and ***Mayfair House*** (CS 9) demonstrate the learning and benefits that can result from thinking about abilities/disabilities in the wider community. The Community Access Group, who meet regularly at Hope Valley College, raised the issue of lack of access to the Peak District National Park for those with limited mobility. Researching a solution to this problem became a context for establishing ESD as part of the learning experience of all 11 – 14 year old students, motivating pupils and increasing departmental cooperation, as well as providing a genuine community service. Mayfair House students have moderate and severe learning difficulties. A decision to develop their garden for others in the community encouraged the students to look beyond themselves and become aware of other people's needs. As well as developing problem solving and communication skills, the realisation that they could have a positive impact on someone else's life provided a tremendous boost to the student's confidence and self-esteem.

Pupils at McLean Primary School (CS 30) took action to increase biodiversity in their own environment. Discovering the variety of life supported by a local woodland inspired them to create a small woodland in their school grounds. The children managed the project, taking control of its direction and their own learning, producing a consistently

high level of work, and raising the awareness of others, and addressing the curriculum requirements for Developing Informed Attitudes, Environmental Studies and ESD. ***Ansford Community School*** (CS 1) show how science at age 13 can raise awareness of human impact on ecosystems. During an Eco-Day, students from ***Fallibroome High School*** (CS 6) contributed to a county species-recording scheme and surveyed biodiversity in their school grounds before making recommendations for future management for biodiversity.

The case study from ***Shacklewell Primary School*** (CS 21) describes how school grounds can be used to increase understanding and respect for human and biological diversity. In a built-up, inner-city area, developing school grounds for biodiversity is particularly important to provide pupils and the wider community with direct experience of wildlife, as well as providing a wildlife haven. Each class 'adopted a species', researching the conditions necessary to attract them to the school grounds. A multi-cultural area reflects the diversity of cultures within the school community, and parental involvement has been raised by holding targeted cultural celebration days (beginning with Nigerian and Turkish) which attract large numbers of the local community, increase awareness of the richness of local cultures and include 'garden consultations'.

See 5.3 for examples of how links with schools in other parts of the world have contributed to respect and awareness of diversity and teaching global dimensions.

Element 3.3 Quality teaching

Quality teaching occurs when stimulating learning resources and rich learning environments support appropriate, child-centred learning models, modes and strategies. This includes the application of Information and Communication Technologies as a learning tool.

Many of the case studies illustrate how engagement with real life issues and actively 'making a difference' increase motivation and ownership, improve the quality of pupils' work, and enhance the delivery of national curriculum requirements.

Lourdes Secondary School (CS 28) describe how an environmental campaign for a 'car free day', linked to an Environmental Studies course on pollution, enthused a group of urban 13 – 14 year olds who are usually hard to motivate. The students worked in teams with responsibility for different parts of the project. Teachers noticed that, the more the students were involved in the decision-making, the more was done. The 'real world' situation provided opportunities to assess the students' approaches to science-based tasks, such as collecting and analysing data. The high level of motivation, lack of discipline problems and levels of achievement convinced science staff to give pupils more control over their work in the future.

The Science Department at ***Roseland Community School*** (CS 12) developed modules on energy for 13 year olds and 15 – 16 year olds. The modules explore the science and the values behind an issue vital to sustainable development, in a way that enables students to take decisions in their own lives, on a sound pragmatic and ethical basis. The case study describes the modules in detail and identifies the ESD focus for each activity. As well as science, the modules contribute to literacy, numeracy and ICT requirements. ***Roy Bridge Primary School*** (CS 32 and CS 33) clearly demonstrate the use of expressive arts to explore and communicate Environmental Studies themes and issues in a memorable way.

Some schools used ESD as a trigger to actively develop their teaching approaches. ***Beech Hill Primary School*** (CS 3) describe how they develop critical thinking throughout the curriculum and list open-ended questions which all staff use to help their medium-term planning. They explain the importance of systematically planning opportunities to develop pupils' emotional intelligence, for ESD and for improving behaviour and raising educational standards. ***St Paul's Primary School*** (CS 16) used a practically based gardening and food growing project to enhance National Curriculum teaching and used 'accelerated learning' practices to increase achievement. Their case study includes a list of 'graphic organisers' that helped them to extend their range of recording and learning approaches.

Royton and Crompton Secondary School (CS 13) set up an Effective Teaching and Learning Group to share good practice, linked into monitoring and developing ESD. Their case study focuses on PSHE initiatives designed to ensure a range of teaching and learning styles. Unusually for a secondary school, they developed Circle Time to ensure whole class participation, as well as other collaborative and independent-learning approaches. An advantage to experimenting with teaching/learning approaches in PSHE is that staff transfer successful approaches into other subjects they teach.

Element 3.4 Professional development

Professional development opportunities to advance teachers' and school staff members' knowledge about Learning for Sustainability are available. Learning for Sustainability is a cross-cutting concept with potential applications in all subject areas and in school management. Professionals must explore these opportunities through structured professional development opportunities in order to facilitate learning that best meets pupils' needs and to manage schools in ways that model sustainability practices.

At ***Brixington Junior School*** (CS 18), staff knowledge and confidence in developing ESD was limited. An INSET day not only increased understanding, but also showed that ESD was becoming a school priority. Continued professional development was provided through one ESD staff

meeting per term for two years, after which ESD will be reviewed annually. Staff meeting themes ranged from 'transport' to 'decision-making skills' and organisation varied; some sessions were led by school staff and others by outside 'experts'. The Brixington case study gives an outline programme for the initial training day and suggests possible sources of training providers.

St Mary's Primary and Nursery School (CS 15) and ***Tolworth Infants School*** (CS 22) both recognised the need for including lunchtime supervisors in decision-making and training as part of improving playtimes. At St Mary's, lunchtime staff showed little commitment to monthly meetings held to discuss playtimes. Paying them for attendance raised the status both of the meetings and of the supervisors, whose involvement in positive playtimes has considerably increased. Tolworth changed the times of training to make it easier for lunchtime staff to attend. They also sent two members of staff on a training day to learn how to facilitate a School Council, and held whole staff training on the concept of a school council and on how to use Circle Time to support it.

At ***Fallibroome High School*** (CS 6) there was an initial reluctance for 'long, unwieldy meetings' so the ESD enthusiasts initially used a 'cascade' approach, talking to key staff in each department about current work on environment-related themes, leading to a curriculum audit and formation of an ESD steering group. Formal INSET sessions were later provided to help staff to plan activities for an Eco-Day and these were welcomed, having clear and finite objectives; moreover, the thinking engendered proved important in incorporating sustainability into the wider curriculum. Additionally, outside speakers were invited to two 'environmental assemblies' per term. These proved to be 'INSET by the back door' for staff present at assemblies in their role as form tutors, and reinforced and extended curriculum teaching.

Ansford Community School (CS 1) held two INSET days, one with a strictly 'environmental' focus and a second which went into greater depth about sustainability. In the final session of the second event, each department worked on a project or module to develop ESD in their subject area. Although the 'lifestyle' element of sustainability received a mixed reaction, these projects were the basis for developing a more in-depth *Learning for Sustainability*.

THEME 4: PUPILS

Element 4.1 Pupil participation and empowerment

Meaningful pupil participation in school life is increasingly recognised as an important way to help children develop the leadership skills that will serve them best as responsible citizens. In schools across the country, pupils are participating in decision-making that affects a broad range of school life issues including waste management, natural resource conservation, school

grounds design and even learning itself. In schools practising an advanced stage of pupil participation, pupils engage in community-based decision-making and action.

Pupil participation is a theme that runs across most of the case studies and many elements of *Learning for Sustainability* – see, for example, ***St Mary's Primary and Nursery School*** (CS 15) and ***Royton and Crompton Secondary School*** (CS 13) under Element 2.1 Monitoring and evaluation for good practice; ***Tolworth Infants School*** (CS 22), ***McLean Primary School*** (CS 30) and ***Mayfair House Special School*** (CS 9) under Element 3.2 Diversity; and ***Lourdes Secondary School*** (CS 28) under Element 3.3 Quality teaching.

College House Junior School (CS 4) tell the story of a journey towards greater pupil participation that began when children expressed exasperation that pupils behaving unacceptably received most teacher time and attention. A Behaviour Working Party, formed of pupils, teachers, parents, governors and midday supervisors, designed a framework that would reward and celebrate acceptable behaviour. After several years of developing and refining the system, behaviour across the school has considerably improved. The success of this group has led to further tools to enable pupils to take increasing responsibility for their social and physical environment, through class contracts, class and school councils and participation on the school's Premises Committee. As well as working to improve the school environment, pupils have 'adopted' the streets around the school, collecting data on types and locations of litter which they presented to the local authority Technical Services Committee, resulting in re-siting of bins and a re-negotiated contract with the street cleaning company.

Pupils at Holy Trinity Secondary School (CS 19) did not believe that anyone would want to listen to inner-city teenagers. A project to design and build a peace garden was launched as a way of involving the students and showing them that their voices would be heard if they learnt to access effective channels of communication. After surveying and designing the site, the students lobbied decision-makers for support, secured funding to develop their plans, and consulted landscape designers. Funding for building is still being sought, but the attitudes of the students involved have changed dramatically. Not only have they found that they can make their needs and ideas heard, but they have also developed a more altruistic attitude, knowing that they may not be there themselves when the garden is finished, but that it will improve the quality of life of others in the future.

THEME 5: COMMUNITY

Element 5.1 Links with parents, governors and school boards

Fostering productive relationships with parents and governors has long been viewed as an essential part of building a vibrant school culture. Parents, governors and school staff are partners in Learning for

Sustainability. Everyone has something to contribute to the effort. Building the trust needed to transform the relationship into one characterised by collaboration is central to Learning for Sustainability.

Many of the case studies include parents and governors working alongside pupils and teachers on eco-committees or gardening groups, and the schools use a variety of means to consult and inform the wider school community, including newsletters, family competitions, surveys, meetings, performances and celebrations.

Denbigh Infant School (CS 17), where English is an additional language for most families, decided to involve parents more integrally with school life and their children's education. Although home-school relations were generally good, many parents had limited perceptions about their role in the education of their children. This case study describes how the school increased parental confidence and encouraged them to take a more active part in school life. Various schemes, including an organic gardening club, a 'recycling bus', a Family Literacy Project and a mathematics games loan system, have provided ways for parents and children to learn together and to ensure that school learning is reinforced at home. A classroom assistant course operating from the school has provided opportunities for mothers wishing to work towards a recognised qualification, and has provided the school with parental support in classrooms. Involving parents is now part of the school culture, to the benefit of staff, pupils and parents.

Roseland Community School's (CS 12) science energy modules provide opportunities to take action as well as building scientific knowledge and understanding. Home energy surveys raise the awareness of students and parents, and free low energy light bulbs and a bar of fair trade chocolate are provided by Community Energy Plus in return for each completed survey. At the end of the project, parents or guardians are given recommendations for energy saving in their homes by the Energy Efficiency Office, based on their survey outcomes

Element 5.2 Links with community

The community provides the context in which schools operate, but the community is often on the periphery of school life. Learning for Sustainability benefits from the real-life opportunities that a strong working relationship between the school and the community has to offer pupils.

There are many examples in the case studies of community links giving context, expertise and motivation to curriculum work, and others demonstrating how schools can contribute to improving quality of life in the local community.

Shacklewell Primary School (CS 21) have worked hard at developing strong community links. The local branch of the British Trust for Conservation

Volunteers, a local nature reserve, an artists' group, a landscape architect and the local councillor have all supported their work. The after-school Watch Club became involved with 'Children for Change', a national project demonstrating how children can bring about change in their local communities. They took the lead in setting up a recycling and composting scheme in the school grounds, for the use of pupils' families. They also carried out extensive environmental campaigning, writing letters and sending deputations to the local council, the Greater London Authority and central government, on issues surrounding waste minimisation and recycling. As well as building on the children's skills and enthusiasm, this work attracted considerable local publicity, raising awareness of the issues, building the school's reputation, and attracting funding.

It was no coincidence that, at ***Fallibroome High School*** (CS 6), the person who took on the role of coordinating ESD also has responsibility for community links. Council officers and representatives from local environmental and pressure groups are invited to assemblies to share their expertise on aspects of sustainable development. This has became a medium for reinforcing the work of subject departments and involving members of the wider community in the work of the school, as well as an opportunity to 'trial' suitable people to run sessions on the annual Eco-Day. Large numbers of parents and representatives of most of the school's contact organisations from local government, education and business attended an evening presentation of the Eco-Day experiences and findings, which included an opportunity to feed into a local planning consultation.

Uplands Community Technology College (CS 23) also regularly uses outside speakers at 'environmental assemblies' to broaden the knowledge of students and staff. This connection was extended at an 'Energy Day' for Year 5 and 6 (9 – 11 year olds) pupils from partner primary schools, hosted by Year 8 (12 – 13 year olds) pupils and the science department. 'Experts' from outside organisations, including the local energy company and the County Council, supported the day, enabling pupils to work in small groups and providing resources and equipment not normally available to the schools.

Holy Trinity Secondary School (CS 19) links into local community forums and initiatives both as a context for *Learning for Sustainability* and as a way of spreading the message. Opportunities have included a public speaking competition and a *TES* Newsday competition, for both of which Holy Trinity students chose sustainability as their theme; taking over the letters page in the local paper for a day, with letters on the subject of litter; a local young people's parliament; and linking with local recycling schemes.

Element 5.3 Links with the wider community

This linking goes beyond the local context to the national, regional or global, enabling children to communicate, work and learn with people from a variety of contexts. This offers opportunities for children to be aware

of the wider world and explore what it means for their local environment and context. It prepares them for the broader journey into the family, community, world of work and democratic process.

Roy Bridge Primary School (CS 32) has an ongoing link with a school in Kenya and, through an exchange of letters, the pupils are beginning to understand the similarities and differences between the two countries. The differences in material possessions are helping the children come to an understanding of the difference between 'standard of living' and 'quality of life'. To feed into school focuses on music and recycling, letters included sharing information about musical instruments and the role of recycling in the two communities – linked by the use of recycled objects for making musical instruments.

Two pupils from ***Craigellachie Primary School*** (CS 25) were invited to attend an International Children' s Conference on the Environment on the strength of letters written about their school grounds development. Inspired by hearing about the work of other children from around the world, they had the idea of organising an environmental conference for schools throughout their region. After discussion with other pupils and staff at the school, they took the lead in organising a successful conference for 160 pupils from 20 schools, with an aim of increasing environmental knowledge, skills and awareness, and stimulating action.

Penair Secondary School (CS 10) is in a 'peripheral' region of the UK and staff felt the need to reach out to the wider world to help their students develop a national and international perspective. Links set up by a member of the Geography Department with three schools in rural and city locations in Nepal confronted the geographers with issues that they could not address without the help of colleagues in other departments. This case study describes how a global dimension was built into the 11 – 16 curriculum for geography, history, RE, ICT and art, drawing on support from organisations at local, national and international levels. Students from the four schools exchanged information about environmental issues in their own localities as well as working to improve them.

Element 5.4 Community stewardship

As parts of their communities, schools influence and are influenced by community life. Schools may have both positive and negative effects on their surrounding communities. Similarly, communities may have both positive and negative affects on school life. Pupils and schools are uniquely positioned to work in partnership with their communities to identify and address community issues and to proactively advance community sustainability. Authentic opportunities to identify and address relevant issues build action competencies in pupils that are fundamental to lifelong active civic engagement.

Pupils from ***Craigelachie Primary School*** (CS 25) used skills developed while improving their school grounds to participate in a consultation on the Local Biodiversity Action Plan. The children had no difficulty in engaging with a consultation session which had been planned for adults, being used to the conventions of brainstorming, discussion and plenary sessions; open to a range of ideas; and prepared to listen to other points of view. They understood the variety of interests involved, and contributed ideas that will help shape the future management of their local woodland.

Pupils with learning difficulties from the ***Mayfield Centre*** (CS 9) worked to improve their local owl sanctuary. The student-led nature of the planning and work not only improved teamwork, but also the students' sense of responsibility and ability to follow a work routine. They gained an understanding of environmental change and the need for maintenance, which they transferred to their own site, and began to understand the need for management of natural resources through the importance of water in gardening. This concern for the environment and for others led to offering an environmental improvement service to local elderly people, in liaison with Age Concern. ***Hope Valley College students*** (CS 8) worked with local people with disabilities to improve access to local facilities, in the course of curriculum work (see 3.2: Diversity).

Sixth Form students from ***Uplands Community College*** (CS 23) won a Millennium Award to design and make a sustainable garden in the grounds of Uplands Youth and Community Centre. Students spoke at public meetings and went to groups and individuals in the school and the local community, asking for support and participation in the project. They also approached local businesses for additional funds. They drew in a wide range of adults and young people, including Brownies, Duke of Edinburgh Award participants, the Eco-School Club at the college, and the college Technology Department, to create a garden that will be of long-term community benefit.

THEME 6: THE SCHOOL ESTATE

Element 6.1 School resource management

School resource management includes everything from the selection of disinfectant cleaners, to the source and nutritional quality of the foods served, purchasing fair trade products, and the disposal of waste paper. To promote Learning for Sustainability, these management decisions must support sustainability principles and be transparent to pupils. Modelling management practices that promote sustainability, and involving pupils in the sometimes difficult decision-making processes that determine the degree to which sustainable solutions can be practically implemented, is an essential learning opportunity.

Ridgeway Primary School (CS 11) are committed to sustainable development, but recognised that the extravagant use of resources during Christmas celebrations was giving a different message. Their case study, 'Celebrating Christmas sustainably', tells of decorations made from recycled materials (from crisp packets to stamps), party food made as part of Food Technology and swapped between classes, and high quality class presents from 'Santa' instead of cheap individual ones. Sharing, negotiation and decision-making were key, with pupils on the Eco- Committee feeding back from class discussions, to ensure that the Christmas celebrations were enjoyable and exciting for all pupils – as well as sustainable.

At ***Largue Primary School*** (CS 27), as in many schools, 'energy' was a topic in the Environmental Studies cycle. However, the enthusiasm for energy conservation generated during the topic did not translate into long-term changes in behaviour of children and adults in the school. To address this, at the end of the energy study the pupils were given information on the cost of heating the school, and decided to take action. Energy saving strategies were developed, and a campaign started the next term, supported by the local media. A reduced energy bill encouraged even greater efforts. The energy initiative now runs alongside other topics, with little time commitment required, and provides opportunities to re-visit issues from different perspectives and to help the children to make connections.

The School Council at ***Prestwich Community High School*** (CS 20) decided to tackle a lack of seating areas and a littered environment by raising funds and reducing waste through recycling. The money was raised, but the greatest impact was on school catering arrangements. While measuring waste, students identified school lunches as a major contributor, due to disposable containers (eg ketchup sachets), over-packaging of food, and a limited choice resulting in many students bringing in packaged food and sweets. A re-negotiation of the catering contract to include waste specifications, identified by the School Council working with management, has not only reduced waste but has also increased the number of pupils eating healthy food.

Element 6.2 School grounds

School grounds are a fertile laboratory for pupils' exploration of ecological phenomena – provided that the development and use of the school grounds is embedded in the formal curriculum. School grounds projects offer pupils the opportunity to research, design, construct and evaluate a hands-on project. They build a sense of ownership and pride in schools. They can be used to explore sustainability issues across the subject disciplines and can be instrumental in engaging learners who learn best by doing. Pupils are engaged in school grounds research, design, construction and maintenance that advances sustainability.

The appearance of projects involving school grounds in so many places in this narrative is evidence of how many different aspects of *Learning for Sustainability* can be developed through appropriate use and management of grounds.

St Paul's Primary School (CS 16) developed a Scheme of Work based around use of the school grounds for food growing. The school is in an area with few green spaces and pupils are enthused by practical projects. Initial efforts to create a school garden and orchard developed into a Scheme of Work that ensures that all pupils have an opportunity to grow and harvest crops. National Curriculum and PSHE links are embedded, ensuring progression and curriculum-fit. Pupils develop a respect for nature, learn that they can make a difference to their personal environment, and gain transferable, ESD-related skills, knowledge and ideas. The work has also raised self-esteem, developed cooperative working, involved pupils in decision-making and drawn in parents.

This Case Study Mapping section was written by Gillian Symons. The Case Study Mapping project also developed a Case Study Matrix that identifies the age group and type of school represented in each case study and which elements of *Learning for Sustainability* are addressed. Not all the case studies addressing each element are highlighted in this introduction. The full case studies (with graphics), can be found at **www.wwflearning.co.uk**.

SECTION 2

CASE STUDIES 1994 – 2005

Curriculum Management Award Scheme (1994 – 1999)

The Curriculum Management Award Scheme (CMAS) served three cohorts of schools over four years. The project had three aims. First, to support schools in preparing pupils for the opportunities, responsibilities and experience of adult life. Second, to enable young people to develop a practical capability – an ability to make informed decisions and thoughtful choices that will contribute to the well-being of the environment and people, locally and globally. Finally, to support debate about education for sustainability among teachers, governors, parents and the wider community.

Schools from around the UK were invited to propose projects that would advance these aims. The proposals were screened by WWF staff, and schools accepted onto the Award Scheme provided their projects addressed a set of objectives that included:

- an amendment to the school's formal curriculum statement that establishes environmental education or education for sustainability as an entitlement for all pupils;
- the development of innovative ways to educate for sustainability;
- exploration of the local environment leading to a wider understanding of global environment and sustainability issues;
- the involvement of pupils in decision-making processes;
- a significant management initiative, with genuine support and ownership across the school community;
- provision for continuity and progression throughout the pupils' school career; and
- the establishment of mechanisms for the monitoring, evaluation and redevelopment of the project, ensuring its long-term impact.

Proposed projects also needed to address the five interrelated functions of a school in an integrated manner. These functions include:

- the intellectual, personal, moral, social and spiritual development of pupils;
- curriculum development;
- institutional development;
- staff development; and
- links with the community.

Support from WWF-UK included but was not limited to:

- a free residential "Reaching Out" INSET;
- financial support of up to £6,000, available over two years; and
- services of a WWF-appointed consultant to support the school's planning, implementation, monitoring and evaluation of its proposed project.

The following case studies illustrate the project experiences of CMAS schools.

CS 1

STEWART THE SUSTAINABLE STUDENT

Ansford Community School, Somerset

About the school

For the last couple of years, Ansford Community School have been working to put together a cohesive and progressive curriculum to deliver education for sustainable development (ESD). At the heart of our planning is Stewart – a hypothetical student whose 'journey' through our school represents the metamorphosis of a 'typical' Ansford pupil into a 'sustainable citizen'.

Our education for sustainability policy

Through our education for sustainable development (ESD) work, we hope pupils will gain:

Knowledge and understanding about:

- how natural systems work, their potential and limits;
- what is involved in different methods of providing for human needs and wants (energy, raw materials, human influence, environmental impact, economic systems);
- the concepts of sustainability, quality of life, social justice and interdependence;
- how our own actions can affect the lives of others locally, nationally, globally; now and in the future;
- alternative forms of technological, economic, political and social futures where we can live more sustainably;
- how the processes of decision-making work and how to take part in them;
- how lessons of the past can inform the future.

Skills for:

- cooperative working;
- critical thinking;
- negotiation;
- problem solving and lateral thinking;
- reasoned debate;
- informed decision-making;
- creativity – and an ability to envisage alternatives;
- research and data handling;
- effective communication; and
- practical and organisational skills to be able to live more sustainably.

Values and attitudes that reflect:

- a commitment to the well-being of all living things and their natural environment;
- a desire for social justice and greater global equity;
- empathy and awareness of the viewpoints and beliefs of others;
- an understanding that quality of life is not just dependent on a 'material' standard of living;
- an understanding of the place of individual and collective rights and responsibilities;
- a desire to participate;
- a belief that individual choices and working with others can make a difference;
- a belief in a more positive, more sustainable future;
- a sensitivity to the needs of others; and
- a willingness to learn from lessons from the past, and from other cultures.

Setting the scene for Stewart

This project was not our first ESD experience. A number of preceding projects addressed a variety of environmental themes.

Herb garden – This was our first cross-curricular venture involving history, food, English, science, technology and art. A medieval herb garden was researched, designed, drawn, excavated, planted and used by Year 7 students (11 – 12 year olds). It's a useful resource and looks pretty good too!

'Environment Week' – A week of lunchtime and tutor time activities and competitions. Staff and students were introduced to ideas and 'amazing facts' through a bulletin and daily updates. During the week there was a drama and music production and an exhibition of 'Environment work so far...' for parents – with contributions from all subject areas.

The school production – This was performed on several nights and had an environment theme. "Trash" was written by the students with our hero learning from an ancestor on how to look after the planet! A wide range of staff, students and parents were involved and came to watch.

'Environment Day' – Despite the weather, our first 'Environment Day' was successful in raising awareness for the overall project. Students and staff took part in different activities including working with primary students on environment activities, cycling and green transport, creating a junk music band, etc. A useful introduction to further work in many areas.

Stimulating the staff

To be able to provide our 'cohesive curriculum', staff training was required.

Training days – Day 1 included ideas for incorporating environmental education into different curriculum areas. We considered the importance of environmental issues and began to discuss the school site and our own impact on the environment. Day 2 was held some months later and went into greater depth on sustainability issues, Agenda 21 and global links.

It was more contentious and thought provoking. It challenged our lifestyles and thus received a rather mixed reaction! The 'end point' was a focus on our own subject areas and the planning of 'Purple Projects'.

'Purple Projects' – At the end of the second training day each subject area was asked to come up with a project or module that could be developed in some way in line with ESD. But why 'Purple Projects'? Because the forms were printed on purple paper, of course! This gave each area a focus and an outcome that could be evaluated, for example:

Art – environmental sculpture with an artist in residence
Food – analysis of packaging for prepared foods
Maths – ethical investment and banking.

Developing policy – An 'Environment Working Party' was established, and this enjoyed a healthy membership throughout the project. Twelve teachers, representing most of the curriculum areas, were joined by a couple of governors and three students. All ideas, issues, audits and evaluations were coordinated and discussed by the team. A policy was eventually formulated and approved, including the 'What we want to gain' section, so that we all knew what we were aiming for.

Starting on Stewart

To monitor our progress in turning Stewart into a sustainable citizen, we first needed to formulate some action research questions and audit curriculum areas:

Action research questions

1. How do we involve the school community to implement effective education for sustainable development?

- How do we find out the knowledge, skills and values of staff and students?
- How do we improve knowledge and awareness of ESD within curriculum areas?
- How do we develop staff motivation and confidence to be able to deliver ESD?
- How do we encourage a cross-curricular approach with specific outcomes?
- How do we maximise student involvement in the project?
- How do we create and implement an Environmental Sustainability Policy?
- How do we insure support of the whole school community for this project?

2. How do we manage the school site and resources more sustainably?

- How do we find out staff and students' opinions and use of the school grounds?
- How do we improve and make more use of the school grounds?
- How do we audit and then manage the site, buildings and processes more sustainably?
- How do we encourage more 'environment conscious' actions by staff and students?

3. How do we involve the local community and outside organisations in education for sustainable development?

- How do we work closely with the Community Education Officer to promote sustainable ideas in the local community?

- How do we work together with The Sustainable Somerset Group to increase awareness of Agenda 21 initiatives?
- How do we share ideas with other local organisations and schools about ESD?
- How do we improve links with the Dimmer Wildlife Park Project?

4. How do we ensure 'education for sustainable development' happens within the context of global development education?

- How do we link this WWF project with the wider vision of global development education?
- How do we support and work with our Zambia link school to exchange ideas and progress with Agenda 21?

Audits

Each department area was asked to complete an audit before and after the project. The categories were based upon the 'knowledge, skills, values and attitudes' statements from the policy. It was clear that the staff training had been successful in promoting new ESD teaching ideas, and also making staff aware of the things that they taught already that were actually relevant to ESD. We wanted to find out if the audits were accurate in terms of actual teaching and learning. The only way was to talk to students like 'Sustainable Stewart' – time for some progress tracking.

Progress tracking

To help us get a clearer picture of what was actually happening we decided to monitor a selection of students from Years 7 and 10 (11 – 12 and 14 – 15 year olds, respectively) on a termly basis. We asked the same group similar questions each time about what they had learnt, their lifestyles and attitudes. In addition, they filled in a 'skills grid' to inform us what skills were being offered in different subjects. All this has been recorded so that we can search for areas of success and gaps in our programme. The process isn't perfect and needs refining, but the basic idea is certainly working.

Streamlining

The staff generally responded well to the training but it was inevitable that we weren't going to get 100 per cent support. It was hard to deal with the negative feedback, but the Environment Working Party membership and Senior Management Team enthusiasm gave the project a solid foundation. Ideas were everywhere and, in the end, we had to call a halt to the innovating and encourage the actual development work itself. Some projects fizzled out; others never really got off the ground. We had to let go of the areas where enthusiasm was waning and build upon our strengths. We helped some staff alter and modify, and for others it was 'back to the drawing board' – such is the process of streamlining!

'Environment Day' II

One activity that we successfully modified was the annual 'Environment Day'. This became a 'What if ... Day', where students undertook activities based around an ESD question. Students had more preparation than for the earlier 'Environment Day'; the day itself was more in-depth, and there was thus a greater effect on our thoughts and actions.

Since Stewart

Extracts from what could have been Stewart's diary make up pages 9–11 of the full version of this case study (*visit: www.wwflearning.co.uk /resourcebank*). We have only been able to skim the surface of our progress and activities, and so 'Stewart's diary' may help to give an overview of what we are trying to achieve...

Going global

Our hope is that each student that progresses through our school will experience some ideas of how to live their lives more sustainably – but we now want more than that and aim to introduce ideas that will provide the foundation for global citizenship. Multicultural education has long been firmly in place in our curriculum, and our community and school exchange programme with a school in Zambia helps the students in both countries to understand their place and responsibilities in the global community. The 1999/2000 exchange has a particular environment and sustainability focus, with students from both continents working on projects based around Agenda 21 environment indicators. The exchange visits have an impact on the whole school and local community, helping to put our teaching content into perspective. To increase the involvement of more students we have a 'Global Citizenship Activity Day' planned for this year's exchange visit.

Stacey Smith, Sixth Form Stewart's sustainable smaller sister: the future!

Stewart has now left the school, fully equipped for his sustainable lifestyle, but there is still much for us to do! Having completed our evaluation, we know that there are areas that require modification. Not to worry! Sustainable Stewart's sister starts in September and so we're going to try again. Our action plan for the future includes: a new Global Citizenship Working Party; another look at the way we look after our site; exploring possibilities within PSE, and an eventual extension of the programme to include progression from primary school and into further education.

This case study was written by Sam Russon and Mick Hemming, Ansford Community School. Ansford is an 11 – 16 comprehensive school in rural Somerset that serves approximately 700 pupils within a very mixed catchment area. It participated in CMAS from 1995 – 1997.

CS 2

SUSTAIN THE NOTE – DEVELOPING AN UNDERSTANDING OF SUSTAINABILITY THROUGH MUSIC

Beech Hill County Primary School, Lancashire

At the beginning

"What have music and sustainability got in common, and how on earth do I 'fit' education for sustainable development into my planning?" This was the first of many questions I asked myself when our school, Beech Hill County Primary, won the WWF Curriculum Management Award.

As a music teacher in a large two-form entry school, I had enough problems fitting all I wanted to do into only 40 minutes a week without adding to my workload. On the other hand, I had the advantage of teaching all year groups and was able to plan for progression as the children's understanding developed.

My initial idea, then, was to make my workload less of a load – more sustainable for me – so I decided to mould the materials I was already using into a sustainability theme by giving them a tweak here and there, rather that starting from scratch with the 'S' word!

Links between music and education for sustainability?

Music needs people to work together at all levels if a good result is to be achieved – whether singing a nursery rhyme or playing in a 90 piece orchestra. This is the building block for all good music and fits in nicely with education for sustainability, so that is where I began.

Billy Beat

I use 'Billy Beat' to encourage Reception children (4 – 5 year olds) to explore sounds they can make with their bodies, eg when I point to Billy's hands, the children make a sound using their hands. To encourage the skills and values I had identified as relevant to sustainability, once Billy had been used several times, I altered his mouth. At the start of the lesson pupils noticed, "Billy looks a bit sad today, Miss." "What a shame. Has he got tummy ache?"

This began further discussion about what may have made Billy sad, giving an outlet to children less able to talk about their own feelings and experiences. All the experiences related to the children – some even said "I feel sad when..." rather than "Billy might be sad because...".

I then asked the children what we might do to help Billy stop being sad (it had been agreed that being sad made us "feel muddy inside"). Being a music

lesson, the obvious solution to the children was to sing! Fortunately this had the desired effect on Billy.

In later weeks the children were asked to think about other people – how they felt if Mum or Dad or a friend was sad, and how they might help. We considered what they might do if their teacher was sad. To help with ideas for this tricky problem, we played chanting games with simple words slotted into a repeated formula.

"Mrs P. is sad. Why can that be? Why, today, won't she smile at me?" "What can I do to happy her along? I can... and sing a little song."

I found it helpful to use pictures of the class teacher involved here (Mrs P.) and to discuss possible solutions first so the rhythm could be followed by everyone.

"Mrs P. will be happy all day now if we don't... shout, talk too much, go to the toilet without asking, get paint all over the tables, leave tidying up for everyone else to do..."

Musical rainstorm

I use this activity for Year 1 (5 – 6 year olds) but even Year 6 (10 – 11 year olds) can benefit from this simple performance piece.

Everyone sits in a circle, and the teacher explains the following rules: each child must follow the person on his/her right and no one else: when they move, s/he moves; when they start to do something, s/he copies. The teacher starts by tapping a finger lightly onto his/her palm. Gradually, the tapping will spread around the circle. Once it has reached full circle, the teacher changes to a light clap: again this will spread round the circle. The teacher changes the movement again to a slap on the floor and finally adds foot stomping. One by one, the teacher stops the feet, changes the slap to a clap, the clap to a tap and then stops the tap until there is silence.

Musically you have created the effect of a rainstorm, and the children find the crescendo and diminuendo very satisfying. It will take a lot of tries to get this right. This is your key for discussion.

Discussion can become quite personal and needs to be carefully orchestrated. Even at a very young age, children grasp concepts of working together, cooperation and team work through this activity, and afterwards are more tolerant and aware of others when working in a group.

Painting to music

Choose two contrasting pieces of music, preferably ones you like. Think about the emotions the music creates in you. Alternatively choose two emotions and find music to match.

Play the music to the children – a short one-minute extract is usually enough to start with. Discuss the music in terms of sound, quality, texture, instruments and finally mood or emotion. Discuss what the music made them feel like; responses may be limited depending on your music selection. Discuss the colours they feel appropriate to the music and the emotion involved. Ask each child to choose one colour and make a record of it along with some of the words and ideas discussed. Explore the emotion through brainstorming, story writing, role play or poetry to help the children realise where their emotions and moods are coming from, and what they can do to change them if necessary. These questions may help:

Why do I feel…?
Do I like feeling…?
How do you feel when I am…?
Can I change the feeling?

Another way to explore the emotion in the music is through painting – a great way for those children who can't express themselves well verbally or in written work.

You will need:

- One enormous piece of paper, as big as you can find. Your local friendly newspaper publisher will supply if you ask them nicely!
- Space. Put all your tables together in the classroom or, better still, spread the paper out on the floor in the hall or gym.
- Pots of paint, containing the colours the children have chosen.
- A clear set of rules: when to paint, how to paint and what to paint.

Practising brushstrokes in the air with 'magic paint brushes' before doing the real thing will help children to focus on the shape and pattern in the music, as well as to think about the emotions.

Finally, position the children around the paper, each with one pot of paint and a paint brush. With a class of 30 or more I usually do this in two halves – each child having a partner and swapping over after a few minutes. Play the music and watch the creativity flow! Ask the children to move around the paper every now and again so the colour is distributed all over the painting. As soon as the music stops the children should stop painting. Once dry, the painting can go up on the wall linked with all the brainstorming works and poetry. Not only does the finished display look good, but it also provokes ideas and questions from the children who haven't been involved, widening the experiences your children have had to as large an audience as possible.

Beautiful world, polluted world

This activity can be adapted to fit in with different topics and age groups. Look at pictures of natural environments. Explore sounds to match the pictures – soft light, melodious sounds using xylophones, glockenspiels, triangles, Indian bells, maracas, rainmakers, etc. Put the sounds together into a stable, solid structure: drone (single note or sound repeated again and again to keep the beat); ostinato (simple repeating pattern of notes or sounds); and improvisation (any number of sounds or patterns played in any order). This is a good, easy-to-follow structure for large or small groups. Discuss the rigid structure and compare to the structure of the environment in your chosen picture.

Now ask the children what is missing from the picture (humans). Discuss the effects people might have on the environment and how this could be interpreted into music. Explore sounds for building, traffic, pollution, etc: loud banging, clanking sounds, using drums, cymbals, cow bells, voices (pollution chants), 'found sounds' (plastic bin lids, old food containers, spoons, trays, etc – see next section). Put the sounds together in the same solid structure.

Compare the two pieces of music. Talk about the impact that people might have on environments such as those in the pictures. Use your two pieces to create one big piece – start with the beautiful world; once in full flow, slowly and quietly bring in the polluted world until, finally, the beautiful world is taken over.

This might take some practice as the beautiful world players are tempted to play louder as the pollution tries to take over. If this happens, use it to your advantage – after all, many environments have resisted the changes imposed on them by people! When this piece was completed, our children were disheartened by the fact that pollution had overtaken and nothing had been done about it.

"Why can't we all play together – it would sound better?"

"It's not fair Miss, you can't hear us playing any more once they start off."

"Why does one have to take over?"

Following all these questions, I asked the children in their groups to come up with their own solutions – to change, or not to change their composition as they saw fit, and to try and justify their changes. As these children were only Year 3 (7 – 8 year olds) I did not expect a great number of changes or solutions, but I was pleasantly surprised with what most groups came up with. Here are three examples and their justifications.

Group 1 (six children mixed ability, two boys and four girls) – Their music started the same – beautiful world, polluted world gradually encroaching. They finished their piece with the polluted world dying away, leaving only the beautiful world. When asked why they had chosen to perform their piece like this, they replied: *"We didn't want our music to be sad and angry at the end. We wanted to make the world beautiful again, like when we clean up the valley."*

Group 2 (mixed/lower ability, six boys) – The beautiful world began their piece followed by the gradual introduction of the polluted world music. To end their piece the boys decided to add some words and muted the pollution sounds so that both pieces of music could be heard distinctly. When asked why, they replied: *"We wanted it to be real. When we clean up somewhere, we never get rid of all the muck. There is always some left..."*

Group 3 (mixed/higher ability, six girls) – These children finished their piece by allowing the pollution to take over, but right at the end added a short extract of their beautiful world. When asked why, they replied: *"Looking at those pictures in the beginning we decided that none of us ever saw a place like that except in pictures, so our music ended with a picture of what we want to see."*

Of all the activities I tried this year, this was one of the most overtly environmental and it elicited some interesting discussion, making the children relate their own ideas and experiences to their work. However, I felt that it needed follow-up work in other lessons to provide opportunities to explore ways in which people can provide for their needs with less damage to the environment.

Found sounds

This project was carried out over a whole term but could be easily adapted to a single lesson. The inspiration came from a need to order some new instruments for the school.

With the Year 3 class (7 – 8 year olds), we talked about what was needed, how much the items cost and how much money the school had to spend. Initially the children chose the biggest, brightest and most unusual instruments in the catalogue. When I pointed out how expensive these were for our budget, the children were disappointed.

The cost of the instruments was what fascinated them the most. Having examined the materials our instruments were made of, we decided that the actual materials were not expensive. I then asked the children in groups to examine a set of instruments (skinned, wooden, tuned) and to say what they felt to be the most important properties of the set, and the skills required to make them. After discussion, it was agreed that the tuned instruments were probably the ones which took the most skill to make. They were also the most expensive type in the catalogue.

The class drew up a list of instruments they would like and explored the possibility of finding a suitable substitute. A big drum was top of the list. After a search round school we found just the thing – an old plastic dustbin, with lid, currently used to store dressing up clothes. Finding an alternative home for the clothes, we tested our new instrument. It was loud and great fun, made lots of interesting sounds and could be played in lots of different ways.

Lots of other ideas followed: from elastic band guitars to metal tray cymbals; from scraping dustpan brushes to bottle top bells. The sounds they created were all the more pleasing to the children because they felt they owned the sound. Some even got a little possessive and agitated when other children were using the instrument they had found or made.

We discussed communal use and decided that, if the 'found sounds' were not to be damaged, they had to be treated with respect like our other instruments, with their own places and name labels. This reassured many, and other classes were eventually allowed to use the new instruments. Tangible evidence of their money-saving ideas manifested itself in a new collection of ethnic instruments, which leads on to my next project.

This time with the Year 6 pupils (10 – 11 year olds) I looked at the music catalogues and we discussed the prices of the ethnic instruments. They were expensive and the children wanted to know why. Now came a little divine inspiration. We had just ordered some guiros via the Club biscuit 'Instruments for Schools' scheme. The instruments were a long time coming because the suppliers (villagers in Mexico) were overwhelmed by demand. After investigation, we found that the vast majority of the ethnic instruments we had in schools were made in small villages by families – a cottage industry.

The children were interested in the price paid to the villagers who made the instruments. We wrote to companies but disappointingly did not receive any replies. I thought the children would lose interest in the project, but quite to the contrary. Investigations were carried out into the cost of materials. For a wooden rainstick the children estimated the cost of materials to be 27 pence – a fact they found remarkable when the cost to buy is approximately £20.

Where does the rest of the money go? Backtracking the journey of the rainstick, we went from the supplier, to the warehouse, to the merchant who shipped the product, to the buyer and finally to the manufacturer. Each person wanted a cut of the profit, and so the price rose each time. The question that provoked the most discussion towards the end was:

"Why can't we just buy direct from the people in South America?" Why indeed!

One solution offered was that: *"The people who sell them to us don't want us to!"*

Lessons learned

I believe that the children benefited a great deal from the change in the lessons. Certainly many of them are more aware of some of the issues sustainability can raise – from sharing and working successfully together, to appreciating the prices of instruments, finding alternatives ('found sounds') and even discovering the human cost of many of the ethnic instruments we have in school.

Both myself and the children have learned a great deal this year, not only about the sustainability issues, but about ourselves. And what better starting block to heightening children's awareness of global issues and opening the door for exploration and critical analysis, than understanding 'self'!

This case study was written by Harry Mcloughlin and Pam Harrison, Beech Hill County Primary School. Beech Hill is a 3 – 11 school in urban Wigan, serving approximately 450 students. It participated in CMAS from 1995 – 1997.

CS 3

HELPING CHILDREN TO THINK FOR THEMSELVES

Beech Hill County Primary School, Lancashire

Setting the scene

One of our school's problems used to be the poor motivation of some pupils to make progress. We saw the promotion of critical thinking as an excellent starting point both for getting education for sustainable development (ESD) to permeate the whole curriculum and for tackling poor motivation in general. When we encourage children to ask questions like "Why?", we can begin to give them more ownership of their own learning. We think this is now starting to come through our school in a number of ways. We are also trying to promote critical thinking in subject lessons across several curriculum areas, and you will find a selection of suggestions for tackling this in the case study that follows. However, the main focus of the case study is the Listening Council, which has proved a stimulating mechanism for helping children to listen, question, express and justify an opinion and, finally, to suggest solutions and move to independent action.

What is the Listening Council?

The Listening Council is basically an 'assembly' or meeting – there is one for all the Year 5 and 6 children (9 – 11 year olds) and one for all the Year 3 and 4 children (7 – 9 year olds). There are about 130 pupils in each assembly. The Listening Councils last 15 minutes and take place at 9:10am, every Thursday for the upper juniors, and alternate Fridays for the lower juniors. We meet in the hall in a large circle, with the older year groups on benches and chairs at the back and the younger on the floor in the middle. This is to make it more comfortable than normal assembly.

How does it work?

Any child is free to speak on any subject – but only if they are holding the 'magic microphone'. Each speaker chooses who to pass the magic microphone on to. For their magic microphone, the lower juniors use a clear cube paperweight with a miniature globe inside it that a previous pupil brought back from holiday. The upper juniors use a long wooden staff found on a school visit to the Lake District. Of course, the magic is not really in the microphone – it's in the listening! The underlying principle of the Listening Council is that children don't just sit quietly – they listen actively to whichever individual is holding the 'magic microphone'. As well as children listening to each other, the teachers show that they are listening to pupils' concerns by attending or just reading the minutes they keep. Because everyone can speak, rather than just elected representatives, it's a bit like a mass-meeting version of 'Circle Time.' Anyone in the whole Council can contribute.

What's it all about?

The Listening Council is part of the 'Values and Visions' of our school. By giving children the chance to be listened to, we are trying to promote space, time and quiet so that each person can have his/her moment. We try to encourage the other children not even to put their hands up while someone is speaking. This is to give the message that they are listening and not just thinking of what they want to say next. The Listening Council is central to our promotion of children's critical thinking, but there are a whole host of other benefits that spill over into the classroom.

Subject matter

We feel it is central to the philosophy of this approach that the children are genuinely left to talk about whatever concerns them, as teachers always have opportunities in class to set their own agenda for children to discuss. If you really want to hear their opinions on something, ask a child to bring it up for you at the next meeting – but don't be disappointed if nobody wants to talk about it!

Progression

The following offers an illustration of how children's thinking typically progresses, taking the example of animals.

- "My dog's had puppies" is an example of a simple telling of personal 'news'.
- "It's not fair when they bring dogs on our school field," shows children beginning to express an opinion, showing social as well as personal concern.
- "I think children should be allowed cyber-pets in school because I'm allergic to animals and I can have something to take care of," offers not just an opinion, but a justification for it.
- "We are writing to the Council about the mini-zoo," suggests solutions that are moving on to independent action not initiated by teachers, and inviting others to participate.

Even children as young as seven have learned to refer to previous speakers by saying, for example, "I don't agree with John when he said..." The issue of play dominates the lower junior Listening Council but some children show an amazing ability to think beyond their own need to play, and consider some much broader issues. Thanks to the Listening Council, children are exposed to such issues not just from teachers or other adults, but from their peers.

Acknowledgement of the parameters

Power: To be honest with the children, it has always been made clear that the council has no real power to make decisions; but that whenever the school management and staff can implement one of the children's suggestions, we make sure to let them know.

Ownership: When suggestions become silly or too personal, some child eventually points this out or puts the other side of the case, as long as the

teachers manage to stop themselves interrupting! The format does work as the children feel they have true ownership and to some extent manage the meeting themselves. Because of this, the idea is very easily transferable to other schools. Honestly, all you need to do is have the confidence to stand back and let it happen.

Our pupils are attached to their Listening Council and use it to discuss a range of issues on a global, local or school scale. It has developed in its own way and will probably follow new directions in the future.

Interventions: There were rare occasions when it was worth a teacher intervening, eg:

- to manage a vote when someone calls for one;
- to remind individuals to listen attentively, in silence and with hands down;
- to restrain inappropriate actions; and
- to dismiss the children at the end.

Taboos? There are bound to be some tricky moments, like criticisms of named individuals. At our school we just give the accused the right to defend themselves on the grounds of natural justice. We find that actually facing real problems like these, or voting on whether to exclude somebody from the Listening Council for that week, is itself a valuable part of the development of the skills and concepts of participatory democracy.

Quality: Over the years, many visitors from other schools and elsewhere have commented on the surprisingly high level of respect, attention and true listening that takes place in the Listening Council.

Encouraging critical thinking across the curriculum

Beech Hill County Primary School has used this opportunity to further encourage children to think for themselves by developing critical thinking across the curriculum. The following examples highlight our efforts.

Tackling pre-conceptions of Nairobi in geography: Teachers of Year 4 (8 – 9 year olds) use a suburb of Nairobi in Kenya for a locality study in geography, because Nairobi is a large, modern and diverse city. Activities with photographs of traffic and skyscrapers, as well as more traditional buildings, promote critical thinking by stimulating questions that may challenge stereotypes.

Guided reading in groups: Teachers of Year 5 (9 – 10 year olds) have deliberately chosen texts relating to sustainability that can be used to stimulate questioning. Children are encouraged to recognise consequences and explore alternatives.

Open-ended questioning in maths: Although the content may not deal directly with economics, citizenship or the environment, maths has provided us with opportunities to reflect on the thinking process itself. Asking

"How did you do that?" has helped to suggest that there is more than one way of finding a correct answer, and that some ways may be better than others. Investigations have been structured so that the children make and try out suggestions in pairs or small groups. When it works, this has led on occasions to genuine reflection and evaluation between pupils. We have made a lot of use of programmable toys and the computer language Logo for this purpose.

Critical studies in art: A technique from Drumcroon Education Art Centre in Wigan has been successful with older juniors to raise critical thinking in aesthetic matters above the level of "It's cool" or "It's rubbish". When studying the work of other artists, the children are asked to respond in terms of the content, the form, the process and the mood. With younger pupils, this would take the form of showing them that there is more than one way of representing something visually.

Geography – crossing the floor: This took place in a Year 6 (10 – 11 year olds) geography lesson about a particular issue arising from a change in land use, in this case a proposed by-pass. Those who initially liked the idea were asked to sit at one side of the classroom, with opponents on the other side and the 'don't knows' in the middle. During the debate people could move to take up a different position as they were persuaded by the arguments. Understandably, this generated a great incentive for the speakers to appeal to those pupils who were undecided.

Geography – the "Thengapalli Project": This pack, published in Hampshire, has proved very useful to us in helping pupils in the important skill of making connections. Its very well thought-out activities link geography, RE and the arts through a strong and inspiring real-life story of sustainable development in the Indian village of Kesharpur.

Comparing different historical periods: Instead of comparing Tudor Britain with the present day, a Year 5 teacher (9 – 11 year olds) wanted to compare it with Ancient Greece that the class had already studied. She used the idea of 'quality of life', as opposed to 'standard of living', to ask the children to work out reasons for choosing which society they would prefer to have lived in. This activity raised as many questions as answers and inevitably reflected back on the children's own experiences of living today.

Managing toilet visits: This is an attempt to promote personal responsibility in a Reception class (4 – 5 year olds). Each child has access to a special card with his/her name on. Before leaving the room to go to the toilet a child must hang the card on one of three pegs and remove it on return. When all three pegs are occupied, no-one else can leave the room until someone comes back.

Personal, Social and Heath Education:

As a staff we recognise that certain knowledge, skills, values and attitudes are important pre-requisites for improving behaviour and raising educational standards. They are also part of personal development for life in general. We

always had them in our minds as incidents occurred from day to day, but now we are trying to plan for them more systematically:

Attitudes/values/personal qualities:
Self-esteem: seeing yourself in a positive light; recognising your strengths and weaknesses; being true to yourself; being able to laugh at yourself
Personal responsibility: recognising the consequences of your decisions and actions; taking responsibility for them; self-reliance; honouring your commitments;
Social responsibility: taking responsibility as a citizen for your part in collective decisions and actions; a belief in a positive future; a desire to participate; a questioning approach;
Environmental responsibility: a commitment to the well-being of living things; a commitment to the future of the planet.

Skills:
Self-awareness: observing yourself and recognising your feelings; building a vocabulary for feelings; knowing the relationship between thoughts, feelings and reactions (especially on the playground or in situations of potential conflict);
Personal decision-making: examining your actions and knowing their consequences; knowing if thought or feeling is ruling a decision; applying these insights to issues such as those raised in drugs education, health education and sex education;
Managing feelings: 'self-talk/inner speech'; realising what is behind a feeling (eg a hurt – underlying anger); finding ways to handle fears, anxieties, anger and sadness;
Creativity: an ability to imagine alternatives;
Handling stress: learning about exercise, relaxation methods and new games to play on the playground;
Empathy: understanding others' feelings and concerns and taking their perspective; appreciating the differences in how people feel about things; (useful to counteract bullying);
Communicating: talking about feelings effectively; good listening and question-asking; distinguishing between what someone really does or says and your own reactions or judgement about it; reasoned debate;
Assertiveness: stating your concerns and feelings without passivity but also without aggression or anger;
Group-work: cooperation; negotiation; knowing when to lead and when to follow; problem-solving; taking fair turns; coping with other people's success;
Conflict-resolution: how to 'fight fair' with other children, parents and teachers; the win/win model for negotiating compromise.

This case study was written by Peter Coulson, Beech Hill County Primary School. Beech Hill is a 3 – 11 school in urban Wigan, serving approximately 450 students. It participated in CMAS from 1995 – 1997.

CS 4

TAKING RESPONSIBILITY FOR OURSELVES

College House Junior School, Nottingham

Democracy and education for sustainable development in practice

Schools are not just learning factories. They are places where the social, moral, spiritual and physical needs of children are addressed. The recent recommendation that citizenship education should form part of a child's curriculum reflects this point. Education for sustainable development (ESD) can provide a coherent framework to bring this about.

What is education for sustainable development?

Education for sustainable development is about helping children improve their own social and physical environments to enhance their quality of life, whilst allowing other people in different parts of the world and those in future generations the opportunity to do the same. Any society that fails to do this will not sustain itself and is very likely to cause other cultures to go out of existence as well.

To implement ESD, attention must be given to the following key issues:

- the creation of clear goals that can be shared by the school community and communicated clearly to everyone concerned;
- the provision of time to achieve these goals;
- action so that momentum is generated and maintained.

We hope this case study will offer any school or teacher who is interested in these issues a possible framework to get things started.

How we started our journey

In 1994, the children at College House Junior School expressed their exasperation at the amount of time those pupils who behaved in an unacceptable manner received, relative to the rest of the children. The staff felt this was a great opportunity to introduce the principles of democratic behaviour into the lives of children. Democracy in schools is about children and staff taking responsibility for their own social and physical environments.

The first step was to create a Behaviour Working Party of teachers, pupils, parents, governors and midday supervisors to look at the following issues:

- rewarding and celebrating acceptable behaviour;
- deciding on what acceptable behaviour is;
- communicating what acceptable behaviour is to children, parents, teachers and midday supervisors to ensure consistency.

As you can see, the Working Party went for a positive system to run alongside the assertive behaviour management system that was already in place. Having pupils on this Governing Body sub-committee has been very important, not only because they are the main consumers of our behaviour policy, but also because, without their input, we are always going to be less effective.

Our initial thoughts were considered over-ambitious by some, but unless you aim for the sky you will never get anywhere. It must also be stressed that most of the things that we aimed for did occur, but in a different form from our original plan. We also picked up some interesting new ideas along the way.

A home-school diary

Key issues for the school community related to defining what was meant by 'acceptable behaviour' and finding ways to empower all concerned to achieve these shared objectives. The tool we picked to solve this problem was a 'home-school diary'. This document contained the school's mission statement, a code of positive behaviour and a list of sanctions for unacceptable behaviour that were negotiated by all concerned. We also stated how we would work in partnership with the children and parents. We wanted everyone to be aware of what we stand for and thereby give the children a fighting chance of meeting our goals. The diary also provides staff and parents with a method of communication that is non-threatening. Forthcoming events, tasks to be completed at home, and messages between parents and teachers are all written in the diary. Parents are asked to sign the diary at the end of each week, and adults initial each message received. Regular discussions about behaviour are conducted via the diary, which has become a very valued tool.

Rewarding children

To reward children when they meet acceptable standards of behaviour, we awarded them a point. There is a point on offer for each hour they are at school. This includes lunch times, during which the point on offer is managed in close cooperation with the midday supervisors.

These daily totals are recorded in their own diary each day so children, parents and staff have an up-to-date record of behaviour. As we are all seeking to apply the ideas spelt out in the diary, we have found a great deal of support for the system. People see it as being fair.

Partnership with pupils: a school charter

Whilst at this school you will:

- be offered a wide range of activities both in and out of school;
- work with a wide variety of adults and children;
- be valued as an individual;
- be encouraged to fully develop your confidence;
- with your cooperation, be helped to develop your full potential.

Whilst at this school, you are expected to:

- work with a variety of groups;
- show care and consideration for others;
- take an active and positive part in the school community;
- follow the pupils' code of behaviour;
- respect the school environment and all people in it;
- work hard to fulfil your potential.

At the end of the week the points are added up, and those that have more than 80 per cent of the possible maximum score get a star. The children take a great deal of pride in earning these stars. Five stars earn them a special certificate. Six certificates earn the right to go on a special trip that they pick. We have been bowling, indoor climbing and ice skating.

Has it been successful?

The first year we ran the diary we felt that it improved behaviour and were very pleased to find that 75 per cent of children had earned the right to go on a special trip. Over time we have steadily increased the points threshold. You now need 90 percent of the weekly maximum to get a star. The children have responded well to this and last year saw over 90 per cent of children earning the right to go on a special trip!

We have made considerable progress over the last five years. Sometimes we have raced along; at other times we have crawled, and occasionally we have stood still to take stock. We also recognise that some children will not be reached by our system for some of their time with us, but it does provide a positive way back for these children and a framework that we can adapt to meet their individual needs.

Useful tools

If children are to be expected to take increasing responsibility for their social and physical environments, they must have forums where they can express themselves and where they can see their views being valued enough for action to be taken quickly.

We have created a number of tools to allow this to happen:

- class contracts negotiated twice a year;
- Class Councils where children chair meetings and discuss whatever they choose;
- provision of 30 minutes each week in the school timetable so Class Councils can occur;
- School Councils made up of two elected representatives from each class, which is chaired by the Head Teacher to allow quick action to be taken on many issues.

These tools have provided a useful framework for allowing children to express themselves and for teachers to explain why things happen as they do. A key point is the need for action when the opportunity arises. Children and staff need to feel that these structures are of value and this can only occur if things happen. When the required action is not possible or appropriate, explanations must be offered. Class and School Councils must not become pointless talking shops – at any cost.

At the start of each year we still get new children asking for swimming pools and the abolition of most school rules! We are, however, able to talk them round, and after a few short weeks they are raising more appropriate issues and starting to suggest good quality solutions.

Where the children took us next!

Having gained a greater sense of control over their social environment, the children were asked to consider what they could do to improve their physical environment. We feel it is very important for children to start thinking and acting as citizens as soon as possible. The two issues they focused on were the school grounds and litter in the local area.

To tackle these issues it was felt that closer links with other members of the community were needed. Links were formed with local companies and the local Groundwork Trust to develop the school grounds. The School Council was the vehicle chosen to represent the whole school during discussions about what was needed in the grounds. Over the years, the School Council has been regularly consulted to assist those that the school has asked to improve the grounds. The perspective of children is different from our own, and the process of consultation has enhanced our understanding of children's needs and opinions.

To tackle issues outside of the school a link was formed with our local Borough Council through their Local Agenda 21 officer. Many councils have a Local Agenda 21 officer whose job is to promote sustainable development in their area. Our officer was keen to be involved with the

school because she recognised that schools are often at the centre of the local community and that no community can be sustainable if it neglects to educate their children about sustainability.

This link has involved a time commitment both by the school and the Borough Council. We feel this time commitment is well worth making because it can bring considerable benefits to the children's learning.

Through the link our children have adopted the streets around the school and each class collects litter in those streets on a weekly basis. It is not a matter of replacing Local Authority street cleaning: rather we are getting children to take some responsibility for their streets, and hopefully encouraging them to create less litter in the first place. We collected data on the type and location of the litter and the School Council presented this information to a meeting of the local Council's Technical Services Committee. As a result, the Committee moved specific litter bins identified by the children as being in the wrong place, and negotiated a change to the commercial contract of a street cleaning company. The children learned about the process of change and the role they can play in it as active citizens.

As the children have become more interested in their physical environment, we have provided them with the opportunity to participate on the School's Premises Committee during inspections of the school. The children drew our attention to many issues that we had quite literally overlooked. Class Councils also help us identify things that the children think we miss – which we often do!

Formalising our environmental work

Our local Council link made us realise that we needed formally to build up the knowledge our children have about environmental issues and the skills they need to tackle them. Children cannot have worthwhile opinions on matters they do not understand. The tool we created to meet this need was an Environment Policy.

Our Environment Policy has four functions:

1. To spell out clearly the philosophical reasons behind what we are doing.
2. To identify the key skills and concepts needed under the headings of *'empowerment'*, *'reflection'*, *'knowledge'* and *'interdependence'*.
3. To provide a time-tabled framework in which specific topics will be covered so that momentum can be maintained and the links with the rest of the work children are doing can be more easily formed.
4. To raise awareness of these issues with new parents and new staff.

We are constantly evolving our methods of implementation. At present we are seeking to put democratic and environmental education into our delivery of each National Curriculum subject. Every piece of termly planning now contains an ESD objective which we seek to implement through our everyday teaching. We seek to put democratic and environmental education at the heart of our school.

Having created this policy, we also provided two off-timetable days per term to address each topic we had identified. We attach great importance to children building up the knowledge and skills that are vital to being an informed and active citizen.

Summary

We hope that this case study offers a possible framework which you can use with your school community to address issues of pupils' responsibilities – as well as their rights. We seek to encourage the whole school community – especially its children – to be reflective, considerate and empowered citizens who will seek to apply and spread their knowledge to the benefit of themselves, the global community and future generations.

This case study was written by Paul Bridgmount, College House Junior School. College House is located in suburban Chilwell and serves approximately 300 7 – 11 year olds. It participated in CMAS from 1996 – 1998.

CS 5

MAKING SECONDARY MATHEMATICS SUSTAINABLE

Crispin Comprehensive School, Somerset

ESD meets the real world of mathematics

Ask many mathematics teachers what education for sustainable development (ESD) has to do with them and the answer would probably be, "Not a lot". At Crispin Comprehensive School, the response would be very different. For over the past year, teachers at the school have worked together to produce mathematics projects for 11 – 14 year olds with ESD at their core.

So how has the school got to this point? Environmental education has developed over a number of years. Starting with interested volunteers, the Green Group has grown into a recognised Green Committee with governors in its membership. INSET has been carried out with the whole staff and, of course, teachers in the Committee have also promoted environmental education in their own curriculum areas. Crucially, however, the enthusiasm and conviction that what they are doing is important has brought them more and more into the mainstream of school life, helping teachers to develop their understanding of sustainability by integrating it into their teaching.

Talking to colleagues in the staff room proved to be an important way of stimulating more ideas. The Mathematics Department already knew they wanted to develop ICT work on spreadsheets in the lower school. They had a history of success with similar work undertaken with able mathematicians at Key Stage 4 (14 – 16 year olds). Every year these pupils take an additional GCSE in statistics and, as part of their coursework, develop a project based on the use of spreadsheets. The choice of topic is up to individual pupils: past topics have included the performance of cars compared with their prices, sporting achievements, and even the dimensions of body parts. One Key Stage 4 project was entitled 'How pregnant women's foot size relates to time spent in labour'! For the Key Stage 3 (11 – 14 year olds) work, the Mathematics Department's thinking had already begun to crystallise around the topic of population growth. The chance to integrate education for sustainable development as well could not have been better timed.

One idea sparked another, and in the end two projects were developed. The one for Year 9 (13 – 14 year olds) is the 'Population Explosion'. In Year 8 (12 – 13 year olds) an existing investigation into the transport of oil, which only considered the problems associated with transport costs, was entirely revamped and has become 'Oil Spills'.

ESD THROUGH MATHEMATICS PROJECTS

The structure of both the Year 8 and the Year 9 projects is the same.

Time needed:

- Four double lessons of 70 minutes each.

Teaching methods:

- teacher-led whole class discussion;
- individual research using spreadsheets (and other resources for faster working pupils); and
- group work to put together a presentation of findings.

Resources:

- pupils booklets that outline the tasks, give hints on how to make use of the data, and set challenging follow-up questions;
- teachers booklets (that support the teacher in a similar way!);
- spreadsheets for the mathematics area of the school's ICT network;
- for the 'Population explosion' project, current information was researched on the internet. It had to be used carefully because different sites use population figures measured at different times of the year; and
- for 'Oil spills', the WWF publication *Maths Matters* proved an invaluable source of data for teachers.

The 'Oil Spills' project for 12 year olds

'Oil Spills' looks first at the environmental impact of spilled oil through background reading and brainstorming to elicit existing knowledge. Each pupil then chooses a particular incident to investigate in detail. Its cause is an important piece of information. Possible causes include tanker spills or crashes, pipe-line failures, oil-field accidents, problems at refineries and wars.

The teachers have set up a spreadsheet that allows pupils to examine a number of incidents, some more publicised than others, to find trends and present them graphically. For example, what causes the greatest amount of oil pollution, and is there any trend over time in the size of oil spills?

One of the science teachers has contributed a section to the spreadsheet on the fate of the spilled oil, looking at the different environmental pathways it can take. Faster working pupils are encouraged to research this further on the Internet, giving them a more in-depth understanding of the consequences for eco-systems.

For the pupils, the outcome of their work is a group presentation to the class using their printed tables and graphs, together with their research on the environmental effects of oil spills. An important discussion point they must address is what they think could be done to reduce oil spills.

The 'Population Explosion' project for 13 year olds

The 'Population Explosion' project uses the same format as the 'Oil Spills' project, so pupils feel confident that they are building on something they have already learned. However, the issues considered are more challenging. They obviously raise questions about individual life choices and ask pupils to consider differences between more economically developed and less economically developed countries. This project naturally generates a lot of discussion of the data.

The pupils' first task is to analyse spreadsheet data on the populations of the five continents over the last half-century. They are asked to spot trends, predict likely continental populations by 2010, and consider reasons for any differences between the developed and developing world. The next stage is to introduce the idea of population density as a more meaningful measure of the likely pressure of humans on the environment than simple population figures. Pupils generate their own spreadsheets and work in pairs or small groups to discuss ideas about why there are such large variations in population densities.

They are given prompts to get them started: for example, does the physical geography of a country matter? How important might economics be? Could tradition play a part? Will the provision of effective medicine be a factor? The teacher has an important role facilitating discussion but also, where necessary, dispelling false preconceptions.

So far the work has all been on the basis of population data that already exists and pupils have been trying to explain it. The next section of the project challenges them to speculate, but in a very mathematical way. The introduction to this section involves a class survey on the number of children in each family. This needs handling with real sensitivity by the teacher and raises important questions about the flexibility of family groupings in modern society. It also raises the purely practical problem of how statisticians can count numbers of children in families without getting muddled by counting some children twice. Unprompted, most groups reach the same solution as the statisticians: use the number of children born per woman as a measure of family size.

This then opens the door to some very interesting modelling. Pupils are given the actual birth rates for six different countries. They then use spreadsheets to simulate world population growth on the present average birth rate. They also find out what would happen if the average birth rate changed. For example, how much difference to world population growth would result if each mother had, on average, one child fewer or one child more?

It is not only the mathematics that is of interest to the pupils, who are surprised at the extremely rapid growth in world population that is projected. With some guidance from the teacher they can also see that the

'average mother' does not exist, and that the environmental impact of another birth in a less economically developed country is far less than that of a birth in a more economically developed country. Questions about consumption and global equity are just waiting to be raised.

Some pupils are even ready to connect what they have been studying to choices they might make about their own lives; they see that, in the end, global population statistics rest on many, many individual decisions.

Capable people

Pupils value highly the mathematics and ICT skills they learn and practise in these projects, and they know society at large does too. They are pleased to be acquiring competencies they will need as self-assured adults. Mathematics has credibility! Because of the contexts in which the skills are used, pupils also gain an insight into the relevance of mathematics and ICT as extremely useful tools for describing, explaining and predicting events in the real world.

But it is not only mathematics and ICT skills that are developed. The format of the projects means that pupils improve their individual research skills, explore ideas through discussion, and cooperate with others. A more open-ended research approach can be adopted to produce a final report.

The projects develop critical thinking too, as pupils come to realise that what is done about the causes and consequences of the events they are studying is then up to people. The survey of their own class builds mathematical models to see the different effects of families having one, two or three children. For some, it may even help them along the road to making better-informed choices about their own lives.

For the teachers – from mathematics, ICT and science – developing the projects brought benefits too. Sharing ideas and knowledge with colleagues outside their own departments helped give them a fresh outlook. Amending and improving the projects as they went along encouraged an openness to feedback and constructive criticism.

Lessons learned

At Crispin, teachers are convinced that education for sustainable development (ESD) should not be restricted to any one area of the curriculum. The issues it deals with are so wide and so central to the education of the whole person that there is scope for it to be included in any subject area. Coming soon on Crispin's own action plan is a project in modern foreign languages with an education for sustainable development theme.

Developing the mathematics projects has highlighted two important principles:

1. The first is that education for sustainable development does not have to be an add-on that takes time away from the 'real' curriculum of taught subjects. It can actually provide the context for curriculum subjects. In addition, there are many teaching and learning strategies which use ESD-related skills to develop a better-grounded understanding of curriculum subjects. In other words, ESD should not be about cramming more in. It should be about doing what schools already do, but differently.

2. The second principle is that pushing at a door that is already open is more likely to get you through! There are times in the rhythms and cycles of school life when the moment is opportune for innovation, for example when a department is already committed to reviewing part of its curriculum. It is colleagues talking about teaching that brings these opportunities to light. Secondary schools have grappled for a long time with the barriers between departments. Cross-curricular themes have been known to wander no man's land, shunned and homeless. The success of recent national initiatives, however, depends on the acceptance that there are important educational issues like literacy, numeracy and citizenship, which can only be tackled effectively across the whole school. For teachers committed to education for sustainable development, this is an opening door.

Summary

This case study aims to share the insights of Crispin School as it takes up the challenge of ESD. It demonstrates how one department has tried to provide a real world relevance behind curriculum content; how the school has already succeeded in cross-subject working and whole school approaches to 'green issues'; and how they hope to stimulate others elsewhere to take these or other ideas forward. The themes of Crispin's mathematics projects allow them to link naturally with aspects of geography, science, religious education and PSHE. The structured support they offer learners and teachers alike mean that any maths teacher can use them. The Crispin staff is keen to share success. For anyone interested in the details of these projects, or for more general information about the work of the Green Committee in the school, their website can be accessed at *http://www.crispin.somerset.sch.uk/*

This case study was written by Monica Allfrey, Crispin School. Crispin is an 11 – 16 mixed comprehensive with just over 900 children on roll and situated on a very pleasant campus site within five minutes walk of the local town centre. The aim of the school is to raise young people's achievements and aspirations in a safe and caring environment, and high standards are expected from all members of the school community. It participated in CMAS from 1997 – 1999.

CS 6

ORGANISING A SECONDARY SCHOOL ECO-DAY

Fallibroome High School, Cheshire

Secondary school Eco-Day

Eco–Day at Fallibroome High School is one element of a whole school approach to education for sustainability. This approach had its origins in extra-curricular work, but increasingly it has been incorporated within the normal curriculum to ensure that education for sustainability becomes an entitlement for all pupils.

The work has three main aims:

- to highlight critical issues affecting the environment, and to emphasise the themes of individual and collective responsibility for the present and future management of our surroundings;
- to encourage departments to re-order their delivery of such themes within their Schemes of Work so that work in one subject informs, supports and extends work in another; and
- to integrate work introduced within the pastoral curriculum with work taking place in the formal curriculum (eg the theme 'Planning for the future' introduced in an assembly by the local Planning Officer acted as a stimulus for land use issues in a form period. This, in turn, acted as a powerful springboard into urban planning issues in geography).

Eco-Day included all 200 Year 8 pupils (12 – 13 year olds) and took place towards the end of the Summer Term. It was to be a celebration of the work that had taken place in the course of the year. It also helped to consolidate and extend knowledge and awareness of sustainability issues, to build on existing community links, and to be an opportunity to communicate with parents, as well as contributing to the overall aims of education for sustainability.

Raising staff awareness

In a school with a tradition of pond clearances and litter picks, a move towards sustainability involved raising teacher awareness of the issues before these could be conveyed to pupils. A cascade approach, in which the core members approached other key staff and spoke at length about their department's current work on the environment and other related themes, was found to be most effective. It helped to create a 'cell' structure, avoiding large, unwieldy meetings and the consequent waste of time and resentment, and produced two immediate outcomes – an audit of education for sustainability and the formation of a Steering Group of interested volunteers. Eco-Day was led by this group but proved an effective vehicle for widening involvement.

A considerable number of staff were involved in the event and each saw the need to educate themselves. A clearly defined objective, within a specific timeframe and with sustainability at its centre, gave staff something to aim for. Formal INSET sessions organised to help staff to plan their activities for Eco-Day were well received, being tied to a specific purpose. The movement in thinking towards the broader issues of sustainability and the ethical issues it encompasses, which came about through the Eco-Day process, proved important in incorporating sustainability into the rest of the curriculum.

How to organise the day

Meetings were kept to a minimum, but everyone who expressed an interest in being involved in the day was invited to an initial meeting to discuss the overall vision and to decide what their role would be. Senior management was represented by the Deputy Head, and the Steering Group felt that his support made all the difference.

The initial idea was to start with a bang – big assembly, invited speaker; split into small groups for a circus of activities; end with a bang – each group reports back. However, this seemed logistically impossible with a whole year group of 200 pupils. The second idea was the antithesis of the first. Each group would do one part of the whole project, participating in a range of activities but with the same staff, on the same theme and working towards a clear goal. There would be no starting and finishing sessions. However, communicating the work was seen as of vital importance so an evening event with a combination of presentations, performances and displays was planned.

The activities were chosen to build on the strengths of staff and take into account their personal interests. Some teachers felt they had the expertise to follow a curriculum based approach with a small group, eg the Science Department investigated energy use. Other staff were prepared to operate on the fringe of their school experience, like the English Department who volunteered to publish an Internet web page and a paper based newsletter on the actual day. Yet other people were prepared to take on activities completely outside their normal role, like the Modern Linguist who went to work on the pond!

Each staff group was given INSET time to plan the work, which signalled that senior management considered the project to be of value.

"Anyone who wants to put on their own Eco-Day will need to plan well in advance. We found that good resources and well-prepared staff make all the difference. It is very important to base your focus on the capabilities of the staff you have got. In addition, don't forget to use local people with an interest in the subject."
Education for Sustainability Coordinator.

Organising community support

From the start, Fallibroome saw its education for sustainability work as needing to be firmly rooted in the community, and it was no coincidence that the person who took on the coordinator's role also has responsibility for community links. Environmental assemblies (two per term for each lower school year group) use outside speakers as far as possible, to give status to the assembly and bring expertise for a particular subject to both students and staff. Videos from organisations such as WWF and the Environment Agency have also been used.

These assemblies were initially intended to broaden the knowledge of the students about environmental topics by highlighting particular issues. Their importance rapidly increased and they became a medium through which to reinforce the work of various departments and an opportunity to involve members of the wider community in the work of the school. They were also found to be 'INSET by the back door' for staff who were present at assemblies in their role as form tutors, and who found them extremely useful and informative.

Outside speakers have included Council Officers involved with planning, leisure services, transport, recycling and Local Agenda 21, and representatives from local environmental and pressure groups such as Groundwork and the local Wildlife Trust. The support of such people was considered a vital element of Eco-Day, lending specialist expertise and enabling pupils to work in small groups in which they were more able to contribute actively. It was felt that anyone contributing to the day needed to be quite well known to the school, and assembly slots were used to trial suitable people before they were approached to run groups on the day.

On the day. . .

Activities included:

- Participating in a planning exercise about the possible ways a local site could be developed in the light of sustainability, under the guidance of a Planning Officer. This was presented to the evening audience in the format of a planning meeting, with questions taken from the floor, and the Planning Officer took back ideas for the actual development of the site.
- Researching paper use in the school and carrying out a feasibility study into setting up paper recycling at the school, with the County Council Recycling Officer.
- Studying conservation areas and environmental changes in the town from a historical perspective, with a worker from the Heritage Centre, culminating in a presentation of ideas of how to improve a local site, based on methods explored during the day.
- Investigating the benefits of wind, water and solar power by constructing models for generating energy, and comparing them to fossil fuels, led by science staff.
- Working with an officer from the County Council Planning Department to enter sightings of particular species into a database, as a contribution to the Cheshire Species Recording Scheme.

- Producing a theatrical piece based on discussion about the effects of out-of-town shopping on local businesses and the environment, with original songs composed by music students, to be performed at the evening event.
- Studying the biodiversity of the school grounds with a representative of the local Wildlife Trust before making recommendations for the future management of certain areas and beginning to set up a nature trail for visiting primary schools.
- Exploring lifestyle and attitudes in Delhi and London through use of the photopack *A Tale of Two Cities* before creating a performance which highlighted some of the issues of sustainability which came to the fore, under the guidance of creative arts staff.
- Carrying out an eco-audit of the school and comparing it with one that had been carried out several weeks earlier by the County Council. This led to the development of an Environmental Charter, a copy of which went into every classroom.
- Visiting a local landfill site and recording findings to complement a subsequent geography topic.
- Working with the Cheshire Agenda 21 Indicators Group to measure such things as water quality in streams, signs of air pollution in local woodlands and the age of hedgerows. This will need to be an annual event if the results are to be used as sustainability indicators.
- Comparing the quality, cost and environmental impact of bought, packet-mix and home-made cakes before preparing a range of foods for the evening event.
- All the events of the day were recorded by a press and video team. They produced an Eco-Day Special Edition of the school magazine and put details of the day onto the Internet.

Although students worked for the whole day on one theme, there was plenty of variation of style and content within each activity. The afternoon session took on an extra dimension as the groups tried to get to a conclusion and produce a display of their work for the evening presentation.

. . . and the evening

The format of the evening was decided by the end products of the working groups. Those that had produced displays pinned them up and talked to visitors about their findings. The music, the drama, the presentations and the Internet web page on the progress of the day were part of a programme in the hall.

The evening event was a great success in terms of public relations. Representatives of almost all the school's contact organisations came, bringing bosses and co-workers to justify their investment in the school. The students felt that the presence of local government, training, education and business people lent the whole thing an air of importance. Much of the important work of the evening took place over refreshments at the end, with offers of equipment and expertise relating to the event, ensuring that it will be even better next time.

Was it a success??

- The students think so. Many are disappointed that they won't do it again in Year 9 (13 – 14 year olds). Others want to help with planning the next one. Year 7 (11 – 12 year olds) keep checking when the next event will be.
- The staff think so. Quite a few of the veterans of the first Eco-Day volunteered themselves straight away for the next one. They don't want to do the same thing but can see ways of moving on.
- Management think so. They feel the school has invested a lot in environmental work and they like publicity about it. The day reinforced the ethos of the school at the same time as improving its image.
- The parents think so. They attended in large numbers, there was a lot of positive feedback on the night and quite a few congratulatory letters after the event.
- The Steering Group think so. Despite the added workload, they felt it was 'one of those rare pieces of work in teaching that captured the imagination of everybody'.

An annual event?

Fallibroome have now had an Eco-Day for three consecutive years. Some staff and activities have remained the same, building on the successes of the previous years, but new staff and members of the local community have brought new ideas and skills.

This case study was written by Carole Martin, David Belfield and Annette Dobson, Fallibroome High School. Fallibroome serves more than 1,400 11 – 18 year olds in suburban Macclesfield. It participated in CMAS from 1994 – 1996.

CS 7

READING BETWEEN THE LINES

Farnborough Grange Nursery/Infant and Early Years Centre, Hampshire

The National Literacy Strategy

In 1998, the Government introduced the National Literacy Strategy for primary schools in England and Wales. It sets a national target for literacy, with the aim of improving the teaching of literacy in the classroom and the management of literacy at school level.

Teaching approach

As teachers' workloads and curriculum structures change, it is all too easy to miss the implications of the way we present information to children. Staff may feel they have little choice about what they teach, but they do have a choice about which materials they use. At Farnborough Grange Nursery/Infant and Early Years Centre we have found it can be liberating for pupils and teachers to link literacy with the wider determinants of education for sustainable development (ESD).

As individuals, children learn in different ways: they are also affected by their stage of development. Early language and literacy depends a great deal upon the motivation to communicate verbally – the foundation for all future literacy success. Challenging, practical, active involvement in all aspects of the English curriculum cannot be replaced by sterile, uninspiring material. To be absorbed in the day-to-day activities of school and taught by a teacher with high expectations of standards and life-long learning can be a strong indicator for social inclusion and mental health.

Links to ESD

Educating through the study and experience of the school environment and community can encompass all learning styles and subjects. All learners encounter experiences to which they can relate. ESD can include a wide range of formal and informal activities and situations, as well as contributing to the broad and balanced curriculum which schools are required to provide.

At Farnborough Grange, our children are motivated to come to school and to find out more about the things that interest them. They develop positive and sensitive attitudes through direct experience and exploration of more abstract ideas. ESD gives them many opportunities to reflect upon and express views and ideas. It also encourages debating skills, such as forming reasoned opinion and developing respect and tolerance of the attitudes, beliefs and opinions of others.

Through the continuing development of ESD within the curriculum, and effective partnerships with other organisations, institutions and the

community, we can undertake exciting new projects and make a difference both to the children and their families – now and in the future.

Making a start

As part of the National Literacy Project we have benefited from having worked with the framework for three years. As a result, we have had time to gain experience and the flexibility to develop and adapt it for the benefit of the children. Initially, we worked with age related texts and focused on developing a basic understanding of the framework – vital ground work – before creating a tailor-made Scheme of Work for the school. We very quickly realised that the National Literacy Strategy (NLS) could become 'death by worksheet' and so, as a whole staff, we decided that the NLS must be developed both to reflect our school ethos and to make the most of the literacy hour. The framework needed to incorporate aspects of ESD; be cross-curricular; address aspects of PSHE and build on good Early Years practice. The ESD and PSHE aspects needed to be incorporated within planning and Schemes of Work rather than being 'bolted on' – something that is now emphasised in the new curriculum.

What has worked for us – our approach

The framework offers many opportunities for working with a wide range of texts focusing on various aspects of ESD: stories and poems from different cultures; traditional rhymes and stories; texts set in familiar settings; information texts and instructional texts. We have found these types of resources stimulate children's interest in the wider world as well as their own community.

We have also used resources such as magazines, newspaper articles, atlases, gardening books, dictionaries, song books, raps, rules, instructions, diagrams, labels, signs, posters, letters, articles, packaging and adverts. Much ESD knowledge can be acquired through the use of information texts, by researching topics such as: natural processes; human needs; the children's own lives and the lives of others, and the interconnectedness of humanity. Within the framework there is also an emphasis on questioning, which can be developed through information texts with children generating their own questions as well as finding answers to set questions about a theme or topic.

Carefully chosen resources have enabled the teachers to examine many ESD values and attitudes through texts: the well-being of living things; viewpoints of others; social justice; rights and responsibilities. The resources have been chosen and planned into the whole school topic framework.

They may be used to emphasise events in stories, counting rhymes and poems. Traditional stories and rhymes, folklore and customs provide children with an insight into the past; begin to link their lives with the past, and examine change. They can build up a picture of what everyday life was

like and how it has changed.

Comparing stories from other cultures gives an insight into the needs of people and standards of living. Fables provide children with moral issues to be examined and investigated, which relate to their lives. Equal opportunity focused texts emphasise the rights of people and human justice. Stories can also provide information about alternative lifestyles in relation to gender, religion and beliefs, introducing them to an awareness of other people's views and opinions, which can be discussed, acted out and debated.

Many stories and picture books focus on a variety of social issues through the interaction of the characters as well as specific aspects of citizenship, such as bullying, vandalism and littering. Good examples of citizenship have been identified in our reading scheme books, examining character relationships within stories, behaviour, interactions, community, social justice and responsibilities.

Text related activities

To ensure that we cover the basic knowledge, skills, attitudes and values – and to save time and resources – we have developed a set of 'generic' activities, adapting the approach for different texts.

The following are examples of the types of activity we have found work best:

Letter writing

- children write to characters to research everyday life in a different country or within a different culture;
- letter writing for real purposes, eg in response to local activities;
- writing to local community members to explore and examine issues past and present;
- creating letters between characters within a story;
- writing to councillors to express views and opinions.

Labelling

- adding labels and captions to pictures and photographs;
- speech bubbles between characters discussing problems, issues, activities;
- developing posters to inform others about how they can improve the environment and play their part.

Report writing

- writing a report on an item of news, a local issue, an issue in a story;
- developing two sides to an argument; presenting evidence for and against;
- creating a television report on an incident in a story, focusing on an environmental human issue;
- reporting on change, writing comparisons, positive and negative aspects;
- writing a report/instructions about an environmental process; informing others about new events or procedures relating to an environmental issue.

A question of focus

Teachers found that, by developing their questioning skills, they were able

to draw out ESD aspects within the texts. By focusing on questioning skills, the children became more proficient at practising and preparing their own questions. Careful questioning was found to encourage pupils to explain their thought processes and arguments, and to promote high level order thinking skills, which are an essential part of ESD. Children also developed skills of reflection, observation, analysis, comparison, hypothesis, classification and deduction. Questions need to focus on different aspects of the text – characters, setting, information gathering, interactions, processes, procedures and actions – and can be used to encourage imagination and creativity.

Book week

This year we took the theme of ESD for our annual book week. The aim was to develop children's and teachers' greater awareness of the links between ESD and literacy. ESD-related texts were displayed and available for all staff to use with the children. Members of the local community were invited to read to the children and to talk about their role/place in the local community. Visitors included local business people, Borough Council employees, the Local Agenda 21 Officer and church representatives.

A storyteller focused on 'green' folklore and storytelling traditions, introducing the children to the rich world of storytelling, mime and music making. He used recycled instruments and artefacts from nature and the past. An author spoke to the children about her work, which specifically relates to character development and interaction within familiar settings.

A 'book swapping' box was introduced to the children during the week, where they could 'recycle' by exchanging their books with other children. This continues and has been a great success.

Challenges

There are many challenges to be faced that are not just the obvious curriculum constraints. The main ones we found were the attitudes and values of some Inspectors, parents and the business community. Expectations and false divisions between key stages have hindered the development of resources for Key Stage 1 (5 – 6 year olds) and the promotion of ESD. Nevertheless, we endeavour always to challenge these and to 'fly the flag' of the appropriateness of ESD activities and materials – and the place of ESD in the Early Years curriculum.

The future

We are continuing to develop the ESD theme through our NLS work,

highlighting appropriate activities related to texts. We purchase resources that incorporate ESD information and those that can be used to develop ESD values and attitudes. A framework of appropriate texts is being created within the school relating to year groups, topic work and ESD themes. Activities are being developed and shared by staff to ensure lively, interesting and appropriate literacy hours take place.

This case study was written by Jane Armstrong and Maggie Bonfield, Farnborough Grange Nursery/Infant School and Early Years Centre. Farnborough Grange serves 3 – 7 year olds in suburban Farnborough. It participated in CMAS from 1995 – 1997.

CS 8

A STEP IN THE RIGHT DIRECTION?

Hope Valley College, Derbyshire

Introduction

"Knowing we have increased the quality of life of disabled people has been the ultimate achievement."

"If we don't work together, we are doomed."

These two student comments were offered to the question, "What impact has your work on the WWF sponsored Curriculum Management Award Scheme had on you?" There is a wide difference in the perspectives contained within the two responses. But if we consider them alongside the observation made by the teacher "The problem is to make sure young people can make the links with other parts of their life," we can claim some success in our 'radical' decision to invest hard earned resources in a community based approach to resolving a local issue.

The local issue in question related to 'access', and our project was to research and evaluate the feasibility of short, accessible footpath routes suited to the needs of the disabled members of the community. The project became the context and vehicle for curriculum development within our College and, more specifically, our chosen means of establishing education for sustainable development (ESD) as part of the learning experience of all our students at Key Stage3 (11 – 14 year olds).

We hope this case study will help to describe how the project was used:

- to place and maintain ESD on the College agenda;
- as a context for students to develop process skills;
- to develop a collaborative and consensual approach amongst staff;
- to improve the quality of teaching and learning within the College's 'timetable suspension programme'; and
- for staff development.

We hope to communicate our experience to others and show how it could be applied in a variety of educational contexts such as fieldtrips, topic-based work, community service programmes and vocational work.

The context

Hope Valley College is a rural 11 – 16 comprehensive school lying in the heart of the Peak District National Park, the most visited National Park in England and Wales. The students of the College live amongst the 'real issues' created by visitor pressure – issues that are well documented in geography textbooks. Against this background, the development of a programme of entitlement for ESD became a high priority.

A foundation had been laid through work with the Peak Park Education Department and the Peak Park Ranger Service during our 'timetable suspension' time (one week in Summer and a further two days in November). This experience further confirmed the need to establish within the curriculum a framework that would enable students to consider local environmental issues and, in so doing, help to develop the process skills so critical to both the ethos of the College and to the ESD approach.

The dilemma we faced is not an uncommon one: we lacked the staffing and financial resources to do justice to an important task. These difficulties were further compounded by the number of teaching staff in our small school under the additional pressure of being single-person departmental heads.

A decision was made to apply to the Curriculum Management Award Scheme (CMAS) as a means of providing the necessary resources to approach the task realistically. The local footpath issue was raised by the Community Access Group who meet regularly at the College. It was adopted as the focal point of the bid from which we needed to plan how the wider objectives of the scheme could be realised.

The management approach

Under the pressures outlined above the likely success of another 'top-down' initiative appeared limited. A project team of seven key staff within the College was identified. The team included the heads of a wide range of curriculum areas along with the Deputy Principal. A key member of the team was the newly appointed Head of History who held responsibility for coordinating the Project Group. The Group used the resources made available to them to work outside the College timetable day for re-numeration, an approach which minimised class disruption and meant that staff had the energy to contribute.

The Group decided to use the College's 'timetable suspension programme' as the means of approaching the task. This twice yearly break in the timetable enabled a programme of activities to be developed which built in the elements of progression and continuity throughout Key Stage 3 (11 – 14 years).

Staff development

The footpath project required a significant staff development input to raise awareness and expertise. The initial INSET session drew upon local expertise from key agencies such as the Fieldfare Trust, Derbyshire Footpath Service and local Parish Councils, while the Peak Park Education and Ranger Service provided invaluable initial and ongoing assistance. The second session was facilitated by our CMAS consultant who provided an awareness-raising session on the concept of ESD. This input was critically important as the College had not participated in the Reaching Out programme, WWF's

professional development programme for ESD. Both initial INSET sessions were delivered to the Planning Group, governors and key members of the community.

These sessions established the high profile of the project within the College. They were followed by a further meeting of the Planning Group during which the pattern of collaborative and consensual approaches so critical to the outcomes of the project were established.

Student involvement

The launch of the project to students was carefully planned to involve the Access Group who were central to the issue. Members of the Group gave their time to act as consultants on a range of activities to raise students' awareness of the issues facing local disabled people. Sustainability in a regional and global context was raised to provide balance to the day. Again, specialist input from the Peak Park proved invaluable.

Dissemination

Whilst the Planning Group contained representation from across the College, there was a major task in keeping all those outside this Group informed of the planned activities and their outcomes.

Wider involvement

Initial whole college involvement was secured by ESD becoming a College development priority. This required all development plan authors to address and be accountable for implementing the priority.

From this background the message began to seep into the curriculum. Involvement with the scheme has enabled staff with a personal interest in sustainability to address it more explicitly within their teaching. The footpath project itself became a context for subject teachers to introduce a relevant and topical context into their classroom activities. The case studies which follow are examples of some of the teaching activities which took place.

Case study one

Department: **Drama**
Target Group: Year 7 (11 – 12 year olds)

"Keep off the grass" is a play written by the Head of Drama, Caroline Small.

Jeremy and Jemima Tourist are determined to give their children a traditional picnic, but the beauty spot they have chosen is the very last patch of grass in the world. They soon find themselves defending their right to picnic against a botanist, a farmer (and his herd of cows) and a documentary film crew!

As more characters arrive to stake their claim on the grass, the Government Minister, Sir Oscar Wheatear, steps in – with disastrous consequences.

The play is open-ended and students have to find their own solutions. It is an excellent way to introduce and develop both the process skills and the concepts essential to the ESD approach.

Case study two

Department: **Information Technology**
Target Group: Year 9 (13 – 14 year olds)

During the process of surveying the proposed footpath site, students were involved in recording data using both conventional and digital cameras. The photographic images they produced were collected on a CD and used along with commercial software relating to the Peak District to produce promotional guides for Dirty Lane Site. Students were also able to use the fieldwork data to resource PowerPoint media presentations which were highly commended at the final public presentation.

The project enabled students to demonstrate the necessary ICT skills to access the higher levels (six and seven) of the ICT National Curriculum. The footpath was a 'real' context and an ideal opportunity to extend all students in the ICT strands of Communicating Information and Handling Data.

Case study three

Department : **Mathematics**
Target Group: Year 8 (12 – 13 year olds)

The Mathematics Department took advantage of the Year 8 students' recent work with the footpath project to introduce an extended task which used their previous work as a context for open-ended mathematical investigation.

Students were asked to consider a wide range of factors that were worthy of consideration by the prospective designers of the path.

Surface type, roughness, gradient and width formed the major items of consideration at the initial brainstorming session, before a process of elimination provided a whole class focus upon gradient. In part one of the exercise, students utilised their original site measurements collected from fieldwork to calculate, present and comment upon gradient data.

Part two of the exercise involved students deciding upon the use of percentages as the most useful way of describing gradients, and being required to devise spreadsheets to convert fieldwork and map evidence into percentage ratios.

Motivated by their background knowledge and their desire to contribute further to assisting the Access Group whom they had recently met, the group came up with some high quality work in an area of assessment for which it is notoriously difficult to set meaningful and relevant tasks.

In summary...

The intention here has not been to chronicle the progress of the Hope Valley footpath project; rather we've tried to suggest how curriculum development and cross-curricular collaboration – so difficult to achieve in a secondary setting – can be approached in an innovative manner. We are sure that there are innumerable projects that are capable of reaching towards the same goals. Beware – the path is bumpy, but the rewards are worth it!

This case study was written by Bernie Hunte, Hope Valley College. Hope Valley is an 11 – 16 comprehensive school, serving more than 500 pupils and located in the heart of the Peak District National Park in rural Derbyshire. It participated in CMAS from 1995 – 1997.

CS 9

EDUCATION FOR SUSTAINABLE DEVELOPMENT IN SPECIAL SCHOOLS

IMPACT Schools Consortium (Mayfield Centre, Mayfair House and the Phoenix Pupil Referral Unit), Southhampton

About IMPACT Schools Consortium

Our fundamental goal is to support learning which facilitates and enables the development of young people, empowering them to take their rightful place in society, valued for the contributions they are able to make – contributions that will lead to benefits both for themselves and the wider community. Our aim is to negate the limits that the students' special needs and the preconceptions of society place upon them, encourage them to raise their expectations and celebrate the very real impact they can make to a positive future for all.

When a consortium of special schools decided to take part in WWF's Curriculum Management Award Scheme 1995 – 97, it was because staff felt their goal of enabling students to become as independent as possible, through developing the knowledge and necessary skills to sustain a purposeful place in the world now and in the future, paralleled the aims of education for sustainable development (ESD). Although this goal has not changed, the schools did not realise the fundamental shift in practice that would result from full engagement with ESD.

The project began with an INSET day in which Special Education teachers reviewed the kind of environmental education being taught in their own establishments and explored issues of sustainability in a wider context. The consortium developed a set of aims which enabled them to draw together a number of previously unconnected elements within the existing curriculum and provided a clear focus and coherent framework.

Subsequently, the three schools involved developed their projects in different ways, but worked as a 'critical friend' network, sharing ideas and challenging each other's thinking, which staff felt was crucial to the development of the project.

Mayfair House

– ESD principles provide a framework for developing a garden

Mayfair House is a 16+ unit catering for students with moderate and severe learning difficulties. Staff wished to make better use of the school garden for horticultural and leisure activities. ESD gave a framework to this project, exploring cultural, social and economic factors.

Introduction

Discussions with the students about what could be done with the garden revealed both a diverse and limited understanding of what a 'garden' was. An investigation was carried out by photographing and drawing the Mayfair garden and the students' home gardens, to establish a common concept. This information was shared among the students.

We noticed that students who would approach staff to request or relate information had difficulties doing this with their peers, as if they devalued the ideas and contributions they were able to make. Previously we had not fully comprehended this but, as we encouraged student discussion in planning the garden, we began to see attitudes changing.

One example of this was two students who got together at one of their homes to cut and paste pictures of plants they had selected from gardening catalogues. Admittedly, these were more able students, but there was a definite shift in attitude among the students in the classroom. The more able students began to sit (independently of staff intervention) with the less able, and ask "What do you think?" and "What colour would you like your pond?".

Initially unrealistic 'dream garden' designs with football pitches and zoos led to visits to outdoor spaces, including Southampton Football Ground and a nature reserve. The students began to understand limitations of space, and drew up a shortlist of things they would like that would realistically fit into the garden.

Exploring cultural factors

The students were next required to think about the people who might use the garden. By its very nature, Severe Learning Difficulties education concentrates on the individual needs of the students: the downside of this approach is that they can come to view themselves as the centre of their existence and be unaware of other people's needs. However, by considering the 'end user', the project encouraged students to look beyond themselves and consider the people around them.

The students chose to design the garden for the pupils at Ridgeway House, Mayfair's parent school for under-16s with severe learning difficulties. They invited classes to visit Mayfair, entertaining them with refreshments and games in the garden. In this way they came to realise that not all the pupils were fully ambulant; that some preferred to sit rather than play games; and others looked for shade or enjoyed looking at and touching the plants. One student asked if she could do a work experience placement in the nursery at the main school. This was arranged and she was encouraged to talk to the other students about her work there and what the nursery children were like.

The students made a list of all the disabilities that they found, including sight and hearing impairment as well as the more obvious need of pupils in wheelchairs. They began to talk about individual pupils and it became apparent that each had chosen a different pupil to centre their ideas upon. In discussions with the others, they talked about what they thought were the needs of these particular children.

Some of the students had difficulty in realising the limitations caused by different disabilities, so we tried out some exercises to explore these effects. To gain some understanding of the needs of wheelchair users, the students tried gardening whilst sitting in a chair. They considered what it would be like to be blind by wearing a blindfold, or deaf by putting fingers in their ears. These activities engendered a remarkable amount of speech, with comments like, "I can feel the floor" (blindfolded), "Can't!" (planting from a chair) and "Everything – birds, cars ..." (blindfolded).

Coming to understand how they could meet these pupils' needs was a problem solving exercise. Often the students solved the problem without realising it and this had to be pointed out to them: for example, students sitting in a chair and trying to plant a hanging basket placed on the floor, simply put the basket on their lap and planted it. Other students automatically helped each other when blindfolded, saying "Step!" and holding their arm. When we discussed why they had to help the person in the blindfold, the students were able to realise for themselves that this was mainly because of obstacles such as steps. These exercises led to design ideas such as raised beds and flat paths without steps.

Exploring social factors

The students were asked to consider for what purposes the garden could be used and how they could encourage people to visit. Staff could immediately identify a variety of uses, but the work needed to be student led, so we created opportunities and experiences to encourage them to have their own ideas.

Games were their first priority: they chose a wide variety and it was important to consider which ones could realistically be catered for in the garden. From our visits and from watching sports on television, the students knew that many sports required a large space. Our students regularly play basketball at a local college and, as we did not have space for a hard court, they analysed the game and voted for the part that they enjoyed most, which was scoring baskets. We decided to fix a basket net to the wall, and then had to find out where to buy one and what it would cost. The students visited several sports shops and then one bright spark suggested Argos. From the information they gathered and the pictures in the Argos catalogue, the students were able to make an informed choice.

We have entertained the parents, governors and people from college links once every term and the students suggested having a garden party in the Summer Term. We talked about the things we would need. At first they thought only of tables and chairs, which we had already, so we moved on to food. One of the students recalled a picture of a barbecue and, without prompting, another found the Argos catalogue to look for barbecues.

The students conducted a wildlife survey of the garden and were disappointed to find there was very little, so we encouraged them to think of ways to attract more wildlife. From our photographs of people's gardens the students pointed out bird tables and feeders. We asked what else the birds might need, but this seemed impossible to answer, until we asked the same question at lunch time and two students immediately said "Water". It was then just a short step to the idea of a pond, an item that had featured in all their 'dream gardens'.

We visited a city farm, and saw wild habitats and plants that encourage different insects. The students were particularly interested in butterflies, so we visited a butterfly farm in the New Forest. They began to make a list of plants that would encourage butterflies and actively searched for them at garden centres. We set up an old aquarium in the house to study the various small forms of life that we encountered in the garden. The students were very excited by this, and particularly liked to watch the snails glide across the glass. One student became so interested in the city farm that he requested work experience there. He now goes every week and intends to continue when he leaves Mayfair at the end of the year.

We wanted to provide a resource for the whole community, so we talked about who else could benefit from the garden we were creating. One student, who was integrating into art classes at the local secondary school, suggested that the pupils there might like to visit. As a result, the pond was offered as a resource for the school's Science Department. Many of the students who leave Mayfair won't be able to take up full time employment in the way that society understands it. However this project has given many of them a real interest in horticulture, which they can use to augment their leisure time or pursue through a college course.

As the project developed, we noticed that the students increasingly learnt how to organise themselves into work teams and appeared much more comfortable in expressing their ideas and opinions. One of the best aspects for me has been to see students looking at each others' work and making positive comments. At a practical level, they have begun to do jobs around the house without being asked, and increasingly involve others in the process. For example, one student waters the hanging baskets, organises someone to hold the door open for him as he carries the jugs of water, and asks another student to bring him a chair to stand on.

Mayfair House has a strong self-advocacy policy and we set up a Student Charter and Council while working on the garden project. We were determined that the grounds development should be owned and led by the students as the project was an excellent way of putting the self-advocacy policy into action, and for the students to realise the implications of creating a Student Charter. The opportunities for choice, debate and decision-making fully involved the students in the operation and workings of the Student Council.

Exploring economic factors

As the students planned barbecues, pergolas, basketball nets and nature ponds, the subject of cost had to be addressed. The City Council were offering funds for environmental improvement projects, which seemed too good an opportunity to miss, and a great way for the students to become financially involved in the project. From the very beginning, the students were required to find out the cost of every item they wanted in the garden: an excellent exercise for the more able students. As they began to realise that the same item could cost different amounts in different places, they were able to discuss cheap and expensive options and look at quality. The students pooled their information and, with much support from staff, spent two weeks putting it into the computer. This was a very valuable experience for them as they saw their written and pictorial work being compiled in a report to be sent to the Council.

We were more than pleased when the Council offered us just over £1,000, which will cover our costs and also provide the opportunity for the students to set up a joint bank account with the staff and to manage their own funds. Without this funding the project would have been added to the school development plan to compete with all the other funding priorities. Now the students will be able to see the fruition of their work whilst they are still at Mayfair.

Instead of buying new annuals every year, the students have learnt how to take cuttings, sow seeds and then pot on the seedlings. The excess plants can be sold by students at the open afternoon in the garden, at the main school. These mini-enterprises give students the experience of handling money in real situations and the money they collect won't disappear into some invisible pot – they will have concrete evidence of what they have earned in the things they choose to spend it on.

The students have learnt about caring for plants, looking at what they need to stay alive and healthy. They have also been able to discover a framework within which they can measure the passing of time. Having the garden has made them far more conscious of the passing seasons and the changes these bring to the weather and to the plants. They are more able to talk about 'last year' and 'next summer'. The less able can witness the passage of time as the seeds start to form and flowers appear.

ESD and the curriculum

Our first aim was only to set up the resources for a horticultural curriculum. At that stage we had not realised the impact this would have upon all curriculum areas. Developing a mini-enterprise around plant propagation and sale has substantially improved the students' self esteem and their contact with the wider community. It has helped engender a sense of time and continuity through a growing awareness and knowledge of plant needs in different seasons. It has developed independence and communication skills, involving use of language, literacy, numeracy, problem solving, investigation and consultation. It has presented the students with the need to communicate with outside people, opportunities for which are not often available. The students have had real ownership of the project that they feel is within their control. The project has provided learning for staff and students, learning about the world around them and about themselves.

The Mayfair Centre
– Developing conceptual understanding through practical work

Our school was already involved in environmental education: the grounds were used to provide horticultural training and we were committed to community based education. The starting point for our project, to develop students' work skills at a local owl sanctuary, was already planned. But ESD gave the project more depth by developing the students' sense of responsibility towards the environment and an awareness of their own ability to improve it.

The planning and resultant work were student led, which improved teamwork skills: they quickly learnt to organise themselves, deriving great satisfaction from the responsibility of ownership. All the students contributed to the design of the plot, and regularly photographed 'work in progress' to help them monitor change. Over a long period of time the students gained an understanding of environmental changes and the need for maintenance. Some were inevitably crestfallen when they discovered after a holiday break that weeds had returned and were flourishing!

The ability to follow a work routine is a transferable skill that is useful in the adult world. Our students learnt to wear appropriate clothes for work, remembered to collect the tools for the job, and quickly reported for work on arrival. They learnt that Tuesday was owl sanctuary day and would set about preparing for work without prompting from staff.

Previously, I would not have contemplated trying to raise student awareness of the management of natural resources. But staff took advantage of the opportunities provided by gardening to draw attention to the life cycle and water cycle. Discussion around pictures of drought and famine reinforced the notion that resources are not limitless, and this triggered concern from one student about another global issue affecting sustainability: war.

Assessment of Mayfield's own grounds, which had fallen into neglect during work on the owl sanctuary, helped the students to understand the need for environmental management and ongoing personal responsibility. They recognised the need for time to work on their own grounds, which was duly timetabled. Mayfield garden was re-organised into individual plots to enable the students to create their own designs, and to reinforce the concept of personal responsibility.

Going back to the beginning to develop understanding

Inspired by the success of a recycling project at the Phoenix Pupil Referral Unit, and publicity about the local Council's recycling schemes, Mayfield staff decided to invite New Forest District Council's Recycling Officer to run a workshop for their students. Although the information given was more than the students could absorb on a single afternoon, they were motivated by having an outside speaker, and a resource pack with follow-up work consolidated and reinforced basic ideas.

The Centre began to participate in the local recycling scheme, with students dutifully and effectively sorting the waste. However, at this point a monitoring exercise showed up a gap in their understanding.

Confident that our students had grasped the principle of recycling, we had a revision exercise prior to Ofsted that demonstrated the fact that they had good sorting skills and the word 'recycle' featured in their vocabulary. However, their interpretation of recycling was to 'put it in the other bin' and they thought this exercise was basically to please the bin man. The idea that products could be re-used simply had not been taken in; we had spent insufficient time on the actual process, instead focusing on participation in the routines.

To address this oversight, we took the students right back to identifying basic materials and looking at manufacture, leading to the idea of products being broken down, reprocessed and re-used. We went on metal hunts with magnets; played 'I-spy the wood' and similar games for glass; looked at photographs of steel works and pictures of glass blowing. The students were fascinated and the excitement of discovery with magnets was well worth seeing. The idea of breaking things back down to raw material and re-using that material now made some sense to them. With hindsight, if I was introducing students to a recycling study now, I would start with materials and their uses, focusing on those which could be tracked through the recycling process.

As well as recycling household waste, the students are now involved in composting organic waste from both kitchen and garden. They did some background study about organic decay and life cycles, and collected and sited a compost bin from the local Council. Articles from the local press about the Council's composting scheme provided clear photographs of the process, which aided understanding.

Even with the students' involvement in good practice, we were concerned about whether they realised that what they were doing had long-term significance. We used graphs and photographs indicating the scale of waste production and disposal to raise awareness that there is a big problem. Visiting a local landfill site, the students were able to see waste disposal on a grand scale. (This is not something I would have considered prior to my involvement in ESD and I was a little concerned at having to complete the County Council's 'hazardous pursuit form' before gaining approval for the exercise!)

The day proved a great success: the site staff received our students well and gave them a tour that was informative without being over-technical. The size of the machinery and the excavation work made a definite impact on the majority of our students – although a couple focused on the bird life (hundreds of seagulls) and misinterpreted the occasion as a visit to the seaside! The landfill site was adjacent to a recycling centre so the students were able to see the next stage in domestic recycling first-hand. We had hoped to take them to a factory where they could see the completion of the recycling process, but there are none geographically accessible to us (it would mean a residential field trip and consequently extra funding, which is not available at present).

I cannot pretend that all our students have gained a deep insight into environmental issues. However, some of them have reflected a concern for the wider environment in their work and in their keenness to share what they have learnt with their families and the wider community.

Concerns for the environment and for others have combined to form the basis for the next stage in the project, which involves offering an environmental improvement service to local elderly people. We have consulted Age Concern and plan to have a small team available once a week for general gardening and recycling assistance. Recycling household waste, composting and garden maintenance are now integral parts of our timetable, and the focus of developing ESD skills can be seen in all aspects of our work.

Phoenix Referral Unit
– Curriculum links with home and the broader community

The Phoenix Pupil Referral Unit is a special unit primarily for school phobics aged 11 – 16 who are unable, through emotional or psychiatric problems, to attend mainstream school. It is intended as a temporary placement while students are reintegrated into mainstream education. Previously, environmental education depended on the enthusiasm and expertise of individual staff, but the ESD framework enabled us to build on existing ideas and to broaden the scope of the curriculum; to develop pupils' understanding, skills and values, and enable them to participate in a sustainable future for the planet.

Planning and introducing the project

We chose recycling as an appropriate topic with potential for cross-curricular work and community involvement. Our small staff team had regular monthly meetings where we set curriculum targets and wrote and implemented new curriculum models. We felt that a simple project was needed in the beginning, as many students lacked confidence in their own abilities. We hoped that, if students could see that they could influence others, it would make them feel valued and thus raise their self-esteem. Beginning with a study of recycling at school and in staff and students' homes, the project not only created awareness of and enthusiasm for the topic, but also changed the unit's waste management policies.

Computing and business studies

Because of our strong emphasis on building links with the wider community, we arranged for a group of eight students to visit a local electronics factory. On their first visit, they watched videos and toured the premises to develop an understanding of manufacturing processes and problems. On the second and third visits, they investigated recycling policies and then wrote reports on their findings.

The encouragement that our students received from industry was an important part of the project. We extended the topic of personal recycling practices, and the students designed a questionnaire that was sent to 350 employees at the factory. More than 200 were completed, and they were analysed in maths classes (see below). The project work, including letter writing, investigations and report writing, will be accredited for the Vocational Access Certificate, a pre-NVQ business course. Arrangements have now been made to visit recycling factories in three German towns and we are currently seeking funding for the trip. All the students are studying German and the visit will enable them to study the language at first-hand. Afterwards, the students intend to make a presentation to local industry, suggesting ways they might improve their recycling practices in the light of German practice.

Mathematics

The pile of returned questionnaires provided a golden opportunity for statistical work. Given the wide range of abilities in each age span, and the limited concentration of many of the children, it is important to revise basic topics in small chunks to build on existing knowledge and boost their confidence. The questionnaire provided a practical focus for this.

The group discussed how they could use the information they had collected. Tally charts and frequency charts were compiled and pupils suggested different ways to display the data. This gave the older ones with knowledge of bar and pie charts an opportunity to revisit the topic and to help those with no prior knowledge, providing a valuable experience socially as well as

mathematically. The questionnaires were stored for future use with different students, and we plan to re-present the questionnaire in two years to find out if the commitment to recycling is increasing.

Religious Education

The RE syllabus for Key Stage 3 (11 – 14 year olds) includes the theme 'Signs and symbols'. We used this to explore sustainable values and ethics, based around 'The glass cupboard', a moral fable by Terry Jones which explores the fragility of the planet and the need to put something back in return for what is taken. We identified parts of the world which are under threat because this principle has not been followed. Pupils enjoyed the story and fully understood the moral implications. They produced a cartoon strip sequel, either singly or in pairs – a valuable exercise which encouraged the students, who are often very introspective, to look outside themselves and consider the needs of others.

This theme really captured their imagination and interest, sparking off lively arguments and discussion. The topic was so successful that it has been incorporated into the syllabus and we will certainly be using it again within RE and PSHE lessons at the unit.

Geography

ESD played an important part in environmental geography in Years 9 and 10 (13 – 14 and 14 – 15 year olds, respectively), beginning with a study of the local area and widening this to encompass global issues. We investigated renewable and non-renewable sources of energy and explored in detail the advantages and disadvantages of each. We discussed where energy would come from in the future and students warmed to the question 'Can we continue to put our world in danger?'

During the year we visited local facilities, including a water treatment plant, a local Council rubbish tip and the New Forest. Visits to the school from Hampshire and New Forest Recycling Officers, an Energy Efficiency Officer and an Environmental Health Officer engendered lively discussions and maintained enthusiasm for the topic.

A study of Japan revealed that developing industries, while protecting Japanese forests and wildlife, can have a detrimental effect on other areas of the world (as with many industrialised countries). Discussion of the ethics of this tied in neatly with 'The Glass Cupboard' theme already explored in RE. Sustainability issues were also explored through studies of Antarctica, desert and rainforest habitats.

Design technology

Following a visit to the Countryside Education Trust at Beaulieu, two students became involved in designing and building a community composter in design technology classes. Such was their enthusiasm for the project that part of the work was carried out in their own time. The general public are encouraged to bring garden and kitchen refuse to see for themselves how the composter works so they can duplicate it at home.

Key factors in a special school ESD project

- Involve students in decision-making from the beginning.
- Provide practical experiences through which students can gain relevant knowledge and skills.
- Where possible, provide opportunities to explore environmental, social and economic aspects of a project.
- Develop links with the outside community to increase student confidence and overcome prejudice.
- Encourage cooperative group work.
- Encourage students to consider the needs of others.
- See adult staff as facilitators, not carers.
- Establish a 'critical friend' network with other special school teachers to share ideas and evaluate progress.

This case study is based on reports written by IMPACT consortium members: Darryl Morgan from Mayfair House, Tina Livingstone from Mayfield Centre and Christine Richards from Phoenix Pupil Referral Unit. IMPACT is a consortium of special schools, based in Southhampton. It participated in CMAS from 1994 – 1996.

CS 10

DEVELOPING THE CITIZENS OF THE FUTURE

Penair School, Cornwall

Reaching out to the wider world

Set in extensive grounds on the edge of a magnificent rural setting, Penair School provides students with what appears to be an environmental nirvana. But Cornwall is not the sub-tropical paradise it might seem to be. In geographical terms, Cornwall is peripheral – politically, economically and socially, both in the UK and the EU. Recently recognised as one of the three poorest regions in the European Union, Cornwall has an inadequate transport infrastructure making it remote and dependent on the car. It is also a largely homogeneous population: the school itself is predominantly 'white' – multi-cultural it is not!

We needed to reach out to the wider world: to help our students develop a national and international perspective. We therefore decided to develop a curriculum for global citizenship, using education for sustainable development (ESD) as the underpinning philosophy and Information and Communications Technology (ICT) as the integrating skill.

How our work began

WWF's Curriculum Management Award Scheme (CMAS) provided the opportunity to initiate the curricular and institutional change we had in mind. In the absence of any other financial support, the WWF scheme provided the only means by which staff could be trained in what ESD is all about. The original concept was to 'green' the school and, in so doing, teach young people the fundamental principles of sustainability, increasing their capability and potential to affect and bring about change. There had been 'green' events and such-like in the past, but these remained isolated 'happenings' with no lasting results. The CMAS programme was about changing attitudes. Such an ambitious plan needed some underlying principles.

Underlying principles

- Inspire – engender hope and the ability to realise constructive change
- Involve – develop a participative approach promoting the community
- Relevance – ensure that we relate to the interests of young people
- Listen – ask young people what they think, want, feel
- Value – all participation and contributions
- Engender – a belief that it is about changing personal attitudes and practices
- Realism – capturing hearts and mindsets is not easy
- Empower – providing knowledge, skills and self-confidence
- Do as I do – getting staff to accept that they are role models and there is a need to close the rhetoric-reality gap.

A curriculum for the future

The aim of a curriculum with a global dimension is to enable young people of today to grow up to be citizens of the future. A truly global citizen is one who:

- is aware of the wider world and has a sense of their own role as a world citizen;
- respects and values diversity;
- is willing to challenge the status quo and act to make the world a more equitable place;
- is equipped to contribute to a sustainable common future.

As teachers, we need to be committed to promoting the knowledge, skills, values and attitudes to which we believe young people are entitled. Implicit in our work is the belief that we can work for a more secure and sustainable future – for both people and the planet Earth.

Cross-curricular working

A curriculum with a global dimension needs a holistic approach if students are to receive a meaningful experience. Working with schools in Nepal meant that we were confronted by a whole series of issues that we, as geographers, could not address without the help of colleagues. For example, the moral and ethical issues thrown up provided opportunities for Religious Education to become involved, and their perspective proved to be essential if students were to explore the issues fully. We have found that many subjects have a valuable contribution to make to a curriculum with a global dimension. The challenge facing educators is how to extend ESD into the formal curriculum without 'losing control' and impetus. We have learnt that a key factor in the success of ESD is undoubtedly the commitment of individual staff. At Penair, experience has shown that many departments will embrace the concept and welcome new ideas once they are seen to be successful. Additionally, we have always been very clear that the work we undertake has to have an ESD focus; it must reflect the National Curriculum, the locally agreed syllabus and GCSE syllabus requirements.

Bringing in the global dimension

Penair's citizenship for ESD programme features a number of global links and dimensions and we are fortunate to be able to draw upon expertise from several different sources – at local, national and international levels.

Partnership links – why Nepal?

Initially, we developed links with Nepal through personal contacts, but decided it was a good choice because of the opportunities it gave to investigate a totally different culture and geographical area. Landlocked between China and India, Nepal is very different from the Cornish Peninsula with its huge coastline and marine heritage. Nevertheless, there are areas of similarity, as both areas derive much of their income from tourism and both are striving to develop sustainable ways of maintaining this valuable input to the economy.

The partner schools

We have been working with three schools, one is in the capital Kathmandu (Lalitpur High School), and the two others (Malika and Laharepipal village schools) in the mountain areas to the west of the Annapurna range. We have corresponded using a mixture of e-mail and hand deliveries, and have managed to swap information and survey results. One of our staff was able to visit the schools personally, which was an invaluable way of assessing the success of the scheme and finding ways of overcoming misunderstandings and problems.

In the rural areas, we worked with volunteers through an organisation called SPW (Student Partnerships Worldwide). They work in schools in remote areas to promote environmental awareness through lessons and Green Clubs, so they were very keen to take part in our project. They also undertake mini improvement schemes by installing water taps, pit latrines and chulos (smokeless stoves) with the help of students and a local agency who will carry on the good work when the volunteers leave.

The project

Inspired by the Community Scan Project (Schools in Community Agenda 21 Network), we decided to examine the local school environment and decide on areas for improvement. To give an added global dimension, we linked with schools in Nepal who used the same Scheme of Work, then swapped results.

We introduced the idea of individual environmental accountability through discussion, video clips and personal impact surveys. School is a place where we spend a lot of time, so the quality of the school environment would be important to us. With this in mind, each Year 7 group (11 – 12 year olds) took a guided walk around the school grounds and filled in environmental quality surveys highlighting the good and bad points. The children then produced 'postcards' to send to our Nepali partners depicting the 'good' and the 'ugly', along with other survey results. There was great excitement when we received results back from Nepal.

Some of our groups decided that the litter situation needed attention, while others were concerned about the state of the toilets. At Malika, they were concerned about the dirty toilets and also the lack of a school boundary to prevent villagers walking through with animals!

Before we could improve the litter situation at Penair, we decided to investigate the extent of the problem by mapping the amounts and locations of the litter (and litter bins), finding out where it comes from, and using questionnaires to assess attitudes toward litter.

Action stations!

We now knew what the problem was, but what could we do about it? We made a presentation to the School Administration Officer, a member of the Senior Management Team, who was very impressed at our findings and went away to order more bins for the problem areas (a litter management strategy is now in place). We also raised awareness of the problem in assemblies and on posters, and the school responded by doing some whole school litter picks. Work in PSHE (Personal, Social and Health Education) reinforced the message of 'reduce, re-use, re-cycle!' Children now realise that their voices can be heard and that they can make a difference where they are.

At Malika and Laharepipal schools, they held an Environment Day with litter picks as well as dances and drama to raise awareness.

Lessons learned

- Introducing ESD into a large 11 – 16 secondary comprehensive school has been a major challenge. The full support of the Senior Management Team (SMT) is crucial to influence the ways in which ESD is perceived by staff. The ESD team must therefore continue to promote the underlying principles and keep SMT and governors 'on message'.
- Schemes of Work have also needed to be altered drastically, and in some instances dumped! This aspect of management is vital if ESD is to continue within the curriculum once the instigators have moved on.
- ICT needs to play a dominant role, especially to bring boys on board. Video conferencing is our next step.
- Two teachers have visited partner schools (Nepal in 1999 and Ghana in 200). It is now time some of our students had the same opportunity.

This case study was written by Doreen Fraser and Jon Lawrence, Penair School. Penair is an 11 – 16 mixed comprehensive school, serving more than 1,100 pupils in a suburban location on the edge of a magnificent rural landscape. It participated in CMAS from 1997 – 1999.

CS 11

CELEBRATING CHRISTMAS SUSTAINABLY

Ridgeway Primary School, Staffordshire

Christmas activities

Christmas is an exciting time, especially for children. The momentum gathers from the arrival of the first Christmas card in the shops in August, until the start of December when Christmas really arrives in a primary school. Nativity plays, making cards and decorations – as well as maintaining coverage of the curriculum – make this one of the busiest times of year for both teachers and pupils. The annual school party comes at the end of term, when most other activities are completed, and is usually eagerly anticipated by the children.

As a school committed to sustainable development, we decided that we could enhance the enjoyment of this very special time of year by reviewing our approach to the Christmas festivities to reinforce values that we believe to be important. This case study deals with how we went about this process and made the season more fun, less stressful, more sustainable and a valuable learning experience.

Decorating the school

Throughout the year, Ridgeway School encourages pupils to be actively concerned for the environment in a variety of ways. Groups of pupils volunteer to work in teams to collect and recycle paper and cans; to keep the grounds free of litter; and to ensure lights are switched off in empty rooms and taps are turned off. 'Reduce, re-use and recycle' is a message we promote throughout the year. It is an important message, but one that is often neglected in the Christmas season as schools reflect the high streets by producing wonderful and extravagant displays. The art stock cupboard is in constant demand and materials are quickly used up. It was decided, for one year at least, to challenge each class to find ways to create attractive displays for the corridors and entrance hall by re-using materials.

This year the children had to be inventive in order to create attractive displays. Newspaper sculptures of a circus scene and large scale flowers decorated the entrance hall and display board. Red milk bottle tops made Santa's hat and robe, whilst curled paper was used to make his beard. Green and red crisp packets were used to create shiny Christmas trees. Saved silver foil made stars. Used brown envelopes and red stamps were stuck down to make huge robins. Shiny sweet wrappers and oddments of ribbon and material made collages of Christmas scenes. Even the cards and calendars the children traditionally take home at the end of term were made from recycled materials.

The art stock room door remained closed. For several weeks everyone saved the materials needed and brought them into school. Bits and pieces were swapped. One class needed red bottle tops, another silver tops and another green crisp packets, so resources were shared. The displays were completed and the children admired their work and were eager to see how other classes had used the materials.

When the children were asked what they thought of their finished work, they were delighted with their efforts and viewed the displays with excitement. Only a few adults were less sure; they felt more glitter and sparkle was needed and wanted to bring in some bought decorations to 'improve' the displays. No child could be prompted to be so critical, as they valued their own efforts and the efforts of others. Sharing was an important part of the project, as was the reinforcement of the 'reduce, re-use, recycle' message.

The Key Stage 1 party

An eagerly anticipated event at Christmas time is the school party. The Key Stage 1 staff (working with 5 – 6 year olds) decided that this event could also be used to increase understanding of sustainability by encouraging children to work cooperatively, share ideas and resources, and understand the needs of others. In school, children are encouraged to be involved in decision-making through an Eco-Committee. This Committee meets each half term to discuss matters of concern, and comprises of elected representatives of pupils and governors, administrative and teaching staff, dinner ladies and the janitor. The Key Stage 1 party was discussed at an Eco meeting.

Although popular with most pupils, Christmas parties had been seen as a seasonal necessity to be got through with the least amount of trouble to harassed staff. Ready-prepared blue, purple and red drinks in plastic cartons, cheaply wrapped chocolate flavoured biscuits and brightly coloured sweets were purchased from the warehouse to make preparations as easy as possible. The children were not involved in the preparations and so made few choices. As a result there was often waste. A few children found the party rather daunting and there were some tears from the over-excited or the timid.

Food, glorious food

We began with a discussion of what the children really like to eat at a party. They were asked about their favourite drinks and whether they enjoyed the chocolate flavoured biscuits. The parents were genuinely surprised that no child on the Committee really liked the coloured drinks or biscuits. They did, however, like the sweets. Several adults then expressed concern about the high amount of 'E' numbers in the food and drink provided, and discussed whether these accounted for some children getting over-excited. They said that they had not mentioned anything before because they did not want to

spoil the party fun. The children were then asked what they would like to eat – after all, it was their party. They all agreed that they liked home-made items best. We considered asking parents to provide food from home, but past experience has shown that this is often not home-made, and either too much or too little arrives.

Everyone agreed this was a good idea. Several adults on the Committee said that they would be able to help for an hour in party week. The children on the Committee went back to their classes and discussed their favourite party foods. They were excited about planning a party menu but decisions had to be made. Not only did they have to decide what they liked, but also what it was possible to make in school. Money could be made available for the purchase of ingredients, but this was limited, so the children had to consider not only the preferences of the group, but also what they could afford. They discovered that they all liked different things, but there were some foods that nearly everyone liked. In planning the menu, they tried to ensure that there was something for everyone to enjoy, but had to recognise that not everyone would like everything.

Cooking is part of food technology lessons and the children had experience of making a few things, so it was easy for them to choose some of their favourites to make for the party. Hygiene and health and safety issues relating to food were also discussed.

Making several different items on a busy party day could have been a problem. As we had six classes in the key stage it seemed sensible for each class to be made responsible for cooking just one item and then sharing the food on party day. Chocolate crispie cakes, peppermint creams, mince pies, shortbread and iced biscuits were chosen. The children also wanted to include something savoury but could not decide what to have. Sandwiches were not popular as children often have these for school lunch and they didn't seem very special. A parent suggested making pizza slices with one of the classes. She often made them at home with her own children, and was willing to make them in school on party morning.

They also discussed what they would like to drink. Pop and Cola were first choice for many children, but there was a budget to consider. They researched the cost of cans and bottled drinks and soon became aware of the expense involved. Alternatives were sought and the children decided that everyone liked either blackcurrant or orange squash. Jugs could be borrowed from the school kitchen and paper cups bought.

Some children questioned buying paper cups and plates and considered bringing their own cups and plates from home. However, as these items would probably get mixed up, some children were sure to forget and all the crockery would need washing up, it was decided that it was probably better to use paper ones. They could, after all, be recycled, a Year 1 (5 – 6 year olds) child reminded us.

On party day, jugs of blackcurrant and orange squash, together with the food prepared by the classes, was put out on long tables set around the edge of the hall. At 2.15pm, after playing party games in their own rooms, and to the sound of Christmas music, the children entered the hall to meet their friends. When everyone had arrived there was a game of pass the parcel with a specially wrapped parcel for each class. The present inside each parcel was a secret and had been chosen and wrapped by children from another class. When it came to sharing the food, each child was allowed to take one portion of anything they liked. No-one was allowed to say they didn't like something, but they could say 'No thank you'. They sat with whomever they liked anywhere on the hall floor, to share their party food.

Games for all

Party games took place in classrooms before tea. The children were told that they could choose their favourite party games, and discussions took place on the importance of ensuring that everyone had a good time. It was recognised that not all young children enjoy the noise and boisterous games that take place at parties. As we had two classes in each year group, the children decided to use the two rooms available: one with toys for those who wanted to escape from the noise for a while, and one for the usual noisy party games. The children were allowed to move between rooms as they wished, but all had to agree to play quietly in the room with the toys. Most children preferred to be in the noisy room most of the time, but several were glad to be able to move into a calmer area on occasion. No one stayed in the quiet area all of the time and there were no tears.

Father Christmas

Traditionally Father Christmas came to the party bringing a small gift for each child – a doll or purse for the girls and a toy car for the boys. These toys were paid for by our Friends' Association, which also wrapped the presents. As the toys were almost the same for each child they often got muddled up or lost during the excitement of the party; and because of limited funds available, the quality of affordable gifts meant that some were easily broken leading to a few tearful moments. At an Eco meeting we discussed the possibility of asking Father Christmas to bring a present for a class to share. Some parents were unsure about this, believing that children would be disappointed not to receive a personal gift, but the children thought it was a good idea.

The children convinced the parents that even the youngest children would be happy as long as Father Christmas came to the party. They thought it would be exciting to choose a new toy for the classroom. Each class was told how much Father Christmas had to spend on a present for them all. It was explained that this year, he wanted it to be really special and that they were allowed to choose something that they could all enjoy and that they would

be able to share in the classroom. There was much discussion as to what they would like. It had to be suitable for both boys and girls. It had to be sturdy as it would get a lot of use if they chose wisely. Also Father Christmas had a lot of children for whom to buy presents, so cost and value for money were further considerations. The children had to be aware of the wishes of others as well as their own.

Children wrote to Father Christmas as usual to ask for their gift and some decided to include in their letters questions about Mrs Christmas, the reindeer and what Father Christmas was hoping for in his Christmas stocking! When he arrived towards the end of the party the excitement was no less than usual. When the present was opened the children were delighted. Construction kits, Lego people and play mobile were the most popular choices. Next day they learnt to take turns to play with their present, and took more care than usual to ensure no pieces were missing before it was put away. The Friend's Association who funded the presents were delighted and agreed that, since it had been such a success, it could be repeated next year. Our adult classroom helpers also witnessed how the play equipment chosen by the children was both popular and long-lasting, and agreed that, with guidance, the children could make sensible decisions.

This case study was written by Jane Mason, Ridgeway Primary School. Ridgeway serves about 300 4 – 11 year olds in suburban Chasetown. It participated in CMAS from 1995 – 1997.

CS 12

SUSTAINABLE ENERGY AS PART OF A CURRICULUM FOR SUSTAINABLE DEVELOPMENT

Roseland Community School, Cornwall

Curriculum development

Education for sustainable development (ESD) is an extremely broad, wide-ranging aspect of the school curriculum which should be fundamental to everything we do. What is the point of education, if not to prepare young people for the future, and particularly when so many aspects of our current society are not sustainable?

It is important that, in adopting ESD principles, schools do not shy away from the moral imperative. Children need to make value judgements about what should and shouldn't be happening in society, and what needs changing. At the same time, there are technical issues and arguments with which they should be conversant.

In my own curriculum area, science, I feel strongly that pupils should be forming considered views on issues such as nuclear waste and acid rain, but on a pragmatic as well as a morally sound basis.

Making a start

We were concerned that our energy work for Key Stages 3 (11 – 14 year olds) and 4 (14 – 16 year olds) should start with the immediate and concrete, run through a scientific analysis, and end with a challenge to improve the future situation. Our modules of work would form part of the mainstream curriculum work for all pupils, and needed to be stimulating and challenging but not overly 'worthy'.

Key Stage 3 (11 – 14 year olds) Science Module

At the Roseland Community School, we are currently redesigning our module on energy to reflect changes in the National Curriculum that will take effect in September 2000. As well as the more conventional curricular issues, literacy, numeracy and ICT are also impinging upon what is taught in science.

In re-writing the module, we wanted to incorporate a 'good practice' approach to curriculum development, and specifically to:

a) start from familiar contexts and work towards a broader perspective;
b) give pupils concrete examples to enable them to develop their understanding; and to
c) make the work relevant and practical.

We were keen to involve outside agencies and worked with Community Energy Plus, a local energy efficiency organisation run by the District Council. By comparing their materials with the text of the National Curriculum, we identified the 'shortfall' and arrived at an overall scheme, set out below.

Energy Module for Year 8 (12 – 13 year olds)
Part One – Preparation

Key ideas:

- Energy sources: circus of fuels, such as fossil fuels, food, etc.
- Energy changers: circus of transducers, such as clockwork toy, torch, etc.
- Energy storers: circus of potential energy holders, such as coal, bow and pile driver.
- Concepts of conservation and dissipation of energy.
- Conduct survey of energy use in classroom.

Key idea questions:

- Where does energy come from?
- How does energy change its form?
- How can we store energy?
- How do we conserve or waste energy?
- How do we use energy at school?
- How do we use energy at home?
- Are we using it appropriately?

ESD focus:
To elicit pupils' attitudes towards energy and to foster the idea that energy is a valuable commodity. Pupils should be tracking energy changes AND commenting on them: for example, filament light bulbs lose some 90 per cent of the energy supplied as heat, so they are economically unsound for the household but also damage the environment. Pupils should be able to see that power stations also pollute the environment and waste energy through heat loss.

To encourage pupils to be proud of the way their family conserves energy, and also to realise the potential for improvement.

Homework
Using the context of the pupil's own home has the added bonus of almost inevitably involving the parents. Community Energy Plus supplied every home with a free low energy light bulb and a bar of 'fair trade' chocolate in return for each completed survey!

Key homework questions:

- How is the house heated?
- How is the water heated?
- How is excessive heat loss prevented?
- What measures are in place to stop warmth from escaping?
- How much of the boundary is external wall?

Part Two – Analysing home surveys

Key ideas:

- Looking at energy efficiency in the pupil's home, through carbon dioxide emissions and energy saving devices.
- The cost of energy saving (eg draft exclusion pays for itself very quickly; double glazing is less cost effective unless windows already need replacing).

Key idea questions:

- What conclusions can we draw from the data?
- What are the environmental effects of our energy consumption?
- Does everyone use the same amount of energy?
- Do we need to consume as much?
- Are there energy saving devices which can help us?
- Does it cost more to use less?

ESD focus:

To develop the idea that a family leaves an environmental footprint (or impact). Carbon dioxide emissions are important because they emphasise individual contributions to a global problem. Pupils need to see beyond the argument that energy efficient appliances cost less to run and move towards an understanding that they also cost the environment less.

Half the energy in the average house is used for heating, a quarter for hot water and a quarter for lighting and appliances.

Ask pupils to calculate:

- how much energy of each type they use at home;
- how much carbon dioxide they have released in a year; and
- what the average daily rate of carbon dioxide production would be. (This exercise could also be carried out using the figures from home energy bills.)

Use party balloons to illustrate the amount of carbon dioxide produced:

- Weigh an empty balloon.
- Weigh a fully inflated balloon.
- Calculate the weight gain (this tells you the amount of gas in the balloon).
- Ask pupils to divide their figure for daily carbon dioxide emissions by the weight gain in the balloon – this will tell them how many filled balloons of carbon dioxide their household produces in a day.

You can illustrate carbon dioxide emissions for various appliances in the same way, eg a 3kW electric fire turned on for the length of a one-hour lesson will have used 3kWh of electricity, or 3 x 590g of carbon dioxide = 1770g. That's a lot of balloons!

Part Three – Energy in your home

Key ideas:

- Measurement of energy.
- Transfer methods.
- Burning of fuel.
- Insulation methods.

Key idea questions:

- What different fuels can we use to heat our homes?
- In what different ways can heat be transferred in a home?
- Are some ways more fuel-efficient than others?

ESD focus

To provide pupils with a basic understanding of how heat is transferred, and which transfers can usefully be reduced, to use energy more responsibly.

Part Four – Making the most of our resources

Key ideas:

- Various energy sources and the pollution associated with its production and use.
- Renewable and non-renewable sources.

Key idea questions:

- What is the cost of turning on a light bulb? (ie what are the environmental implications of different fuels – their supply, the impact of their extraction, their use and the pollution caused?)
- Do the decisions we make affect energy resources at national and international levels?
- Do the decisions made at national and international levels affect how we use energy?
- What fuels will/should we be using in 25 years time?

ESD focus:

Fuels are evaluated not only for their convenience or cost-effectiveness, but also their environmental impact. The question 'What fuels will we be using in 25 years time?' is a powerful one because it elicits aspirations – many of which will have an energy cost.

Part Five – Controlling your environment

Key ideas:

- Use a computer to monitor, record and display data.
- Monitor the movement of heat, in a model house and in the school building. This can be a powerful tool, as pupils are concerned less with the mechanics of taking temperature readings and plotting graphs, and more with observing changes as they occur.

Key idea questions:

- Where is the heat flowing to?
- How can this be prevented?

ESD focus

Pupils can be cast as 'Waste energy trouble-shooters' – finding problems and suggesting remedies. This should include improvements to existing buildings, and designs for new ones.

Part Six – Design an Eco-Home

Key ideas:

- Making recommendations about energy efficiency.
- Taking your recommendations home.

Key idea questions:

- What fuel sources would an 'energy efficient' home use?
- What methods of heat transfer would it use?
- How would it conserve energy?
- What materials would it be made of?
- Where would it be situated?
- What means of transport would the inhabitants use?

ESD focus

Draw together the elements of the module and challenge pupils to use their new knowledge and understanding in suggesting ways to refit existing homes and design new ones to use energy responsibly. Painting a picture of a 'sustainable house' is not only about the size of windows, but also the situation: is it in a town? does it need a car? or two? where do the inhabitants work/shop/play?

One student, challenged to draw an energy efficient house, drew an entirely conventional house apart from four windmills sticking out of the roof. Another wanted to use waves in the bath tub to generate electricity.

The Energy Efficiency Office will have processed the home survey forms by this time, giving pupils' parents or guardians recommendations for their own homes. The home design project can form the basis for a school display.

Key Stage 4 (14 – 16 year olds)

Roseland Community School, like many secondary schools, uses the NEAB Double Award Modular Science course. The module on energy comprises one-twelfth of the course and normally lasts for 25 – 30 hours. The structure is as follows:

1 Introduction: Heat transfer and insulation

Pupils consider how our society's quality of life is reliant upon limitless cheap energy, and contrast this with the developing world. They revisit and refine ideas about heat transfer in the home, comparing where it needs to work well (eg cooking) with where it shouldn't work well (eg space heating). A practical investigation involves testing cardboard model houses with varying amounts of insulation. Case studies include the design of a solar water heater and of cold satchels for delivering vaccines in rural China.

ESD focus

Consider the world distribution of energy and the effect of energy availability upon issues such as health care and levels of development. The design of the cold satchel is not only an exercise in appropriate technology, but also in equity.

2 Measuring and costing energy consumption

Pupils consider how much electrical energy is used by various appliances and the importance of seeing energy consumption as a factor in making a choice.

ESD focus

To reinforce the notion of each person's 'environmental footprint'. Pupils should consider, for example, not only what a house does for its occupants, but also what it does to the environment.

3 Measuring wastage and calculating efficiency

This section enables pupils to quantify energy efficiency and to appreciate how wasteful some processes are. Pupils investigate the best way of heating a small quantity of water. The class decides what 'best way' might mean, and assess gas and electricity in terms of speed, safety, efficiency and cost. Gas is cheaper and quicker, but more wasteful – this raises questions about the basis for selecting fuels.

ESD focus

To challenge the assumption that fuel choice is purely a matter of personal preference. The impact of using certain fuels upon, say, carbon dioxide emissions, can be underlined.

How should we generate the electricity we need?
Fossil fuels, nuclear fuels and alternative energy sources: financial and environmental costs: Pupils consider the environmental cost of different ways of generating electricity and the implications of demanding cheap energy at any time. Renewable sources are considered in detail, leading to a case study of a family (with a teenager) living without mains electricity, then to a role play and debate about the plans for a tidal barrage. Energy provision in Sri Lanka is considered and finally there is a debate on energy provision in the year 2020.

ESD focus
To examine the notion that everyone has a right to unlimited cheap energy, and debate issues such as the rationing of energy.

Pupil responses

The Key Stage 3 module (11 – 14 year olds) is popular with pupils. The 'energy changer toys' are good fun; they can try out practical experiments; they like talking about their own homes and can see the point of conserving energy.

It is easier to sell energy conservation on financial rather than environmental grounds. Switching to low energy light bulbs cuts electricity bills, but also reduces carbon dioxide emissions (although this cuts less ice at home). This is where the real value of good education comes in: saving money is important, but reducing the release of greenhouse gases is important as well. Where the lessons have worked well, this point seems to have come across effectively.

The balance between economy and ecology is tricky and teachers are sometimes tempted to emphasise the former to make the activities seem immediately relevant. Energy efficiency materials will often stress the money saving angle. In our experience, it is best to keep a global perspective on the issue right from the start, so pupils see clearly that the responsible use of energy is part of good global citizenship. For example, domestic energy usage should be contrasted with third world homes, and transport issues shouldn't be restricted to a Western European view.

The Key Stage 4 module (14 – 16 year olds) is popular with pupils and staff, not least because there are fewer formulae to learn and fewer theoretical concepts to grasp.

This case study was written by Ed Walsh, Roseland Community School. Roseland serves around 600 11 – 16 year olds in rural Truro. It participated in CMAS from 1996 – 1998.

CS 13

PERSONAL AND SOCIAL EDUCATION AND PARTICIPATORY LEARNING

Royton and Crompton School, Lancashire

Setting the scene

A major part of raising achievement at Royton and Crompton School is improving pupil participation and self-esteem. A lot of the dynamism for this has come through the PSE curriculum (also known as PSRE at this school) in conjunction with the school's Education for Sustainability Project.

Royton and Crompton is an 11 – 16 comprehensive of about 1,200 pupils with an increasingly wide and disparate catchment area. It has been recognised that the curriculum – in its broadest sense – needs to counter increasing pupil disaffection with formal education, and prepare pupils for the changes and challenges of the 21st century. Education for sustainability is seen as a means of providing a framework in which to do this.

How we began to develop education for sustainability

An HMI inspection in 1991 found that, although there was evidence of good practice in PSE, the programme lacked coherence. It was decided to put money into developing the PSE curriculum and cross-curricular themes.

When we won the WWF CMAS award, it became clear to us that education for sustainability could embrace all the cross-curricular themes and go beyond the curriculum into the management and ethos of the school. A policy was adopted to reflect this, coordinators were appointed, and each faculty tried to embed education for sustainability into the curriculum as they saw fit.

Education for sustainability and the PSE curriculum

Unlike other curriculum areas there is, to date, little demand on PSE time in terms of National Curriculum legislation. This, together with total Senior Management Team support, has enabled the PSE team to play a major role in curriculum change.

Much of the knowledge base for education for sustainability is covered in specific subject areas, so PSE has set out mainly to cover the values and attitudes, skills and learning experiences that make up an entitlement to education for sustainability. Above all, the PSE programme focuses on empowering pupils – giving them the necessary time and space to explore their own values and attitudes, and different perspectives on important issues. In addition, it aims to develop their skills as active citizens of the

school, and increasingly of the local and global community.

A spiral curriculum has been developed whereby cross-curricular issues are addressed in each year through content relevant to the age group, some being revisited in varying ways in other years. Education for sustainability has been seen as an umbrella concept for all the cross-curricular themes, helping to provide a coherence to the programme.

PSE is taught for one 60-minute period throughout Years 7 – 11 (11 – 15 year olds). In Years 10 and 11 (14 – 15 and 15 – 16 year olds, respectively) it is linked to a GCSE RE short course and becomes 'PSRE'. The PSE team comprises teachers from various subject areas who have volunteered to teach PSE and increasingly want to develop specialist skills.

Every aspect of PSE starts with the pupils' own experience, and questions why issues such as alcohol abuse should be discussed and taught – it is more than just a process of giving information.

Pupils are encouraged to discuss issues at home and get involved in local campaigns to effect change in relevant areas. For example, the Year 7 (11 – 12 year olds) topic on 'Safety' includes a section on 'Journeys to school'. We have linked up with the Council to take part in the Sustrans-inspired 'Safe Routes to School' project to survey attitudes and practice, map journeys to school, and involve pupils with the Council in trying to come up with safer and more sustainable travel solutions.

The Year 9 (13 – 14 year olds) topic on 'Planning your environment' is linked with the Agenda 21 Environment Forum to involve pupils in suggesting ways in which better facilities can be identified for young people in their area. A Year 10 (14 – 15 year olds) unit on 'Sustainable futures' involves looking at images of the future in the popular media, considering the state of the planet now and envisioning alternative futures.

Pupils are also encouraged to get involved in the Borough Environment Forum and Youth Action Group. As a result of this, some pupils have helped run the 'Sus-bus' for Local Agenda 21 consultation. Others have been to Germany on a European youth exchange to discuss environmental issues, and one pupil went to New York to represent the UK at a UN International Youth Meeting, prior to the Conference on Sustainable Development.

Residential experiences

The PSE Department has a major input on residential experiences. Soon after joining the school, Year 7 (11 – 12 year old) pupils go away for a night and a day to a local residential centre to get to know each other and their Form Tutor. They take part in a range of exercises and experiences to enhance their self-confidence and build cooperative and team work skills. In Year 9 (13 – 14 year olds) a two and a half day residential further develops such skills and fosters greater independence prior to moving into the upper school.

As well as these experiences, which are an entitlement for all pupils, there is a residential weekend for members of the Green Group and interested pupils in Year 10 (14 – 15 year olds) along with members of staff, parents and governors, to the Centre for Alternative Technology (CAT) in Wales. This is part-funded by the paper collection organised by the Green Group. Participants stay in eco-cabins to experience sustainable living and take part in cooperative activities and curriculum development and review.

Pupil involvement in curriculum change

Evaluation is an integral part of the PSE curriculum. Each pupil is given the opportunity to reflect on their own learning and the content and format of every lesson, giving teachers immediate feedback. In addition, every unit of work is reviewed and evaluated by pupils, using a 'focus group' method of randomly selected pupils from each teaching group who have a written and oral interview with the head of PSE.

Teaching and learning styles and resources are assessed by the pupils, leading to further development. Pupil evaluation informs teacher evaluation, so the PSE curriculum evolves annually into something that pupils perceive as a positive tool in their own personal development.

In addition, PSE takes part in whole school monitoring and evaluation procedures such as Work Week, when the Senior Management Team review a selection of exercise books and work from all curriculum areas.

This year, for the first time, pupils in Year 10 contributed to long-term curriculum development. During the CAT weekend, six pupils and the PSE coordinator looked at the whole PSE curriculum across Years 7 – 11 (11 – 16 year olds). Issues they felt were important but under-developed were examined and included, and the delivery time of certain topics was changed to match the changing needs of pupils. These pupils genuinely volunteered to do this task; as one of them said: "Pay back time – giving something back to the course."

"Each week pupils are to record the following:

- What they have learnt during the lesson?
- What skills they have developed/practised during the lesson
- What they thought of the lesson/how it could be improved
- How they evaluate their own performance during the lesson. This should not be about their behaviour but about their active participation in the lesson." PSE homework guidelines

PSE and education for sustainability: links with effective teaching and learning

It has been recognised that one of the effects of the National Curriculum has been to focus teachers heavily on the content of lessons and pay less attention to the process of education. The National Curriculum may dictate what should be taught, but it does not say how. It can be argued that, in an age of rapidly changing communication and information overload, how pupils learn may be more important than what they learn. To survive in a world of constant change pupils will need to be flexible, adaptable and cooperative; but how far is this reflected in the sort of education they are getting?

The school set up an Effective Teaching and Learning Group to share good practice, linked into monitoring and developing education for sustainability. It was agreed that many of the values and attitudes, skills and learning experiences requisite to education for sustainability were common to most subject areas. A lot of work has been done in PSE on ensuring a range of teaching and learning styles, particularly participatory learning.

Circle time has been introduced to ensure whole class participation. This can be used as an introduction to a topic / issue to find out what pupils know already or what their attitudes are, or to review what pupils have learnt or how their attitudes may have been influenced.

Teacher and pupils sit in a circle and begin with non-threatening activities such as "All those wearing socks change places", which enables seating arrangements and friendship groups to be mixed up. This warm-up activity can also be used to raise issues about the topic you want to explore, bullying for example: "All those who have been bullied change places" – pupils begin to see that it effects more than a few.

The next activity is sentence completion, which again can begin in a non-threatening way: "One thing I have felt proud of this week is...". Pupils have to listen to what others say without comment, as the turn passes round the circle (they can pass if they want a bit more time to think). The teacher can then begin to introduce / revert to the theme: "Bullying is when...", "People bully others because...".

Even the best led discussion groups allow some to opt out, but circle time ensures that pupil seating arrangements are mixed, activities build from non-threatening issues such as social habits to more serious ones, and everyone is listened to and has a say. Pupils are made aware of the importance of the skills of discussion and cooperative and independent learning; they also evaluate and are often asked to assess each other's performance. Their PSE reports reflect the importance of these skills. Pupils are encouraged to fill in their own report draft which is then discussed with

the rest of the class to see if they agree, and the teacher bases his /her report on this draft and discussion. Emphasis is put on pupil empowerment in the classroom and beyond, developing active and aware citizens.

Fostering skills of independent learning and collaboration beyond PSE

There is a lot of collaborative planning and sharing of ideas and resources among members of the PSE team who, in addition, have begun to use collaborative methods and activities to develop pupil participation in their own subject areas.

Post-Ofsted, a number of INSETs on effective teaching and learning were delivered by the LEA and outside 'experts'. The PSE Department is now being asked to lead INSETs for other departments, as it has been recognised that a lot of dynamic work is being done there on effective teaching and learning strategies.

Such independence and cooperation has also led to the training of pupils as anti-bullying counsellors. A training programme was set up with another secondary school in the borough and the LEA Peer Support programme. Volunteers are trained in listening and communication skills, and are made aware of child protection issues. Photographs of counsellors are displayed in the main corridor and pupils can book appointments. Counsellors have 'buddy group' meetings every three weeks to discuss issues and give each other support. There are now plans to train pupils as counsellors for other social issues, and as mentors and literacy helpers.

This case study was written by Clive Belgeonne (Cross-curricular Coordinator) and Helen Brookes (PSE/Careers and Guidance Coordinator), Royton and Crompton School. Royton and Crompton serves more than 1,100 11 – 16 year olds in suburban Oldham. It participated in CMAS from 1994 – 1996.

CS 14

MAKING THE LINK

Selwood Middle School, Somerset

Setting the scene

Selwood Middle School is an 800-pupil, seven-form entry, co-ed, middle school in Somerset. With over 200 pupils in each of the four years, it has been a challenge to make every pupil aware of the need for sustainability. Following the statutory requirements of the National Curriculum, and more recently the Department for Education and Skill's emphasis on literacy and numeracy, we have continued to develop the curriculum, trying to ensure education for sustainable development (ESD) is imbedded in many areas.

An enthusiastic teacher had given up many weekends taking pupils on visits to environmental centres, but if ESD was to become part of the entitlement for all children, it had to be built into the curriculum. The school realised that the task of developing ESD was a whole school task that required the involvement of a greater number of teachers, so a working party was created. The ESD Working Party generated a number of innovative, curriculum-based projects.

Eco-Dome

Eco-Dome is an exciting creation of Year 5 pupils (9 – 10 year olds). The idea behind it is that children have ownership of an area of land that is sealed off from the rest of the world. The children have the responsibility for making the land sustainable. The land has to meet their needs for food, water, shelter, warmth and energy as well as their need to be happy. The waste they produce must not have any detrimental effect on the environment. Children are encouraged to grasp the idea that all aspects of life are interdependent and that we must strive for balance.

Eco-Dome is an area of land about five miles in diameter. It is in an area like ours, with a temperate climate; it could be somewhere near our town. The area has hills, valleys, various types of woodland, meadow, marsh and shore.

Anything needed in Eco-Dome must be taken in when entering. This will include hardware such as tools and seeds, and farm animals to develop a sustainable farm. After that, everything needed – including energy – must be made or grown in Eco-Dome.

Assessment of this topic is very simple. Every week there are one or two eco-queries to answer, to determine whether or not children have understood the theme of the week. When they answer these they will get

their Eco-Passport stamped. At the end of the topic, with their card fully stamped, they are living sustainably in Eco-Dome. The passport forms the assessment for the topic.

Questions on the Eco-Dome Passport

- Where is Eco-Dome?
- If our planet started as bare rock, where did the soil come from?
- Why don't the rivers dry up?
- Why does the sea not overflow when the rivers keep running into it?
- Why are animals or plants found in some places and not others?
- What kind of living thing starts a food chain?
- What do plants need to grow?
- What happens to plants and animals when they die?
- Will we run out of air to breathe?
- Is Eco-Dome sustainable?

Links with the curriculum

Year 5 (9 – 10 year olds)

Year 5 pupils watch a video on how much waste is produced by an average family and the effect this has on the environment. After discussing the issues raised, the pupils work on a number of worksheets which encourage them to consider what we mean by 'environment' and ways they can look after their environment.

Year 6 (10 – 11 year olds)

Year 6 pupils interview a relative or elderly person who they know has lived in the area for a number of years. The idea is to find out what changes have occurred locally in their time and offer an opinion or view on whether the changes have been for the best. The guidelines for this come from a leaflet which has a range of suggestions linked to sustainability. Examples include waste, shopping habits and methods of transport.

Year 7 (11 – 12 year olds)

Year 7 produce individual tourism charters. This unit is introduced to the whole year in an assembly where various members of staff each tell of their favourite place. The idea is that pupils are encouraged to take on the ownership of somewhere special to them and make a charter which they sign and strive to abide by.

In geography, pupils study areas of outstanding natural beauty. The main themes that are covered represent different aspects of ESD:

- ESD requires a large-scale perspective on the challenges facing an unsustainable society. We look at the use and abuse of land through damaged footpaths. Zoning and some closure of road access is helping to create a sustainable environment.
- ESD requires sound stewardship of the countryside. Time-share is helping to solve the issue of holidaymakers buying up village properties. By changing the nature of EU subsidies, the farmer can make the land sustainable and focus on wildlife conservation.
- ESD requires community involvement whilst pursuing economic and social progress. By evaluating the costs and benefits of tourism, we look at local communities and see the implications large numbers of visitors have throughout the year.

Year 8 (12 – 13 year olds)

Year 8 consider two fact files on people who are faced with the prospect of having a windfarm built nearby. The pupils have to enact a role-play situation where they take on the argument for or against the wind farm. This is done once they have studied the issues in geography and science about the need for alternative energy sources, reinforcing their learning and helping them to understand the implication of energy choices.

The vital link...

What was now needed was a way of linking all the units together to show children that the environment can be studied in various ways and to encourage them to take responsibility for their own environmental impact. We also wanted to make explicit the values and attitudes underlying the knowledge base pupils had gained in other subjects. The 'glue' that joined it all together was the Green Book. This is a folder into which environmental PSE work is put.

A unit needed to be taught in each of the four years. Each unit would complement the environmental unit taught in that year.

The Green Book now forms part of each pupil's Record of Achievement, and passes through the school with them.

What has this meant for our school?

Some of the activities that took place as part of our Environmental Day:

- The profile of education for sustainable development has been raised among the pupils and staff at the school. As a result, more curriculum areas are including topics which address environmental issues.
- Pupils have taken on environmental challenges locally, both school-lead and on their own initiatives. A group of Year 7 pupils (11 – 12 year olds) who have expressed an interest in environmental issues have formed a 'Global Footprint Group'. They have contacted several 'green' organisations and asked for details about when campaigns are planned. They intend to raise awareness in school, locally through newsletters and through the press.

- A web page has been created on the school website, and is being updated by the Global Footprint Group, who are reporting on initiatives which they feel are important to the local and global community.
- Pupils have been involved in an annual country Youth Forum lead by Sustainable Somerset, in which schools from around the country met up to look at topical issues such as transport and waste. These pupils have given school assemblies to tell everyone about the concerns of other young people.
- A trip to Uganda is planned for the millennium year for several teachers to develop cross-curricular links with a school out there. This includes raising money for solar power to enable the Ugandan school to have an Internet link with us.
- An Environment Day was held in the Spring, and this is hoped to become an annual event. Each year group had its own theme and various workshops, activities and debates took place. Members of environmental organisations and several school governors took part. As a result of one Year's debate, a group of pupils have been asked to make a presentation to the school curriculum committee on their findings.

A tutor's guide to the Green Book

The Green Book is a four year record of how pupils begin to learn about living the sustainable lifestyle that is increasingly going to be needed next century. It will be part of the pupil's Record of Achievement at Selwood and one that they will add to during their time at school.

The book will be given to them as they start Year 5 and when the encounter an environmental issue, pages will be worked on and put into the book.

The work for the Green Book will be undertaken during PSE time, and should reinforce work which as been taught in an area of the curriculum. The main themes will be under the following headings.

- Year 5: What is the environment?
- Year 6: Become a 'green witness'?
- Year 7: Tourism charter
- Year 8: Role play and wind farm debate

This case study was developed in consultation with Selwood Middle School in Somerset. It participated in CMAS from 1994 – 1996.

CS 15

TRANSFORMING PRIMARY SCHOOL PLAYTIMES

St Mary's Church of England Nursery and Primary School, Manchester

Setting the scene

Two years ago, as in many primary schools, St Mary's small playground was dominated by football and characterised by children either rushing around wildly or huddling in small groups around the edges. The first goal for the new Head Teacher was the development of a caring ethos that would extend into the playground.

Establishing a caring ethos

Assemblies

The staff began continual reinforcement of the caring ethos through school assemblies. Bible stories about Joseph are used as a basis to explore the experiences of refugees and other outsiders and this is related to how new children in school might feel. After hearing the story of 'The harvest mouse', the children are asked to consider the actions they take unthinkingly which will affect other people's lives. Real life stories are told of people who have shared their expertise and knowledge with others. Thoughts and ideas engendered by these stories are then related directly to playtimes.

The 'good buddy' system

An overcrowded playground with large bodies hurtling around it can be a particularly threatening place for the new Reception child (4 – 5 year olds). Teachers of Year 6 (10 – 11 year olds) talk to their classes in September about how this would feel, and ask the older children to act as 'buddies' to any new children who need it.

They discuss the kinds of things they can do to help. Their 'enabling' role is stressed, so that they help the younger children to develop skills rather than doing things for them or treating them as toys.

The Year 6 children play a key role in encouraging social interaction between the newcomers and initiating a greater variety of play activities. Playground markings can be used for hopscotch, snakes and ladders, etc, but new children need to be taught how to use them and how to play all the other games that can give purpose to playtimes. Those at a loose end need to be integrated into games with others.

The buddy system is particularly important when there is a new intake. Once new children have developed friendships and have got used to the hurly-burly of the playground, the need for input from the older children gradually dwindles until their only role is to keep an eye out for any problems that may arise.

The small area outside the nursery classroom has large toys, a gardening area and access to a dressing up box. It was decided that small groups of Reception children (4 – 5 year olds) should be allowed to use this area on a rotating system at playtimes, to provide some continuity for the children as they move into Reception and to make full use of the equipment. The Year 6 children (10 – 11 year olds) put their names on a rotation to help in this area too.

An action research approach to a practical problem

Although an improved ethos made some difference to the success of playtimes, the issue of children using the time most effectively to develop both social and physical skills remained. Playground markings provided alternatives to football, but were not enough. Staff felt that there should be a variety of equipment so that children had the option to play individually, in pairs, or in small or large groups, depending on their needs and how they felt on a particular day.

Each class was given a box of games equipment to use. It wasn't a success. Equipment got lost and broken, things were not going back in the right boxes, and there wasn't enough equipment left for PE lessons.

Year 3 tackle the problem!

As part of a topic on the local area, the teacher for Year 3 (7 – 8 year olds) asked her class if there was anything in particular in the local area that they thought wasn't working, that they would like to do something about. The immediate answer was "school playtimes"!

The class used an action research approach to resolving the problem. First they had to define exactly what the problem was that they wanted to tackle. They brainstormed all the things they didn't like and the key issue seemed to be that there wasn't enough to do because games were not looked after and were not replaced, and this led to behavioural problems.

Their action research question became: "How can we make sure that games are looked after and can be replaced when they are worn out?".

We've identified the problem, now to find a solution

Year 3 (7 – 8 year olds) decided that they had to devise a sustainable, self-financing approach, but that it would have to start with good equipment that people would want to look after. First they went through all the equipment and got rid of the broken and damaged things. They then went to talk to the Head Teacher, who agreed to find the money to make up two boxes of interesting, good equipment.

How would they fund replacements after that? They decided to charge for the loan of equipment. This raised more questions:

- How much should we charge?
- How can we collect the money?
- How will we know who has what?
- How can we make sure the equipment comes back?

After much discussion, they came up with a plan which was publicised in 'St Mary's Chronicle', the monthly newsletter which is read by children, parents and staff, being full of interesting information, children's work, personal messages, games and competitions. Year 3 also presented their plan in an assembly so that other children could ask questions about how it would work.

Trial, evaluation and improvements

Planning a solution was only the beginning of the action research process. The idea was tried out for half a term and problems were identified and resolved. The next big question was, "How can we speed up the process so that everyone has time to play with the equipment they have paid for?". At first, both boxes were kept together, so there was a big crowd around them. The solution – to put them on different sides of the playground. Classes were given different times when they could use the equipment to avoid long queues. Initially equipment prices varied. This proved to be another time waster and now everything costs 1 pence. A daily rotation for looking after the boxes was discarded after the trial period in favour of a weekly rotation so that the children had an opportunity to improve with practice. Another problem identified was that infants were at first buying bats that were
too big for them to use. The solution – separate infant and junior boxes with equipment sorted according to size and appropriateness to the age of the children.

A questionnaire that Year 3 (7 – 8 year olds) carried out at the end of the trial period to establish whether the system was working, and whether the rest of the school wished it to continue, was met with an overwhelming "Yes"!

A process of education

The more cumbersome aspects of monitoring the equipment have become unnecessary as all the children in the school have got used to the idea, like it, and help to make it work. At first, Year 3 children recorded the names of who took what. It took a long time, but they thought it was necessary so that children could be held accountable for anything they lost or broke. A term later, they stopped recording names as all the children were looking after the equipment. If anything goes out of the playground or gets broken by accident, the children responsible immediately tell a teacher so that it can be retrieved or mended.

At first, some children would pay their penny for a piece of equipment and then walk around clutching it all playtime. They soon realised that it was only fun if they invited others to play with them!

The Head Teacher stresses, however, that the improvement in looking after playground equipment is only part of an ongoing process. Care for equipment is constantly reinforced by the teachers in the classroom demonstrating that they value even small resources, such as drawing pins and felt tips, as well as the big expensive things.

What can we do with all this money?

Having started with good equipment, which everyone was looking after, £40 rapidly accumulated and nothing needed replacing. The whole school was asked what they would like to do with the money. Additional equipment was bought, more boxes established, and the scheme was extended to lunchtimes. When a new piece of equipment arrives, it is introduced to the children in an assembly and different ways of using it are discussed. All the children now feel ownership of the process. More classes are getting involved with looking after boxes in different parts of the playground – for example the Year 2s (6 – 7 year olds) look after the infant boxes.

The development of physical and social skills

Teachers are noticing marked improvements in the children's hand/eye coordination. The children are setting themselves goals, for example increasing the number of times they can bat a ball or shuttlecock without dropping it. Pupils are becoming more creative about finding different ways of using the equipment, and this is extending into developing and inventing other play opportunities. A giant draughts game was bought with some of the money and has proved very popular. Now, however, children sometimes don't bother with the draughts pieces and instead use people on the squares in a giant human draughts game! Gender distinctions are becoming blurred as the equipment is always around; for example, some of the boys are becoming very skilled players of cats cradle and skipping games, whilst the girls are playing basketball.

Involving the whole school community

Teaching staff worked hard to find a solution, but it was when the children themselves took on the problem that the solutions really began to work. Regular information in the 'St Mary's Chronicle' ensured that parents understood the decisions and the reasons behind them. Year 3 children (now Year 4) are keeping a watching eye on the overall organisation of the scheme, but ownership has effectively been extended to all the pupils through assemblies, the sharing of responsibilities and the School Council.

The role of the School Council

The School Council representatives act as a conduit for the ideas of their classmates and there is a post box in which children can put ideas or problems for the Council members to raise. This system has contributed to the development of playtimes in ways which work for the children. On School Council recommendation, a corner of the playground near the building has been designated for quiet games only and picnic tables have been installed. It is used most in the summer for drawing, reading and talking.

Last summer, diary writing, sharing of photograph albums and playing card games became popular.

The idea of providing basketball hoops at different heights for different sized children has been suggested, and the Council are exploring the idea of organising an Easter egg treasure hunt as a way of raising money to buy them.

Involving lunchtime supervisors

Crucial though their role is, lunchtime supervisors are often the last people to hear about playground initiatives decided on by teaching staff and children, and are rarely involved in decision-making. St Mary's set up a monthly meeting for half an hour before lunchtime to involve supervisors in the process of improving playtimes. Initially, staff were often late and lacked commitment to the discussions. Recognition of the value of the contribution of lunchtime staff was given when the school decided to pay them for the extra time. This has raised the status of the meeting and of the staff involved.

The staff has used the OPTIS *Guide to Lunchtime Supervision* as a springboard for discussion. They read through case studies of situations that have got out of hand and discuss better ways of dealing with them.

The school has a system of certificates and awards that are given out during Friday assemblies. Lunchtime supervisors are encouraged to award certificates for particular acts of kindness or helpfulness in the playground. This not only gives additional status to lunchtime supervisors but also emphasises that appropriate playground behaviour is valued as much as what happens in the classroom.

Lessons learned

- Involve the children in making decisions so that they feel ownership of the outcomes.
- Give pupils real responsibility for making their decisions work.
- Employ an action research approach so that children (and adults) are enabled to try out ideas and learn from their mistakes.
- Ensure that parents are kept informed of reasons for changes in practice.
- Publicly value non-teaching staff by involving them in decision-making and paying them for extra time involved.
- Use assemblies and staff as role models constantly to reinforce the values you wish to encourage in the pupils.
- Be creative! Each school is different and exploring alternative solutions to a problem is an integral part of education for sustainability.

This case study was written by educational consultant Gillian Symons. It is based on the experience of St Mary's Church of England Primary and Nursery School, which serves about 250 pupils in urban Manchester. It participated in CMAS from 1994 – 1996.

CS 16

CREATING AN URBAN OASIS

St Paul's Church of England Primary School, Lancashire

Setting the scene

At St Paul's we have tried to produce an education for sustainable development (ESD) curriculum that provides a relevant and meaningful experience for all members of the school community. Our project has a practical base enabling all pupils to experience visible success and a sense of genuine achievement.

Throughout we have sought practical help and advice from a range of organisations and, closer to home, we have secured the active help and support of the wider school community, parents, governors and our site officer. We want to give ownership of the project to the pupils and the community, and to make ESD an integral part of both school and community so that it cannot be 'unravelled' and discarded.

This case study shows just what we have achieved, charting how we have moved from a management vision to practical reality.

Many of our pupils do not experience great academic success, and although there is obviously a need to raise academic standards, we felt that simply increasing the time spent on academic subjects could just be giving many of our pupils the opportunity to fail again. We wanted to provide a more relevant curriculum to complement the National Curriculum: one which would enable our pupils to express themselves in a more practical, yet structured way. We noticed that whenever the opportunity to express themselves through dance, art or practical technology arose, our pupils were enthused in a way that the literacy hour palpably failed to do.

A practical, whole school, ESD project presented in a non academic context would give pupils the opportunity to develop their practical skills and talents in a way that our existing curriculum did not. The project was structured to embed links within the National Curriculum and PSE (Personal and Social Education), and the use of 'transferable skills' made it directly relevant to our aim of raising standards and pupil self-esteem.

The commitment to ESD became part of our School Development Plan, but it was some time before a truly sustainable curriculum developed. St Paul's is bounded on three sides by busy roads and is at the edge of a recently regenerated estate of Council and Housing Association properties that have replaced high-rise flats, maisonettes and inadequate housing. There was an interim period prior to development when most properties were boarded up and the school was truly an oasis in the midst of slum clearance. However,

the phrase 'urban oasis' was initially picked up in our first OFSTED report, although at that time no development work had been done on the school grounds. It was only with the arrival of the new Head Teacher that the idea of developing the school grounds began, and St Paul's started to turn into a genuine urban oasis.

First steps

The 'first steps towards sustainability' were innovative and exciting, starting with David Bellamy opening our Community Gardening Club, and we featured in the local press. The school also became part of the WWF Curriculum Management Award Scheme. We formed links with Arid Lands, a charity involved in a local project and the Yemen.

Closer to home, the Probation Service helped us to dig out the school garden and an orchard was started. Every child planted a willow rod, whilst parents and pupils from Manchester Grammar School became involved with the gardening club. The staff planned environmental projects and the EAZ (Environmental Action Zone) financed a Sensory Garden for the Early Years Unit. Even a 'Wombles' group was established to collect litter at break times and generally help to keep the grounds tidy.

It all seemed like a brilliant start, but subsequent events showed that these projects could not, in themselves, provide a sustainable curriculum. For although they were attractive and gave almost instant results, they were too ambitious, expecting too much of a community with few skills in cultivation, but not demanding sufficient commitment from either staff or pupils.

This became evident when notification of our second Ofsted inspection arrived. Nothing actually stopped, but the lack of a whole school commitment meant that little happened in the way of progress. But at least we were able to return and build on the initial projects later, which made developing the new curriculum an easier task. This time the approach was school based, with the aim of spreading to the local community.

Striding out – one year on

With the pressure of inspection a thing of the past, our Head Teacher prioritised his vision for greening the school grounds and expressed his determination that every class would experience an aspect of sustainability. The emphasis was on growing produce that the pupils could harvest, eat and sell themselves.

Allowing for staff diversity

While our projects were allocated to ensure progression and curriculum fit, individual staff strengths and needs were also considered. Here was an opportunity for staff to develop their own professional strengths, interests

and creativity outside the increasingly prescriptive regime dictated by the demands of the National Curriculum.

The Early Years Sensory Garden and Outdoor Play Area fits in with existing facilities and the new Early Years Learning Goals. Year 1 (5 – 6 year olds) developed a garden area adjacent to their classroom. Our 'Weird and Wonderful Plants' topic evolved to meet the needs of a staff member in Year 2 (6 – 7 year olds) with an immovable dislike of the soil and gardening! Instead children developed an indoor botanical garden to illustrate the variety of ways in which different plant species meet their needs. The Year 3 (7 – 8 year olds) teacher was interested in the orchard while the tacher for Year 4s (8 – 9 year olds) was interested in seating. The Year 4 class also cultivated a garden area next to their classroom and established a worm farm. Years 5 and 6 (9 – 10 and 10 – 11 year olds, respectively) cultivated the allotment, and Year 6 – the most physically capable – were given the task of restoring our newly acquired wooded corner. This approach meant that each staff member started with a project seen as relevant and achievable.

The process of change – planning for commitment

Staff commitment to the scheme has developed through the processes of collaborative planning and 'action learning'.

Collaborative planning – how we did it

Staff were paired and spent a day out of the classroom planning their own projects and using each other as a resource – looking at how their ideas fitted with the National Curriculum and identifying which objectives could be covered. We considered all the other innovative processes included in our everyday curriculum that we could apply to our ESD planning.

'Generic Study Skills' could be used for recording work. We could use 'Book Arts' to record and display work. We considered the type of 'Thinking Skills' involved and actively planned how we would use them. We planned how we were going to involve the pupils through 'Circle Time' and the personal and social outcomes we were aiming for. A number of teachers also included some of the approaches advocated in 'Accelerated Learning in Practice' which was in the early stages of introduction.

We were also able to use the expertise and knowledge of a student working with the local charity, Arid Lands, who gave advice on how to relate our ideas to the wider aspects of sustainability. Everyone then completed an Action Plan and medium term plans and started their project.

Action learning – how we do it

We split into two groups across the key stages. Each person in the group has a set time (usually 30 minutes) to ask for help in solving problems, and the rest of the group focuses on the needs of that individual, challenging their thinking in a supportive environment. It is up to each member of the

group to ask for as much or as little help as they feel they need. They then go away and apply the advice, and report back to the next meeting on its effectiveness or otherwise. The problem and advice remain confidential within the group, and only the person requesting help can give permission for this confidentiality to be broken.

Collaborative planning and action learning have given staff ownership of their projects and made things happen. In turn, staff are trying to give ownership to the pupils, involving them in decision-making and planning. Initially the projects are teacher directed but, as the pupil knowledge base increases, pupils will be able to take increasing responsibility for project developments.

What have we achieved?

The Scheme of Work now in place ensures that all pupils have the opportunity to grow and harvest crops at some point in their school life as well as learning the wider concepts of sustainability. It is designed to show that we can make a difference to our personal environment and to provide the pupils with skills, knowledge and ideas that they can take into the wider local environment and beyond.

But the benefits go far beyond this. The self-esteem of pupils has risen immeasurably. They have learned to work cooperatively. They are becoming involved in decision-making. They are experiencing success – many for, perhaps, the first time – and benefiting from the fruits of their labour. Slowly they are starting to recognise and discuss the wider issues of sustainability, but most importantly they are involved and feel ownership of the projects.

As the project has developed, inter-class cooperation has increased. Years 3 and 6 (7 – 8 year olds and 10 – 11 year olds respectively) made a joint visit to local woods, sharing experiences and knowledge and using public transport. Year 4 (8 – 9 year olds) has helped to provide seating that the whole school can use. Older children are helping to maintain and care for the Early Years garden.

The School Council is involved with looking at areas for development and each class is, in some way, involved in decision-making for their own projects. For example, on a Year 2 (6 – 7 year olds) garden centre visit, money (£5) was given to each group of four pupils who then had to decide whether to spend the money on a plant each or one larger plant, involving them in group decisions and negotiation. A variety of outcomes ensued, with groups coming to different decisions in a reasonably democratic way. Some of our projects have not only introduced different environmental needs, but produce a sense of awe and wonder at the extent and range of the natural world.

We have sold strawberries to finance bird boxes – another pupil-led decision – and pupils from several classes took plants home to care for in the holidays, which then involved parents in the projects. Parents with their own gardens and allotments have donated plants and seeds and are slowly becoming involved with the project as a whole.

Different teaching methods have been tried as the school has developed accelerated learning practices. The Year 5 (9 – 10 year olds) teacher used the Visual Audio Kinaesthetic Approach to help her pupils empathise with the plight of battery hens, getting them to visualise themselves in cages or roaming free, and acting out the two situations in the school hall.

We have taken our own produce to the Harvest Festival Service and have tried out an allotment box for the charity Arid Lands. This metre square composter can be reconfigured as ten 1 metre square raised beds or as cold frames. Originally developed for use in the Yemen, it is now available as a resource pack for schools, providing equipment and simple instructions on how to compost organic waste and use it as a growing medium with the accompanying vegetable growing kits. (Further information can be obtained from Arid Lands.) We have used the allotment box to grow lettuces, cabbages, Brussels sprouts, carrots and herbs, and plan to plant gourds, garlic and sunflowers. In parallel with this we are also testing a self-watering system using rainwater from our guttering and a trickle feed hose-pipe from the base of the collection vat.

We have also started to address global issues, mainly by using them as a subject for discussion during 'Circle Time' but also by using appropriate stories for the younger children. And on a more practical level, we have been involved in recycling paper. Particularly useful was our participation in the Post Office scheme for collecting used Christmas cards that were then exchanged by the Post Office for Reading Record Books.

What have we done that is different?

The answer to this question is nothing! It is unlikely that we have attempted anything that someone, somewhere, has not tried before. There is nothing that anyone reading this case study could not try for themselves.

We think that our difference lies not in the activities, but in the efforts that have ensured that the whole school community has ownership of the project. This will ensure that education for sustainable development will lie at the heart of our school ethos and remain a sustainable part of the curriculum in years to come.

This case study was written by Wendy Whalley. St Paul's, a small Church of England Primary School. St Paul's serves approximately 200 pupils aged from 3 – 11, in a corner of inner city Salford. It participated in CMAS from 1997 – 1999.

Luton and Peshawar Initiative for Sutainability (1997 – 1998)

In 1997, Luton's new unitary authority came together with WWF-UK to work on the pioneering Luton and Peshawar Initiative for Sustainability (LAPIS) project that involved schools, communities and local government departments working together to address local needs and realise more secure and worthwhile ways of living. Luton is a multi-cultural urban centre located north of London. Peshawar is in the North West Frontier Province of Pakistan. LAPIS linked the two communities to learn from each other as they pioneered new kinds of sustainable development.

Some Luton schools had already worked with LAPIS on a pilot phase of the project. This phase of the project offered an opportunity for other schools to become involved.

LAPIS offered schools:

- new ways of teaching about the local area and a distant locality in Pakistan;
- new resource materials: maps, pictures, stories, case studies, etc;
- exciting ways of delivering key aspects of core and foundation subjects;
- an approach to cross-curricular themes like environmental education, health education and citizenship;
- cooperation with the local community and local authority on values and issues of shared concern;
- ways of improving the delivery of school policies on equal opportunities, community links, and personal and social education;
- a relevant way of learning through school-to-school linking with communities in Pakistan;
- opportunities for curriculum and professional development and the possibility of financial support; and
- a chance to contribute to a published curriculum pack.

Participating schools sent teachers on a course of professional development run by WWF-UK and Luton Borough Council. The course – Reaching Out: Education for Sustainability – was the same training offered as part of the Making it Happen award scheme. Following the course, schools submitted a development plan that showed how education for sustainability would incorporated into the ethos, curriculum and management of the school. The plans outlined how provision would reflect the aims of LAPIS, with teachers and pupils learning alongside the local community and local authority, and sharing experience with and learning from the linked schools in Peshawar.

Project participation was intended to help schools to develop more relevant provision that delivered the National Curriculum while also taking account of local issues and international perspectives. LAPIS fostered the kinds of professional and whole school development that Ofsted seeks, and linked schools and their communities in ways that support Local Education Authority policies about the school in the community, the community in the school, equal opportunities and community development. LAPIS reflected England's national strategy for environmental education. It was developed in response to Agenda 21.

CS 17

LINKING HOME AND SCHOOL

Denbigh Infant and Nursery School, Luton

The background

When I first became head teacher of Denbigh Infant School, home-school relationships were generally good. Parents appeared confident to approach the school with concerns about their children, and staff made every effort to listen and to resolve issues. There was, however, a lack of confidence on the part of many parents and they had a limited perception of their role in the education of their children. There was also a lack of parenting skills, which we felt had a significant effect on pupil performance, and cultural/language differences sometimes made communication difficult – the majority of our pupils enter the school with English as an additional language.

As a staff, we felt that improved home/school liaison was a priority. We identified four targets:

- to build up the confidence of parents;
- to improve parenting skills;
- to enable parents to support their children at home; and
- to encourage parents to take a more active part in school life.

This case study details how we set about achieving our targets and how they impacted upon education for sustainable development.

Why home-school links are important:

- Strong links between home and school provide good opportunities for teachers to understand children's attitudes to learning, their rate of progress and level of attainment.
- Involving parents in their children's education helps to remove many misunderstandings and ambiguities about daily life in school.
- A meaningful relationship between home and school encourages parents as partners and provides extra helping hands.
- An effective and communicative partnership between teachers and parents establishes an environment where children have a sense of security, familiarity and cultural freedom which, in turn, enhances learning.

Building up the confidence of parents

Our local environment is one of bricks and cement. The school itself is old, there is no grass and the playground is small. Parents' day-to-day points of contact with school are the playground and the classroom entrances. We felt it was important that the school should be as welcoming and environmentally pleasing as possible for the parents as well as for the children.

Over the last two years we have allocated money annually to improve the environment of the playground by erecting a more attractive perimeter fence, installing a safety surface, building a log train and additional climbing apparatus, painting playground markings and planting additional trees. Both inside and outside our school, we have plants in every nook and cranny. A small courtyard provides an attractive central 'green' area and even the car park is edged with plant troughs and climbing plants. Either myself or the deputy head teacher is present on the playground from 8.50am to greet and talk to parents.

The two entrances and main corridors of the school have been made tidier and more inviting. Pupils are actively involved in ensuring that these areas, as well as the playground, are maintained in a clean and tidy manner. Awards are given to classes that keep their cloakrooms tidy, 'special helpers' are appointed amongst the older children on a rotating basis and their efforts acknowledged in assembly. The treat for very good children is to use the special equipment to pick up rubbish in the dinner hour. Examples of children's art work is framed and displayed in the main entrance. Photographs and albums of school events and activities are also on view.

We have adapted a spare classroom to use as a Parents' Room and have tried to make it homely. Parents know where their activities take place and therefore enter with confidence. We hold a meeting of the Parents' Club once a fortnight and the programme of activities includes consultations when we ask parents for their views. There are also opportunities for parents to share their expertise with others, eg on behaviour management, as well as workshop and information-giving sessions led by school staff and other agencies.

We hold several social events each year such as the Christmas and Eid parent/teacher parties, Harvest Brunch and the Autumn and Summer School Fairs where parents and staff have opportunities to get to know each other. In our particular school, differences of language often prove to be a barrier to good communication. Administrative and teaching staff with community languages are available every morning from 8.45am and after school. Many parents are keen to learn English and consequently language classes are held four afternoons a week.

Children's education does not finish when they leave school at the end of the day. If we want parents to become real partners in the education of their children, then we must be prepared to spend time and effort in helping them to acquire the skills and knowledge needed to help their children at home.

Most of our parents do not value play as a way to learn and therefore do not promote it in the home, either by the toys and environment they provide or by playing with their children. Spending quality time with children, talking to them and doing things together does not appear to happen in many

homes. There is also a lack of understanding of health and safety issues, medical care and the importance of exercise and fresh air. It is within the Parents' Club that we try to address these issues. First aid, dental care, coping with common childhood ailments, safety in the home, car safety, walking to school, how to entertain your children in the holidays, and behaviour management have all been included on the agenda.

Enabling parents tp support their child's education at home through a gardening club

We also recognise that many of our parents bring skills, experiences and attitudes that have been lost in many of the homes of our indigenous children. Marriage and parenthood is for life, motherhood and family life are important, older people are respected and babies pampered. The traditional diet is healthy, with plenty of vegetables and fruit. Most of the mothers are excellent cooks and have a good knowledge of herbs and spices. The 'throw away' culture is less evident and there is an understanding of making best use of what is available.

We felt there was a need to build on the strengths of our parents and it was through our Parents Club that the idea of a gardening club was born. Several of the mothers complained about the cost of certain herbs and vegetables; others said that there is pressure from the children to provide junk food as opposed to more traditional fare. We took a poll of those who would be interested in finding out how to grow their own vegetables and herbs. When the response was positive, we talked to the Workers' Educational Association about providing a tutor, and applied for a WWF grant to start the project and to incorporate it into the curriculum.

The Home/school Liaison Coordinator and the Environment Coordinator discussed the format of the club. Organic gardening was to be promoted. We also wanted to encourage parents to involve their children with gardening activities. Before the club started, we held an introductory session to help parents appreciate how children's involvement in gardening could help them to develop their skills and knowledge in science, geography, language and mathematics. This gave the project more importance in the eyes of the parents and perhaps gave them more confidence in their skills. (One particular problem we encounter is that many parents feel they cannot help in their child's education because they do not speak, read or write English.) We had two raised vegetable beds erected in our nursery play area. This was protected from outside vandalism and, more importantly, the nursery children could watch the food grow and eventually harvest it.

The tutor not only taught the parents garden skills, but also suggested ways to involve their children, emphasising the importance of passing on their skills. The format of the sessions was similar to other projects we have run in school. First, the mothers received training. Their children then joined

them to work in a practical way under the supervision of the tutor and a member of the school staff. This provided a model that the parents could copy at home.

We looked carefully at our Schemes of Work and medium term planning, then highlighted and adapted them to ensure that the knowledge and skills the children learnt at the organic garden club were built upon and shared with their peers back in the classroom.

Links were made with:
Geography – through work on our school environment and the uses of the building and land, including drawing birds' eye views (simple maps) of the vegetable beds
Science – in the unit of work on living things, "growing and changing"
Personal, Social and Health Education – there is much opportunity for discussion at 'Circle Times'
Speaking and Listening – relating their experiences to classmates and encouraging their friends to ask questions
Spiritual, moral, social and cultural teaching – for example, in our Harvest Celebration.

Our recycling project was another way in which we successfully involved parents in their child's education. The Environment Coordinator was involved in helping a Local Authority team to set up a recycling bus. When discussion took place about how we could organise a visit of the bus to school, we suggested that parents as well as children could be shown round the bus, so that they could talk to the children about it at home.

The children had a wonderful week. They were shown videos, and took part in discussions and in the various activities and computer games on the bus. All this was followed up in the classroom. Half way through the week, the parents were given a talk about recycling projects in the town and how they could educate their children into good practices. They were then given the opportunity to 'play' on the bus. We were surprised how many came to the session. The videos were in community languages, one of the presenters was an Urdu speaker (the language spoken by the majority of parents) and we arranged for an interpreter to be on hand for the other main community language.

The parents were very interested in the 'adult aspects' of the session, but not quite so interested in how they could involve their children, and only a few really joined in the activities on the bus. We felt that somehow we needed to capitalise on the enthusiasm of the children. It was suggested that, for the rest of the week, the bus would remain outside school until 4.30pm so that children could invite their parents and other adult family members. This proved a great success and we calculated that most children visited the bus

with at least one family member. The feedback was good, and it would seem that the presence of the children broke down barriers and stimulated conversation between parents and children.

This was followed up by assemblies on caring for the environment, the introduction of bins in the classroom where paper and recyclable materials were placed, and the delivery of special red bins to the school for the collection of recyclable material. Thus the children are not only being educated in care of the environment, both at home and at school, but they are also practically involved and aspects of their knowledge of 'materials' are being reinforced on a regular basis.

Enabling parents to support their child's education at home through a Family Literacy Project

For the last two and a half years we have taken part in the Family Literacy Project. Parents are given the opportunity to increase their own basic skills in reading and writing. They then spend part of the session working with their children under the guidance of the tutor and a member of the teaching staff. If the parents attend the course, their children are given extra one-to-one reading tuition provided by a trained assistant.

Enabling parents to support their child's education at home through our Parents' Club

As part of our Parents' Club programme, we provide workshops on helping with reading, writing and mathematics at home. We talk briefly about the theories behind our approaches, help parents to make materials and teaching aids they can use at home, and teach them how to play appropriate games. The parents are also given the opportunity to see teachers and classroom assistants share books with children in the classroom or play mathematics, reading and spelling games. Visits to the library have taken place and we are planning a visit to a local friendly bookshop next term. We also have a maths games loan system, which has proved very successful and popular with older brothers and sisters who, through their own enthusiasm, are helping their younger siblings without realising it!

Encouraging parents to take a more active role in school

At the end of the last academic year, several of our parents received accreditation for the work they had completed within the Family Literacy Project. These mothers wished to continue and work towards another recognised qualification. With the help of local agencies we have been able to set up a classroom assistant course in school. Part of the course is to work on a voluntary basis in a school for at least two hours a week. This has meant that we now have a parent in every class for some time every week. Other parents see them in the classroom, which we hope will set a precedent.

Several parents have recently agreed to take part in a 'Reading Partnership Scheme'. They have received two days training which has prepared them to assist in developing the reading of pupils whose reading is judged to be slightly below average. Each parent has agreed to attend school for a short period three times a week.

Linked to our work on the environment, we had a whole school visit to Whipsnade Zoo in the Summer Term, involving almost 300 pupils. Obviously we needed a large number of adults to help, and parents were recruited to look after small groups under the supervision of a member of staff. The response was excellent and, on the morning of the trip, the parents were given a short talk about looking after the children and interacting with them, and about the educational value of the trip. Despite this, we had many mothers who looked after their own child to the detriment of others in their care. Staff and other volunteers had to work very hard indeed to make the day fun and valuable for all the children. Parents on the Family Literacy Project were given a whole afternoon training prior to the trip, which prepared them well. In future we will continue to invite as many parents as possible to assist with school trips, but it will be stipulated that all helpers must attend a whole afternoon course if they wish to accompany us.

Monitoring & Evaluation and the future

This is perhaps the most difficult area to improve in our particular situation. Many families are large; consequently mothers are very busy and often have younger children at home to look after. Over the last few years we have actively sought parents to come in and help with reading, number games, sewing and cooking activities, but we have only a very small pool of parents who help on a regular basis. Monitoring and evaluation of our parent programme and individual projects take place on a regular basis.

The Home/school Liaison Coordinator records parental attendance at our projects, workshops, clubs and events. The Coordinator and Head Teacher meet once a term to review our work and discuss improvements to our provision for parents. Parent governors, tutors, and key teachers involved in individual projects are consulted regularly and at the end of a project. Parents are also consulted to gain an insight into ways in which the school can support them in the education of their children.

Despite many set backs and disappointments we have made remarkable advances in the last two years. Most importantly, attitudes have changed. Involving parents is now part of our school culture. Generally, parents are more pro-active: for example, several ladies have approached us to suggest we run a computer class for mothers; an average of a 100 parents attend our special assemblies; there is a demand for homework for children; and mothers of pupils are part of the Governing Body. However, we are

conscious that there is still a lot to do in our school and look forward to many new exciting ventures – including computer classes for mothers!

Key factors in successful home/school liaison

- Take every opportunity to get to know parents.
- Work with the parents should ideally be mirrored by work in the classroom.
- Training for parents must be carefully planned with clear learning objectives. Pace, and a balance of activities, are as important for parents as they are for the children.
- The timing of meetings must suit parents rather than the school. (We have found that 9am is the most suitable time for them.)
- Consult and involve parents before establishing a parenting programme.
- Home/school partnerships should be an integral part of school development.
- The whole school needs to be willing to give freely of their time and to be flexible. (In our school, teachers have been willing to adapt timetables and cover for colleagues who are needed to deliver parent talks or workshops. Administrative staff have been willing to deal with the interruptions of parent enquiries, and general assistants have been prepared to take time from a busy schedule to provide tea and biscuits.)
- Do not be disappointed if the initial response is poor. Be prepared to re-launch a project to allow for the word to spread.
- Repeat a successful session – the response is usually good.
- The school must not be judgmental of parents who are late for events, do not always regularly attend a course, bring along screaming children or leave early – we do not know what pressures they are dealing with.

This case study was written by Pam North, Head Teacher at Denbigh Infant and Nursery School in Luton. Situated in the urban centre of Luton, Denbigh Infant School is in an area of low socio-economic character. The school serves a catchment area where the majority of the population are from a Pakistani or Bangladeshi heritage, and 95 per cent of pupils enter the school with English is an additional language. It participated in LAPIS from 1997 – 1998.

Making it Happen (1998 – 2002)

The Making it Happen Award Scheme invited schools to submit a two year project plan using key areas of the curriculum to introduce a whole school approach to education for sustainable development. The two focus areas for projects were 'Citizenship and sustainable development' and 'English and sustainable development.'

The Making it Happen Award Scheme was designed to help schools to:

- improve teaching and learning through professional development in the context of education for sustainable development;
- engage pupils in thoughtful discussions about their future and the future of the planet;
- build collaborative planning processes within the school; and
- develop links to other schools to share views and experiences.

WWF set criteria for entries, indicating that Making it Happen projects should:

- improve standards and increase pupils' motivation;
- engage pupils in exploring and debating sustainability issues;
- involve the pupils in decision-making through the planning, implementation and evaluation of the project;
- encourage participation in, or a strategy for, positive action at the local level;
- help develop innovative ways of implementing sustainable development in schools;
- have active support from the Senior Management Team and governors;
- contribute towards the integration of ESD into the school's aims, policies and development plans; and
- help develop strong links with the community beyond the school; and enable pupils, teachers and senior managers to link with other schools via the use of the Internet.

WWF offered winning schools a grant of up to £2,000 per year for a two-year period. It also provided free in-service training for teachers, senior managers and governors, as well as ongoing support.

The scheme was open to all schools in England and Wales, although no Welsh schools participated.

CS 18

DEVELOPING AN ESD CURRICULUM IN A JUNIOR SCHOOL

Brixington Junior School, Devon

A whole school approach

This case study tells of the process used by one school to develop a whole school approach to the teaching and learning of sustainable development – including management, curriculum and pupil involvement. It describes how, through a series of steps taken over several years, ESD has become integrated into all curriculum subjects as well as having a separate policy and curriculum in its own right. It also highlights ways the school has found to maintain momentum and focus in the long term.

"What is sustainable development?"
"I already do that?"
"How can we fit this into an already crowded curriculum?"
"I can't do that."

These were just some of the many questions and comments that we were presented with when we first discussed the idea of developing an education for sustainable development (ESD) curriculum. However, after two years of hard work we were receiving feedback like:

"My understanding has developed. I have increased confidence of teaching sustainability throughout the curriculum."
"We have raised awareness of environmental and social issues."

This case study explains how an 'ordinary' junior school managed to develop and introduce a sustainable curriculum.

Background

Brixington is a large, suburban junior school with over 400 pupils and staff. It is located in Exmouth, a large seaside town and popular tourist location in East Devon.

Our school is fortunate to benefit from extensive grounds. We have two large playgrounds, a large field and an area around the school made up of different habitats including a pond, an orchard and a wooded area. The school already had a feel for environmental issues, although staff felt we taught less about the wider world due to the constraints of the National Curriculum.

The school staff is enthusiastic and hard working, dealing with the demands of the curriculum. As a school we have always developed new initiatives and ideas, which put us in an ideal position to look at new projects.

One of these new projects was to try to develop a whole school approach to the teaching and learning of sustainable development. This case study explains how our school went through this process, sharing some of our experiences. We believe our process worked. However, other schools may work in different ways, but we hope that some of the ideas will be useful.

Making a start

Our process has followed through a series of logical steps that involved the whole school community in the development of the curriculum.

Coordinating team

Our first step was to set up a team that would have overall responsibility for ESD. Initially this comprised of two members of the teaching staff, who are now the subject leaders for ESD. However the team was widened to include a teacher from each year group and four teaching assistants. The subject leaders reported back to the School Management Team, the Head, the Parent Teacher Group and the Governing Body.

Staff development

Developing a sustainable curriculum does require a significant amount of time. We found staff knowledge in this area to be very limited , so our first step was to arrange an INSET day devoted to ESD, led by our County ESD Adviser and the two subject leaders. Devon is fortunate to have this expertise within the County Advisory Service, but there are many other organisations, eg Global Action Plan, that could have offered support in such a training day. The organisers were given time to plan the day in advance; a very important element in making sure the day proved a worthwhile event.

The training day was very successful, giving an immediate importance to our work and showing that ESD was becoming a school priority. It was followed up with regular staff meetings, initially aimed at increasing staff knowledge. We held an ESD staff meeting once a term for two years, and plan to revisit ESD at least once a year in the future. Themes included, 'Taking action', 'Transport', 'Decision -making skills' as well as time to review our position as a school. All sessions were open to all staff in the school.

The organisation of these sessions varied. School staff led some, whilst experts in a particular field led others.

Pupil involvement

An important part of our project has been the involvement of the pupils. Before we embarked on this project, we did not involve children in the running of the school, especially in decision-making. This was noted in our last Ofsted inspection report.

"The pupils' personal development is satisfactory, although it is not sufficiently progressive as pupils move through the school. Whilst younger pupils have some responsibilities within their own classroom, this is limited and it is not until Year 5 that pupils are given additional responsibility and the opportunity to show initiative." Ofsted report for Brixington Junior School, 6 – 9 December 1999.

Part of our action plan included the formation of the School Council, which meets every fortnight. Elections are held annually and two children from every class serve on the Council, along with four teachers and a teaching assistant. The Council reports back to every class, so all children are represented. A variety of sub-committees have also been set up, including grounds, finance and, more recently, a transport group which has led the development of a School Travel Plan.

The Council has fast become an influential body, taken seriously by the School Management Team. They have created their own policy that has been approved by the governors. They hold their own budget, manage a number of projects, have developed an Eco-Code and have the overview of our Eco-School work.

We launched our ESD work with the children through a special ESD Art Day. Every year group worked with an artist to produce a piece of collaborative permanent artwork, with a social or environmental theme. This was followed up later in the year with an Arts Week, which focused on art, music, drama and English.

Another pupil-led project has been the creation of a sustainable curriculum trail within the grounds. This project saw children plan, design and purchase materials needed to create this trail.

Making curriculum links

Once staff were beginning to build their ESD knowledge and understanding, we started our first piece of curriculum work. All subject leaders were invited to:

- link existing Schemes of Work to an ESD skill, resulting in a suggested ESD activity for every subject in every year group; and to
- write a policy statement about how ESD can contribute to their subject and vice versa.

The way this can be achieved will vary from school to school. We were fortunate to be able to release each subject leader from timetable for an afternoon, giving them the extra time they needed. And because they felt valued, they made the extra effort! We arranged for staff to meet together in small cluster groups, which enabled them to bounce ideas off one another. Other options could be to allocate part of a non-pupil day or staff meeting time.

The end result of this process was a document containing our own ESD lessons that were relevant to our school. From start to finish, the document took a year to produce, which meant that we had time to think and plan ideas. The lessons were all things that we were already doing, but with a sustainable feel to them, making them accessible and non-threatening to all staff. More importantly, it was not adding extra work to a crowded curriculum.

The second strand of our work was to produce a separate Scheme of Work for ESD for each year group. The two subject leaders created this, using the QCA formats. These were downloaded from the Internet as blank templates and can be easily adapted for any school. (www.qca.org.uk/) The themes are:

Our Community – focusing on the child's role within their family, school and local community, and comparing their lives with a child in a contrasting locality.
The Environment – this unit encourages the children to think about local, national and international environments. They are taught to value and appreciate their surroundings, and to consider how they will sustain their environment.
Re-use, Reduce and Re-cycle – this unit examines the resources that children use daily and compares their use with national and international trends. The children are encouraged to challenge their use of resources, thinking about needs against wants.
The Global Community – in their final year in primary school, the children think about their place as a global citizen and about how their actions can affect others. Issues such as fair trade are discussed.

Each Scheme was written in draft and then discussed with year teams before being finalised. Over time we have collected a lot of free resources from various organisations which we collated to support the Schemes of Work, buying additional resources to fill any gaps. We also wrote an ESD Policy, which contained the statements subject leaders had written in the previous year.

Once the plans were in place, we had a meeting to introduce the work to staff, giving us time to explain the plans, show the resources and answer any questions. This was an important part of the process if staff were not to feel worried or unsure about the work. Finally, the Policy and Schemes of Work were presented to the Governing Body before being adopted as part of our formal curriculum.

Every class will have at least six hours a year devoted to ESD in addition to aspects that are integrated into other subject areas. Because ESD has the same status as any other part of our curriculum, it has the same 'rights'. The subject leaders will monitor the teaching and learning, and a portfolio of good work will be produced. We will also have to report to the Governing Body about how the subject is progressing.

Action a term

We felt it was important to keep up the momentum and focus, so we currently have a school action a term. As a school, we agree a goal for the term (eg reducing paper use or developing a school transport plan) and try to achieve it. The children have been heavily involved in the development of these schemes, and we have a display showing the reasons for our action and the results. It is important that children know how the small actions they take in school will affect the wider world. Not all of the ideas we had worked. For example, we were offered funding to develop a 'virtual bus', but our school community did not respond to the idea, so the scheme never took off. We have found it is important to have these failures as they make our successes even more special.

The wider community

When we started on our project, we thought it was important to try to include our local community. We have gained support from local schools and universities, but have found it much harder to work with local businesses and other parts of the community: often the support they could offer did not have a relevant link to our curriculum.

Evaluation

An important part of the process we have undertaken is self-evaluation and improvement. Throughout the project development, we thought it was important to seek the views of the school community. Staff were invited to make suggestions as we progressed, and questionnaires were sent out twice yearly asking people to comment on the work we were introducing, asking for suggestions, etc.

More importantly, we talked to the children. We have set up an evaluation group containing 20 randomly picked children from across the school, whom we meet with every six months. They are asked a number of questions about their lifestyle, both in and out of school, which gives us an insight into how we are influencing them. We hope to see a rise in a more 'sustainable' ethos but have found this to be a slow process. It is often very hard to draw the 'best' answer out of a child!

Benefits of the project

At the end of the project, we feel that our work has had a major impact on the school. Children have more opportunities to have their say across the school; they are now a voice to be listened to. As a school we are better citizens, caring for each other, our school and our community. As a result of our work, we have started a vast range of other projects; many initiated by the children. Our curriculum is in place and we hope it will benefit many children for years to come.

The way forward

The process of developing a sustainable curriculum has proved to be a hard but highly enjoyable task, and the end results have been very pleasing. However, we only see this as the beginning of a longer-term project. The work is in place, but it needs to be sustained. We need to keep a focus on ESD, ensuring that the school community – now and in the future – is still working towards our agreed aims. To achieve this we envisage keeping an action plan active for the subject and holding yearly reviews. The Schemes of Work will be updated regularly. Other ideas for the future will include more dissemination of our work with our local authority as well as other schools.

Key success factors:

- Appoint a coordinating team.
- Seek School Management Team support.
- Add ESD to the School Development Plan.
- Involve the whole school community throughout.
- Give staff time and opportunities to develop skills and knowledge.
- Hold regular INSET (eg one staff meeting a term).
- Share work with others and look at what others are doing.
- Evaluate your work and improve accordingly
- Reflect and be PROUD!

This case study was written by Paul Walker and Anne Voysey, Brixington Junior School, Exmouth, Devon. Brixington Junior School closed July 2004. A new primary school was scheduled to open on the existing site in September 2004. It participated in Making it Happen from 1998 – 2000.

CS 19

RAISING AWARENESS AND CHANGING ATTITUDES THROUGH A WHOLE SCHOOL ESD CURRICULUM PROJECT

Holy Trinity Roman Catholic Secondary School, Birmingham

Background

Holy Trinity Catholic School is an inner city secondary school in the Small Heath area of Birmingham. The main focus of our curriculum project was to raise their awareness of local, national and global issues, and thereby encourage responsible decision-making, enable empowerment and raise self-esteem through the medium of education for sustainable development (ESD). WWF's Making it Happen scheme – which offered funding, training and consultancy to help schools on their ESD journeys – proved a valuable stimulus to this work.

Launching the scheme

In many secondary schools, the idea of a new initiative or extra workload is too much to bear. At Holy Trinity we went through the following processes to launch our scheme:

- organising an INSET for the ESD coordination team, supported by WWF;
- formalising an action plan;
- presenting the action plan to the Senior Management Team;
- meeting with the PSME Coordinator, librarian and department heads to discuss areas where ESD was already in place, and where new ideas and schemes could be embedded.

Our first whole school initiative was an Eco-Week. We asked all departments to provide a display of work on the theme of ESD to be displayed in the school library. As a staff we decided to make radical changes to the library on the Friday evening. The idea was that, whenthe students came to school on Monday morning, they would see just what could be achieved when people worked together as a community.

Every child in the school was involved, either with the display or the decorations and artwork needed for the 'Changing Rooms' style library. We had displays from English, IT, modern foreign languages, science, RE, geography, art, textiles and an accompanying Music Department soundtrack. Our inclusion unit also took part, so the whole school was involved. We devised a quiz based on the information in the display materials, and held an Eco-Poem and Essay Competition.

The Eco-Week allowed us to see where departments were in terms of their understanding of ESD issues, and from this we initiated a curriculum audit so that ESD could be formally identified in Schemes of Work taught across the school.

Student involvement

After the excitement of Eco-Week, a project to design and build a peace garden for the students to use was launched as a way of involving the students and showing them that their voices could and would be heard if they learned to access the most effective channels of communication.

In order to get the project up and running:

- we designed a school grounds scheme of work (a DfES scheme is now available in the citizenship orders to all schools);
- students photographed and measured out the site;
- students lobbied local Members of Parliament, the Chief Education Officer (in our case Tim Brighouse) and the Secretary for Education by writing formal, persuasive letters;
- when funding was secured for the plans, the students met with the landscape designers and showed them their designs. They insisted upon recycled materials and low water usage plants for the area; and
- the plans were drawn up.

Although we are still waiting to access funding for building the garden by applying for various grants, there has been an important change in attitude, with students gaining self-esteem and a belief in the eventual success of the project.

Activities and projects

As the academic teams worked on curriculum development, the following activities were organised to raise the profile of ESD and keep the momentum going:

- Peer reading – older students mentored and helped the Year 7 students (11 – 12 year olds) through a reading club once a week. They then went into our primary feeder schools to read and mentor the new Year 6 (10 – 11 year olds) intake in the Summer Term on a weekly basis.
- A public speaking competition, with ESD as the theme for the speeches – we won first and second place.
- A *TES* Newsday competition – our newspaper ran major ESD articles and features and won a Commended Award which two students collected from the Palace of Westminster.
- In partnership with Newspapers in Education, our students took over the letters page of the *Birmingham Post* on the subject of the litter in Small Heath. A highly recommended activity. Ring your local Editor – the children and parents could not get enough copies!
- A recycled fashion show – our Year 11 (15 – 16 year olds) textiles students designed and revamped old and worn clothes into trendy, wearable fashion items.
- A residential to Boscastle Youth Hostel in North Cornwall to assess the impact of tourism and compare it to eco-tourism such as the Camel Trail and the Eden Project.
- We joined the Young People's Parliament at Millennium Point in Birmingham; our students attend debates and activities on a regular basis.

- A paper recycling scheme has been established through Birmingham City Council.
- Al-can recycling bins are now on the premises.
- Staff and students bring in their old ink cartridges for recycling.
- A gardening/food produce club has begun on the urban farm attached to the school.

Our finalised curriculum audit showed us that ESD was being taught in nearly all curriculum areas where a specific ESD slant on the subject matter could reasonably be made. In other departments, such as geography and science, the links are far more obvious, as would be expected.

Our biggest project came just before the World Summit on Sustainable Development (WSSD). We decided to give Activities Week a sustainability focus. The whole school came off-timetable and we arranged gardening on the farm, fair trade and Cafod speakers, and a visit to the Centre for Alternative Technology. In conjunction with the Development Education Centre in Manchester, we organised a Key Stage 3 (11 – 14 year olds) Earth Summit that took place over two days. It was an amazing success as every child and every member of staff – including teachers, classroom assistants and learning mentors – took part. Staff delivered a rolling programme of preparatory lessons on fair trade, climate change and use of resources on the first day and then the students went into their country, industry, press and NGO groups to debate the issues and prepare their Summit speeches.

To do this in your school (an activity we would highly recommend), try to ensure that a member of the Senior Management Team takes on the lead coordinator's role as they have more influence over the timetable and other logistical issues.

Finally we sent two members of staff and two students to Johannesburg to the WSSD. One trip was funded by the Young People's Parliament, and another by the National Trust, through a Birmingham Schools' competition. The school has also now appointed a Citizenship/ESD Coordinator.

This case study was written by Diane Henson, Holy Trinity Roman Catholic Secondary School. Holy Trinity serves about 230 pupils in the urban Small Heath district of Birmingham. It participated in Making it Happen from 1998 – 2000.

CS 20

INTRODUCING ESD AS A WHOLE SCHOOL PERSPECTIVE

Prestwich Community High School, Manchester

Background

Prestwich Community High School is an 11 – 16 developing school in a suburban area which is almost wholly residential. Before the school became involved in education for sustainable development (ESD) and WWF's 'Making it Happen' scheme – which offered funding, training and consultancy to support schools in their ESD journeys – there were several on-going projects that were successful, but we lacked an all-embracing approach. It is sometimes useful to have a whole school project to which everyone can contribute. Since we seemed to be constantly complaining about litter around the site, issues relating to the environment seemed to be a high priority for whole school development. Students were already demonstrating their concern for the environment through the existing curriculum, and we were therefore influenced by that concern to formulate a project that we felt would give students an opportunity to 'make a difference'.

Schools are very busy places so it was important, at the outset, to ensure that any whole school drive for sustainability would not encroach on the schedules of teachers already working hard. Any such project is unlikely to receive support and will soon flounder. In our experience, a whole school approach also has to have the support of the Senior Management Team so that the whole school can see that it is endorsed at the highest level. Communication is also important. We found full school assemblies a most effective medium for reaching staff and pupils, delivering messages instantly, as well as reminding them that this is a whole school initiative that concerns them all.

Having launched the idea of a whole school environmental bias, we then set about formulating a number of specific projects. As with most schemes in school, we knew that there would be a small group of active staff, a further group of staff willing to help from time to time, but that the rest of the staff, though willing to support, may not have any available time to do so. To ensure the success of the scheme, the rest of the staff had to be convinced that it was a positive development for the school, and one which they could support without having to devote too much time to it. This group 'make up' was mirrored in the student body: a small group of active students, those who assisted from time to time, and the remainder who had to be kept informed! We felt it was vital that any projects had to involve students at every stage, so that they felt some ownership. Each project also

had to demonstrate to the wider audience of students that there was some real tangible benefit for them. Since children are genuinely worried about environmental issues, we only had to harness that concern.

Project work

It's all very well trying to promote educational sustainability, but what about project sustainability? How can you keep a project going?

One tip is, don't do it all yourself! In essence you need a small management group to drive the thing along – coordinating, evaluating, steering. Another is, don't just have one project, but several. You may have one long-term project running which does not require much input to sustain, and several shorter-term projects which may require more time, but here you can involve interested staff. Whilst the longer-term project emphasises the whole school approach, the shorter-term projects should offer opportunities for ESD in practice to be emphasised in different curricular areas – 'spreading the word', as it were. Schools are very dynamic institutions, and effective projects are those that 'drip-feed', so introduce ideas by a variety of means.

Before describing the various projects we initiated, it might be useful to set out some of the different approaches to project work that helped us in formulating the process. This is essentially a classification of projects. We felt it was important that, overall, our projects addressed each of the following issues in different ways:

- support for a whole school perspective, targeting all ages and abilities;
- the need for a tangible result that is clear and distinct;
- the need to be firmly embedded in, and give support to, the curriculum;
- the involvement of staff and pupils;
- the need to support the aims of the school and address issues in the School Development Plan;
- the benefits of addressing a small but clear issue, with a short-term life span; and
- the desirability of reaching out to the wider community beyond the school.

The whole school approach

Closest to home is our own school environment. Staff and pupils alike had previously raised a number of issues relating to the environment. These included a lack of seating areas for pupils and a generally untidy environment due to litter and waste. The student School Council was involved in discussing these issues from the outset. These student representatives in turn discussed the issues with the wider student body. If money could be generated, this could fund pupil-seating areas. If reducing litter could generate money, then both issues could be tackled together: the answer was to recycle.

The scheme was launched at full assembly and action was taken.
To encourage recycling, a long-term project was started:

- extra rubbish bins were provided;
- special bins were provided at certain sites for clean paper, cans, etc;
- a local company agreed to collect recyclable waste, generating money;
- a whole school art competition encouraged pupils to look at these issues and produce posters for display; and
- a newsletter to parents asked for support, encouraging them to reduce waste in their own homes.

To reduce waste, a short-term project was set up. This involved the following:

- student participation in a 'waste survey', measuring waste generated by the school and where it came from;
- a national project offering sponsorship for us to reduce waste; and
- changing practices within school to reduce the generation of waste.

In order for teaching and learning to benefit:

- work was undertaken in PSE to look at the environment of the school;
- best practice was identified by students; and
- work schemes were rewritten to include our new emphasis.

Catering procedures and practices were also changed, for example:

- using fewer food items involving disposable containers (eg no sachets!);
- a reduction in 'take away' containers and wrappings; and
- offering a better variety of food to reduce packaged food being brought on site.

Whilst the recycling scheme focused views and generated the monetary bonus the students needed to give them their desired seating, the change in catering arrangements had the biggest impact. Perhaps it was opportune that the school was embarking on a re-negotiation of the catering contract so that the School Council, along with Management, could ensure that the contract clearly specified changes in relation to reducing waste. By offering a better variety of foods (some with a healthy eating bias), sold at break as well as at lunchtime, pupils were less inclined to buy packaged food and sweets to bring to the school to eat, leading to a reduction in wrappers deposited about the site. Sachets of tomato ketchup, etc were replaced by bottles, and food was presented in safe, clean, but minimal wrapping, again to reduce waste. Students were extremely responsible about these changes, and embraced them fully: the proportion of students now eating a healthy snack in the middle of the day, rather than gravy and chips, has increased considerably.

The curriculum approach

PSE: A PSE project in lower school encouraged pupils to look at the litter problem and come up with solutions. Year 7 pupils (11 – 12 year olds) studied the local area and community. They worked with the local shopping precinct to redesign the central courtyard with an environmental theme. They also conducted surveys on litter in the local community, representing their views on possible local environmental improvements to the Youth Forum Group, comprising students and members of the local community. A project for Year 8 (12 – 13 year olds) called the 'Earth Summit' involved a day off normal timetable, looking at issues relating to the Earth Summit on the environment and debating them in a mock council. Students lobbied supermarkets about stocking fair trade products, which helped them to realise they had power as consumers.

ICT: Time was made available within ICT for students to explore Internet sites relating to the environmental concerns of other countries.

Geography: In Geography, Year 7 pupils (11 – 12 year olds) produced a newspaper report on the causes and effects of global warming, researching solutions that they could implement at home. In this way energy efficiency became part of their daily routine. Year 9 pupils (13 – 14 year olds) investigated aspects of eco-tourism in Kenya, particularly the future of safari and beach holidays, making comparisons between the two. Students identified the characteristics of an 'offensive tourist' and made a list of rules to improve their behaviour on holiday with respect to the local environment – a list which could also be used to assist them in evaluating their behaviour in their own community.

The small project approach

A number of short-term projects were started. These were used to spread the emphasis on ESD into other curricular areas of the school and involved a wider audience of teachers and pupils. They included:

- A statistical investigation in maths as to how students travelled to school. This resulted in a debate about bicycle storage facilities at the school. The school made an area available for safer storage, encouraging more pupils to come by bike, rather than relying on cars for transport.
- As part of a school Industry Day, all pupils engaged in a fashion show with a difference. They were given (clean) waste materials, and teams were challenged to dress one member of their team in the materials. This project emphasised that many materials disposed of by one person, can be used by another, perhaps in a different way. The resultant 'fashion show' stimulated much debate! Conceived and managed by staff and pupils, this short-term project will now feature annually in our Industry Days. Students were encouraged to bring in old outfits that they were throwing out and customise them. In this way students were keen to wear the outfits after the event rather than just discarding them.

Eco-Club

The energies of a group of particularly interested pupils have been harnessed in an Eco-Club, which complements the activities of the School Council in supporting the aims of the overall project. We considered this paramount, to harness the imagination of pupils to assist in the creation of further project work. The group has been involved in several landscaping projects on the site and has introduced some protected plant species. They have contributed to several local environment fairs and, through these, other schools are seeing the benefits of the whole school approach to ESD. The club has attracted external funding to ensure its sustainability.

Conclusion

The many staff and pupils who have given their time to support these ESD projects have encouraged others to realise the importance of the initiatives to the whole school. Through careful planning and attention to the process by which projects were introduced to the school, it was possible to integrate the ESD approach into existing practices, which will assist in ensuring that ESD will be sustainable within the school. Evidence of the success of this approach is that ESD continues to develop, despite the fact that two of the three staff originally leading the work have moved on.

The key benefit for the school and the pupils has been the whole school focus of the ESD approach. It was soon embedded within the ethos of the school and has created new opportunities for students to contribute to school development.

The future…

We see the work as only just beginning. Some longer-term projects will never go away, whilst the shorter-term projects will come and go.

What we have detailed is a means by which we have introduced a whole school emphasis on ESD, which has then paved the way for more project work. Once that focus is there, it is easier to set up and run other projects that support the over-arching theme.

Our continued work on ESD will, in time, encourage other curriculum areas to integrate the whole school approach into their Schemes of Work. Developments for the future include third world consumer affairs in 'Food Technology', sustainable materials in 'Resistant Materials', encouraging environmental considerations in 'Graphic Products', and in RE an appreciation of the philosophy behind ESD in respect of world religions.

Through the local Development Education Project (DEP) in Manchester we are beginning to develop links with schools in Brazil and hope to extend this to schools in other countries, with the support of the British Council. The focus will be joint work on ESD issues, sharing concerns and considering solutions for perhaps different problems.

Together we will create opportunities for children to learn and to explore ideas in relation to environmental concerns.

This case study was written by Graham Newman, Deputy Head Teacher, Prestwich Community High School, with assistance from Cath Roscoe, Head of Citizenship, and Victoria Catton, Head of Geography. Prestwich serves more than 800 pupils in suburban Manchester. It participated in Making it Happen from 1998 – 2000.

CS 21

EFFECTIVE ESD TEACHING AND LEARNING IN AN INNER CITY PRIMARY SCHOOL

Shacklewell Primary School, London

Background

Shacklewell is an inner London, two-form entry primary school, with approximately 450 children and over 40 teaching and non-teaching staff. The level of social deprivation and diversity of cultures within the local community is reflected in the school; for example, 20 mother tongues are spoken in the nursery and over 70 per cent of pupils throughout the school qualify for free school meals.

Aspirations

The staff were keen to develop an education for sustainable development (ESD) project which would integrate core ESD issues (for example, waste minimisation, energy, water, transport, consumerism, biodiversity/nature conservation, development education, global citizenship) into relevant areas throughout the curriculum from Nursery to Year 6 (10 – 11 year olds). We also wanted to relate these issues to pupils' daily lives and to the running of the school. WWF's 'Making it Happen' scheme – which offered funding, training and consultancy to support schools in their ESD journeys – seemed to offer us a stepping stone.

Through an ESD approach to teaching and learning, we hoped to encourage critical and independent thinking, class and group discussions, democratic decision-making, and a sense of personal 'sustainable responsibility' among the school community. We also wanted to enable children to relate their newly developed knowledge and skills to local and global environmental issues – and to suggest solutions.

We felt it was important to follow learning with practical action, and we therefore planned to develop the school grounds into a pleasant environment in which children could socialise, play and learn, and which parents and the wider community could contribute to, use and enjoy. We also planned to provide areas within the grounds, managed by children, parents and staff, for nature conservation, the increase of local biodiversity and organic food growing. In this way we hoped to raise awareness of environmental issues and to influence the environmental attitudes and behaviours of children, parents and the wider community.

Constraints and difficulties

The constraints and difficulties we faced are typical of many schools, particularly in inner city environments. A reduction of LEA services has meant that schools have been left without specialist advisers and no 'official' support or encouragement for initiatives such as ESD. Within the school there are some 'challenging' children. The National Curriculum and literacy and numeracy strategies have imposed constraints, and teachers often feel too overloaded to take on 'new outside initiatives'. High staff turn-over and low levels of awareness of environmental issues can lead to 'uninformed' attitudes and lack of interest in ESD. Many children and parents are preoccupied with problems such as crime, poor housing and health, litter and graffiti, and other social factors, which they feel powerless to deal with. This sometimes makes it difficult to interest and involve them in wider environmental issues and other aspects of school life.

So why bother to teach ESD in environments such as this?

The rate of environmental degradation taking place requires urgent action. Much of the onus falls on educators to inform and influence the knowledge and actions of others, particularly those of future generations. Indeed, a number of research projects "report school as being the second most important source of young peoples' environmental information" after television (Mark Rickinson, 2001, "Learners and Learning in Environmental Education", NFER). We feel strongly that all children are entitled to the knowledge that will enable them to make informed choices about their future and the future of other species on the planet. The teaching of ESD empowers children to take responsibility, and to become active citizens, aware both of their rights and of the constraints upon those rights in a local and global context.

It is possible to use problems in the local environment as a starting point for looking at global issues. This helps children to understand that:

- most local problems are related to issues of sustainability;
- the solutions usually have both local and global implications; and
- everything we do has an effect on the world in which we live.

We feel that these local/global links should act as a catalyst, not only to change children's attitudes and behaviour, but also to influence that of their parents and other adults within the school and wider community, and to encourage closer involvement in school life. And although often 'challenging', it is our children – in the main energetic, 'feisty' and undaunted by class and status – who particularly benefit from and excel at this kind of teaching and learning. It enables them to become critical, independent thinkers, and more active, effective learners which inevitably helps to raise the overall 'quality' of learning and achievement in school.

Finally, it is our belief that the teaching of ESD encourages teachers to exert some professional control over the content and methodology of delivering the curriculum. And support is out there – in the shape of the local community and voluntary 'environmental and development' organisations, as well as many national ones, which are an invaluable help to us in teaching issues of sustainability.

How did we begin?

Our initial plans included the development and improvement of the school grounds, so that both children and adults within the community could be given the opportunity to experience and enjoy 'a green space'. We also wanted to use the school grounds as a teaching resource to raise awareness of the impact of human activity on the natural world, and of the contribution school grounds can make to biodiversity and therefore to sustainability. A first step was to extend the remit of the school post-holder for School Grounds Development, Humanities and the Environment to cover ESD. We also involved parents and staff in a voluntary group to work on the school grounds, with a stated aim of 'improving them for educational, recreational, social and conservation purposes'.

To support the work, we set up a children's after-school environmental 'Watch Club' – part of a national network of clubs supported by local Wildlife Trusts. We also decided to seek support and information from local and national non-governmental/voluntary organisations who give enormous support for many aspects of environmental, development and citizenship education.

Another important element of our initial plan of action was the decision to seek funding from a variety of sources: many educational organisations, trusts and private companies have money specifically allocated for environmental and educational purposes. And to keep the momentum going – and attract further involvement and sponsorship – our initial plans included making our work as high profile as possible: sending out newsletters to parents, holding both social and 'work-day' events, giving assembly presentations, organising whole school projects, and becoming involved in local and national developments and award schemes which might also attract publicity.

Policy, paper and practical initiatives

This is how we set about achieving our goals:

- The Humanities/ESD Coordinator began work on a humanities Scheme of Work incorporating environmental and development education issues, and a school ESD Policy covering both the curriculum and school management.
- In order to involve the whole school community, a competition was held among families to produce a logo and amongst staff to come up with an acronym for a school grounds improvement group.

- A landscape architect from the Trust for Urban Ecology (TRUE) was employed to hold grounds improvement consultation sessions with children and staff.
- An after-school meeting was held with parents at which they were invited to make 'post-it' suggestions for future developments on photographs of the grounds. These suggestions were then incorporated into a master plan by TRUE.
- As a result of this meeting, GOSH (Gardeners of Shacklewell) was established and drew up a constitution, a set of aims and objectives, and a resolution to work to the school's Equal Opportunity Policy. This enabled us to gain charitable status.
- Applications were made for money to fund work in the school grounds, initially to organisations from lists provided by the British Trust for Conservation Volunteers (BTCV) and Learning through Landscapes (LTL).
- High profile funding was awarded from the 'My Place – Our Place' and 'Business in the Community' schemes. These attracted local publicity, valuable contacts, an invitation to an event at St James's Palace hosted by Prince Charles, and a strong base for beginning our work and applying for future grants.
- Environmental experts such as TRUE, BTCV and a local nature reserve were involved/ employed to advise on and oversee our projects.
- Weekend workdays and after-school sessions were held to develop raised flower beds, a multicultural garden reflecting the diversity of cultures within our school community,
  a wildlife pond, and the regeneration of a small indigenous woodland area within the grounds, with a tree and habitat trail.
- A health and fitness trail was built by a commercial firm with murals alongside it, designed and painted by Year 6 children (10 – 11 year olds) after working on aspects of 'healthy living' as part of the 'Healthy Schools' initiative.
- A local artists' group was employed to make wooden seating and 'sensory' planters for infants to care for. These divided the infant playground into 'zones'. Staff allocated new equipment for children to use in each zone, helping to improve the children's playtime experience as well as their behaviour.
- Successful discos, summer fetes and sponsored activities were held by GOSH, with support from other parents and staff, raising both funds for and awareness of our work on the grounds.
- INSET was held, including: a WWF introductory session to raise awareness of issues of sustainability; a session on the outline of the new humanities Scheme of Work, when teaching staff were able to view critically, discuss, raise concerns and choose new resources from a range of NGO and commercially produced books and packs; a twilight session to raise awareness of how the grounds could be used to support the curriculum, especially ESD.
- The Watch Club became involved in 'Children for Change', a national pilot scheme to demonstrate how children can choose and direct a project which brings about local environmental change. They decided to take the lead in setting up a high-profile recycling scheme in school for paper, textiles, cans and cartons. With staff and parental support, they took part in a 'design and make' project for recycling and

composting areas in the grounds.

- Other Watch Club activities have included artwork, environmental games, gardening and visits and residentials to the 'Mission Earth' environmental programme at PGL, the Centre for Alternative Technology, marine environments in Dorset, and the Earth Centre. These broadened the children's experience and made them more environmentally aware (as well as being fun!).
- In May 2000, four children attended the Millennium International Children's Conference on the Environment at which children from all over the world met to discuss projects going on in their countries.
- The Watch Club children have also been involved in extensive pro-active 'environmental campaigning'. They have written to and taken part in a deputation to the local Council, and lobbied the Greater London Authority (GLA) and Central Government on issues surrounding waste minimisation and recycling locally and nationally. They also took part in GLA strategy consultations and a London Youth Parliament.
- They have initiated an adopt-a-species project, leading research with each class into a chosen species of indigenous wildlife, to understand and develop the conditions necessary to attract them to the school grounds and increase biodiversity.
- We set up an Eco-Schools Committee consisting of children, parents, staff, a governor/local councillor and a representative from the Environment Agency. The committee initiated a plan to apply for the Eco-Schools Green Flag.
- Using 'mock election' procedures, a junior School Council was set up. Its main achievement so far has been to consult with classes to begin to improve choice/equipment in the playground and ultimately to improve behaviour.
- A school grounds open day was held to raise awareness of our developments among parents and the wider community, and to recruit more people to our group.

Our successes

Fundraising and communications – virtuous circles!

We applied for funding from many different sources – educational, community and environmental organisations, local businesses and charities, city firms and trusts, as well as applying to major awards that help to promote ESD, for example London in Bloom, the RSPCA Animal Friendly Award, the Tree Council, LTL and BTCV. Successful applications and projects were followed up by maximum publicity, achieved by, for example, inviting local dignitaries, councillors, MPs and the local press into school. This helped to raise awareness and to attract further funding. Fundraising, sponsored and other events popular with children and parents, such as discos and fetes, also helped to raise awareness of our work and involved parents who are not necessarily interested in the school grounds work.

Making links and looking outwards

We strive hard to apply 'joined up thinking' to our curriculum planning, ensuring that, as far as possible, there is a wide and varied curriculum – especially in science and humanities – and that every opportunity is taken across the curriculum to draw out relevant ESD issues, supported by

appropriate resources to extend both pupil and teacher knowledge.

We also joined in with the regular celebration of events to raise awareness of issues of sustainability/development education, for example Black History Month, Refugee Week, Tree Week, Environment Month, School Grounds Week and involvement in special projects offered by organisations such as LTL, Waste Watch, WWF and others offering 'virtual' sustainability programmes and internet debates.

Beyond the school, we also engage in constant lobbying of the local Council, government departments and other agencies to get ESD issues recognised and promoted locally and nationally.

Sharing skills and knowledge
We made a point of becoming involved with other local and national environmental and development groups and schemes. We swapped skills and knowledge, and sought help, advice and support by, for example, inviting them to come into school to give assembly or class presentations, INSET sessions, or to work with classes to increase pupil and teacher knowledge and awareness. Parents with particular 'expert' knowledge and skills were also targeted.

We also capitalised on the skills and enthusiasm of the children, encouraging them not only to work within the school, but also to become involved in wider environmental issues, and to lobby and campaign on the issues they consider important.

Difficulties we have encountered – and how we are overcoming them!

Parents from our gardening group leaving the school and difficulty in persuading new parents to join GOSH
Encourage more parents to join by building on the success of our open day, sending out newsletters, holding more social events and social/workdays, and targeting parents new to the school.

Failure to interest parents in contributing ideas for plants and artefacts in the cultural garden
Work with the school's Ethnic Minority Achievement Scheme (EMAS) teachers to hold targeted cultural celebration days, which include garden consultations. We have held two very successful Nigerian days and have begun plans for similar Turkish celebrations.

Lack of teacher time and knowledge
Ensure that ESD opportunities have mainly been identified through existing areas of the curriculum, minimising extra time needed, and that resources are available to increase teacher knowledge. Involve all staff in a dedicated INSET day and all classes in the adopt-a-species project, making each year group responsible for their own raised planters. Devise an ESD induction

process for new staff.

Lack of support from the local education department
Adults and children to continue to lobby local/national politicians and Council officers to make them aware of how we want our project to progress and of the importance of ESD in schools. Continue to be involved in local environmental initiatives, for example, the local Biodiversity Action Plan (BAP) and 'advertise' the fact that the school grounds have been declared a 'Site of Importance for Nature Conservation' by the GLA.

Lack of wider school community awareness of environmental issues
Send out newsletters, hold in-school displays, curriculum evenings and assemblies, and more grounds 'open/activity' days, etc.

School Council meetings not taking place as frequently as originally planned
Hold a high-profile election process in the new school year. Designated teachers to deal with meetings and issues arising, with time out of class and a small budget. School Council training for both staff and pupils to be arranged.

A reduction in the amount of recycling and composting
Work with our local recycling group. Offer environmental incentives, such as Watch Club Gold Award Badges, trophies for the classes who recycle most, and certificates for individual environmental achievement.

The future

We plan to:

- introduce a 'Playground Partners' scheme, initially in the junior playground, involving teams of specially trained children to help ensure the better use and enjoyment of playground equipment and games, solve minor conflicts and support children who are lonely, upset or the victims of bullying;
- finalise the development of beds where each class will have a 'strip' for growing vegetables and fruit trees using organic methods, increase the amount the school community composts, and design an interpretive fence for the compost area to make it more 'attractive and acceptable';
- work with artists helping parents and children to make murals;
- employ a story-teller/wood carver to design and make a 'story-tellers throne' in the quiet garden;
- design and make willow structures to improve the aesthetics of the grounds, provide shade and make children aware of a traditional craft;
- obtain funding and planning permission to have a 'sustainable' outside classroom/after-school club room built using renewable energy, etc; and

- order more seating so that we can all sit back and enjoy the grounds!

This case study was written by Sandra McLeod and Fanny Bloss, Shacklewell Primary School. Shackelwell serves about 440 pupils in urban Hackney, a district of London. It participated in Making it Happen from 1998 – 2000.

CS 22

DEVELOPING POSITIVE PLAYTIMES THROUGH THE USE OF AN INFANT SCHOOL COUNCIL

Tolworth Infants' School, Kingston-on-Thames

Setting the scene

Tolworth Infants' School is set in a suburban environment in south-west London. It is a three-form entry community infants' school, sharing a large site with a sister junior school. It serves the local socially and culturally diverse neighbourhood where families live in a mix of private and public housing. Out of 300 pupils, about 20 per cent are on the Special Educational Needs register and 20 per cent have free school meals, with a similar percentage having English as an additional language. This is slightly above the national average.

Tolworth's work in the area of education for sustainable development (ESD) has included the general improvement of the outdoor environment, creating a wildlife area as a science resource, and exploring 'green' travel. However, the most successful aspect of our ESD work so far has been the improvements in our playtimes.

School playtimes were an issue for us as we observed that children were either continually seeking adult help to resolve conflicts or squabbling with one another, bringing playground issues into the classroom because they were unresolved and frequently wasting valuable teaching time.

The play area, whilst including an attractive adventure playground, was otherwise rather bleak and uninviting. There was also a space called 'the amphitheatre' that looked like a large, circular, but empty, pond. It was an area of hazard and children were often hurt when playing there.

Another problem we identified was that many children lacked the skills to express their emotional needs and this also contributed to the conflicts. Children seemed unable to cope with unstructured playtimes and spent time either in over-exuberant physical play or else wandering aimlessly round the play areas. They did not have a repertoire of traditional playground games to fill their time.

Our mid-day meal staff saw their role as purely supervisory, and, rather than dealing with the situations themselves, continually sent children to teachers for reprimands! We noted that certain children always seemed to be the ones identified as 'culprits' in the playground, but on closer investigation were often found not to be the catalyst for conflict. This frequently meant that the communication between teachers and mid-day meals staff was simply one of giving and receiving 'bad news'!

Our School Improvement Plan had already identified the need to improve the quality of our external environment. We had also secured funding, training and consultancy support for an ESD project from WWF under their 'Making it Happen' scheme. As a result of our playground observations, we decided to use our WWF award to develop a School Council and to put in place structures to develop our children's emotional literacy and citizenship skills. It seemed logical to put these two issues together and see if we could create a third development: a more positive playtime for all children and adults.

What we did

Circle Time and conflict resolution

All our teachers already head a 'Circle Time' each week but it became clear that Circle Time was interpreted differently in practice. It ranged from 'show and tell' news type activities to activities focusing on particular aspects of our PHSE programme. We decided that we wanted the Circle Times to support our School Council. We therefore arranged whole staff training to ensure a shared understanding of the purposes of 'Circle Time' and to give confidence to staff to be able to provide consistent, quality sessions in all classes. Once staff felt they had a clear understanding of how to use Circle Time to support a School Council, we were in a position to begin to introduce the Council to the children. We also looked specifically at conflict resolution and teaching children strategies for resolving their own difficulties.

School Council

The key issue to overcome at an infant school, is the need to get young children trained and skilled in how a School Council works, and able to effect some changes before they move on to the junior school. It is important that children see real change so that they have concrete evidence that they can make a difference.

The concept of a School Council was the focus of a whole staff training session, and then two members of staff went on a training day to learn how to facilitate the Council. Once we had staff trained and aware, our next step was to introduce the idea to the children. This was done in class groups, and eventually councillors were elected and trained by a representative from Schools Councils UK. This had the added advantage of training a member of staff for future councillors. We chose not to include Reception children (4 – 5 year olds) in the Council meetings, but to seek out their concerns and issues by councillors visiting their classrooms following a Circle Time session.

Playground environment

The first issue raised by the Council was the quality of the playground surface which was old tarmac and very gritty. It caused them to skid and

fall, grazing knees and hands and getting the grit into wounds. They were very clear that they wanted a new playground surface. They also wanted to get rid of the playbark under the climbing apparatus as, to use their words, "it gets in your mouth when you fall". A deputation presented their concerns to the Head Teacher who responded by obtaining quotations for the cost of resurfacing the tarmac and the playbark area. The costs were related back to the Council who readily accepted that only one request could be afforded from the current budget. They then sought out the opinions of every class as to the type of games and toys they would like in the play area and, as a committee, made choices about the designs of games and toys to be included. They were given a budget for toys and selected them from a catalogue before presenting them to the school during an assembly, explaining carefully the organisation and safety rules. They submitted their choice of designs to be painted on to the new playground and these arrived over the summer ready to be enjoyed by everyone at the start of the year, except for the Year 2 children (6 – 7 year olds) who were now in the junior school.

Part of the playground resurfacing also included support from our Parents / Teacher Association, which funded some attractive benching round the five playground trees as well as supplying new picnic tables with games and activities on them.

Friendship stops

We had used friendship stops in the past but, over time, they had weathered and damaged and were not well used by the children. However, the re-introduction of a 'friendship stop' was one of the solutions put forward by the Council to help 'lonely' children at playtime. To raise the profile and purpose of the idea, they held a competition to design a new stop with the winner being used on our friendship stop. All children, including Nursery, were involved in voting for the winning design. This reinforced the purpose of the stop to all children, and facilitated plenty of discussion about friendship.

Playground buddies

Another of the Council's ideas was to have special playground 'friends' to wait at the stops to meet the children who were looking for a playmate. They wanted this to avoid children "looking a bit sad at the stop". The children then discussed and decided on the qualities a playground buddy would need. We were struck by their perceptive comments and also on their self-assessment as suitable candidates. One child decided he was sometimes too grumpy to be a buddy but we did persuade him that, as he could now control his moods, he was probably very capable of doing the job! All prospective buddies were interviewed and selected using questions the Council had devised. Distinctive bands were made by a parent for the newly trained buddies to wear when they took up their role. A clear code of responsibilities and duties was decided upon with the support of our lunchtime manager:

- six children should be on buddy duty each day;
- there should be only one 'buddy day' per child per week;
- any problems should be referred quickly to the lunchtime manager;
- buddies should be trained in the 'game of the week'; and
- any complaints about a buddy would be discussed by the Council.

The Council officers presented all this information in a school assembly so that all children were aware of the purpose and roles of the buddies and able to apply for the job. Each councillor managed the applications for their particular class.

Benefits of the work

We have demonstrated to children, in a very real way, how they can make a difference to their environment and experiences in school. We have given them the opportunities to learn about the democratic process and to see how it can affect change. But the work has also demonstrated to sceptical adults that little children do have clear opinions and ideas, and can negotiate good solutions on a wide range of issues, taking on board the consequences of decisions they make.

The benefit for the school as a whole is a lunchtime playtime where the majority of children are purposely occupied in play and are better equipped to deal with any friendship problems that may arise. We have less unnecessary 'telling tales' as children become more assertive and more able to resolve their own difficulties, choosing to involve adults more appropriately.

More adults feel confident in the ability of the children to take responsibility for their actions, staff feel more empowered themselves and the school ethos is greatly enhanced.

What next?

As an infant school, there is less learning time for younger Council members to observe the processes and to help to maintain the momentum of the Council when they are ready to take on an officer role. To overcome this we have devised an induction package for the start of the school year. The school has made the commitment to provide the facilitating teacher with time to do this important work over one week in September.

Staff, who have seen the benefits of a School Council here, have set up new councils when they have found promotions in other infants' schools, so the good work is sustained and developed in other school communities. As our junior school does not have a School Council, we have work to do to persuade the staff there of the benefits.

This case study was written by Elaine Joyce and Anne Porter, Tolworth Infants' School. Tolworth serves around 300 pupils in the suburban Tolworth area of Kingston-upon-Thames. It participated in Making it Happen from 1998 – 2000.

CS 23

SUSTAINABILITY IN ACTION: INVOLVING THE LOCAL COMMUNITY

Uplands Community Technology College, East Sussex

Background

Uplands Community Technology College is an 11 – 18 school for just over 1,000 students, which also runs an Adult Education and Youth Service. It serves a predominantly rural area of East Sussex, and lies close to Kent (Tunbridge Wells is 10km away). Students at Uplands belong to a school at the heart of an active community. They are proud of their environment awards and enthusiastic about encouraging sustainability with community partners. Our commitment to lifelong learning is recognised in partner primary schools and by the local farmers learning ICT skills in rural Sussex villages through the 'UK Online' initiative.

Like many other secondary schools, our students are involved in recycling, improvements in the school grounds, energy and water conservation, litter and transport. They have also had a significant input over a period of years through the European Eco-schools initiative. However, we wanted to move the school beyond an Eco-School focus to a wider education for sustainable development (ESD) approach. WWF's 'Making it Happen' scheme helped us in this aspiration, offering funding, training and consultancy to support us in our ESD journey.

Energising an energy focus: an 'Energy Day' for partner primary schools

Uplands initially hosted an introduction to *Energy Matters* (published by CSE, CREATE, Shell Education) for its own staff and other schools. Following this, interested staff were invited to discuss the merits of a whole day devoted to sustainable energy organised by the College ESD Coordinator. The ideas were then brought to the ESD Steering Group for further discussion before being presented to the Primary Liaison Group, which meets half-termly. A date was fixed and notified to all partner primary schools, and rooms booked at Uplands. The link Senior Manager, the College Vice-Principal, was involved throughout. His role was important in making sure Senior Management endorsed the day and that rooms were made available for the event.

Entries from all partner primary schools were encouraged via a competition for Years 5 and 6 (9 – 10 and 10 – 11 year olds, respectively), devised by a member of the Science Department and based on material in *Energy Matters*. There were 15 places allocated for each primary school, plus a member of staff. The children were asked to complete a survey of energy use in their homes and to bring the results with them on the day.

It was decided that Uplands' Year 8 students (12 – 13 year olds) should host the day and act as 'buddies' to the primary children. These students registered the primary visitors in the College reception area and each participant was allocated to one of five groups – 'Tidal Barrages', 'Solar Panels', 'Wind Turbines', 'Hydro Generators' and 'Geo-thermals' – each made up of one Year 8 student supporting two primary children.

The day began in the main hall with a welcome and introduction by the ESD Coordinator, before the circus of activities began! The activities chosen were selected because they could be run by our staff or 'owned' by external agencies. Communicating the outcomes of the day was seen to be of vital importance, so at the end of the afternoon everyone gathered in the hall again and each group prepared a display. These were judged by visiting experts from CREATE, Seeboard and Wealden District Council and prizes awarded. All children received an energy-saving light bulb and information to take home on how to use energy more sustainably.

From the start, Uplands saw ESD as needing to be securely rooted in the community. Regular environmental assemblies using external speakers take place to broaden the knowledge of students. The 'Energy Day' gave us an opportunity to involve members of the wider community in the work of the school. The support of these 'experts' was a vital element of the day, giving specialist technical input and enabling students to work in small groups in which they were more able to contribute actively. The experts were also able to bring along additional resources and equipment not normally available to the students.

The whole event was judged to have been a success and will be repeated in two years time with new Years 5, 6 and 8 (9 – 10, 10 – 11 and 12 – 13 year olds, respectively).

Developing a sustainable garden

"Do you fancy improving your local community, managing your own project and sharing what you know with others? Would you like to get funding, training and support to do it?" Thus ran a press release from the Young People's Trust for the Environment and Nature Conservation. Well, two of our sixth formers did, and submitted an application for a £3,500 Millennium Award. They were successful in their bid to design and make a sustainable garden in the grounds at the back of Uplands Youth and Community Centre.

The Community Youth Manager and the ESD Coordinator supported the Sixth Formers throughout the project, and a whole cross-section of the community has been involved in creating a sustainable and educational garden. A local landscape manager advised on design and construction. Sixth Formers spoke at public meetings and went to groups and individuals

asking for participation with digging, landscaping and planting. Local businesses were approached for additional funds to supplement the grant. Signs by each plant with a description of their use or purpose and the fauna associated with the garden, drawn by the Brownies, have been incorporated into the design. Disaffected young people from Uplands and other neighbourhood secondary schools created a pergola and a fishpond as part of a summer project supported by the Youth Service.

What have we gained through the Millennium Garden?

Work on the garden has helped to raise awareness of sustainability in the upper part of the school and with all the participating groups. It is significant that Sixth Formers use the Youth Centre as their social and recreational base.

The project has also encouraged many positive and productive links. For example, the College Technology Department produced the information boards with local groups (Youth Clubs, Duke of Edinburgh's Award Scheme, Millennium Volunteers, Brownies, 'Connexions' and Eco-Schools Club), local businesses and all the adults – other than teachers – who have been involved in the garden's design and making. We have also made links with other ESD projects on the main school site and through the ESD steering committee.

This case study was written by Kathy Appleby and Graham Wells, Uplands Community College. Uplands serves more than 1,200 students in suburban Wadhurst. It participated in Making it Happen from 1998 – 2000.

CS 24

ESD IN PERSONAL, SOCIAL AND HEALTH EDUCATION

Woodfield Infant School, Shrewsbury

Background

"Those elephants are cooperating aren't they?" Two years ago, hearing this comment would have been unlikely in our school!

Woodfield Infant School is situated in a suburban area of Shrewsbury and has 230 pupils. The children are predominantly middle class and are generally bright and articulate. At the time we joined the WWF 'Making it Happen' scheme – which offered funding, training and consultancy to support schools in their ESD journeys – our school was enjoying improved SATS results and we were looking at ways to maintain and further develop learning. Our Eco-Schools Committee was becoming well established, with a representative from each class meeting monthly to discuss environmental issues related to their school.

The PSHE Coordinator was looking for ways to adapt the current Scheme of Work, which was perceived as lacking in some areas, to meet the specific needs of the children in our school. The staff saw a need for improvement in pupils' listening skills and attitude to learning. The children seemed to lack opportunities to think for themselves, and their lack of independence was evident not only in their learning, but also in general activities such as changing for PE, hanging up coats, etc.

When staff were introduced to the 'Values' elements of education for sustainable development (ESD), it was generally agreed that these values would help to meet the needs of our children and promote, in particular, independence, cooperation and responsibility, while fostering an awareness of cultural diversity. Many of the skills, knowledge and attitudes implicit in ESD are present within any good educational practice, and, indeed, were present in the aims and ethos of our own school.

Step one – the staff

One aim throughout the scheme has been to avoid frightening the staff! Their support is vital to the success of the scheme and it was important that ESD was not seen as an extra subject to add to an already overloaded curriculum. Staff meeting times were allocated to increase the understanding of ESD. Teachers, governors, parents, support staff and staff from the neighbouring junior school attended two introductory meetings. Other directed time was used to deepen staff understanding and for planning.

Once it was established that ESD could be incorporated into the curriculum – particularly through PSHE – with adjustments made to existing planning, the staff's support continued to increase. Staff meeting time was allocated to develop understanding of the links between ESD and PSHE, and assemblies celebrating our wonderful world were planned for the Autumn Term.

Step two – the children

We felt that to start with global issues would be inappropriate for young children and were anxious not to frighten them with problems and concerns that were, at the moment, beyond their experience and control. Instead, we decided to celebrate ourselves and our wonderful world, and to foster a desire to protect it and each other. As well as assemblies, displays were used as a visual means of deepening understanding.

Step three – planning

The ESD and PSHE Coordinators met to create a list of themes that would incorporate ESD values into our PSHE Scheme of Work. The theme planned for a particular week would also be the assembly theme.

This is the how we structured the themes, over the year:

- Autumn Term: 'Myself: self-esteem' – Respect for others; Needs and wants; Independence
- Spring Term: 'Valuing other people' – Diversity; Valuing others; Friendships; Relationships
- Summer Term: 'Working together' – Consequences; Decisions; Choices; Cooperation; Sharing; Change; The future.

When dealing with the theme of diversity, for example, the children's lives are compared to those of children around the world. By looking at similarities and differences between peoples' lives, discussion develops about what gives us quality of life; for example, good health, clean air, food, family, friends, etc. When considering these issues, the environmental, social and economic aspects of sustainability are inevitably highlighted. When looking at how far children in Africa have to walk to school, the issue of transport is raised and consideration is given to the economic reasons and environmental impact of the two examples through questions such as "Why don't we walk to school?".

Step four – evaluating and improving

As with all new initiatives, one or two adjustments were made as the need arose for a slight change in the order of topics. One such change was an early and stronger focus on 'independence' and 'cooperation' in the first term of each year, with 'respect for others' being moved to the second term, alongside human and cultural diversity. This highlighted the importance of ESD values in the infant school. All of the elements were eventually seen

as totally appropriate and, indeed, vital to the development of the young child. We now had to make sure that the PSHE themes in the Scheme of Work were approached in a different way by each of the three year-groups, not only to ensure differentiation by ability, but also to ensure that the Scheme of Work could be repeated annually. It would not be productive if the Scheme of Work had to be changed each year.

Step five – assemblies

The PSHE Coordinator worked with the RE Coordinator to plan assembly times. The assembly theme for each week is the same as the PSHE theme, consolidating and deepening understanding across the whole school. The theme is presented in a different way over four days, thus ensuring that interest is sustained. One day each week is set aside for a class to present an assembly on the weekly theme to the whole school, enabling the children to be actively involved each term.

Step six – using circle time

Staff meeting time was given to discussions on Circle Time sessions which we felt could help to empower the children, as well as providing a vehicle for them to express and deepen their understanding of the values and attitudes promoted by ESD.

Once the children have considered a problem, a collective responsibility is developed and peer pressure becomes an effective tool that deals with any problems. Initially Circle Times enhance confidence, self-image, friendships, speaking and listening, and cooperation. As children take responsibility for their own learning and behaviour, a more positive ethos is established which makes learning more effective. The aim is to increase motivation and personal responsibility, so that learning is no longer for the sake of the system, but for its own sake.

Participation in decision-making

Empowering the children through decision-making is encouraged whenever the time is appropriate – from decisions about whether to wear coats at playtime, to choosing a class representative for the Eco-Schools Committee. Hustings are held at the beginning of the year or, in the case of the Reception classes (4 – 5 year olds), on a termly basis. The children talk about their ideas on how to improve their environment, and elections are held. The child with the most popular idea is chosen by their peers to represent the class. In the Reception classes in particular, great efforts are made to ensure that it is the idea that is chosen and not the child (an early lesson in diversity!).

The child then acts as the representative for their class and communicates with them about the work of the Eco-Schools Committee. The Committee,

which includes a teacher, parents, the school cook and a local councillor, meet once a month to discuss school and local issues, and carry out practical activities such as poster-making, letter-writing, etc.

One important issue for the Eco-Schools Committee was playtime – always uppermost in children's minds. The staff agreed that this was an important issue and the Head offered an amount of money (£50) to each class to spend on play equipment. We hoped that a feeling of collective ownership would encourage responsibility, and that more care would be taken not to lose or spoil the equipment. Each class looked at a list of equipment and decided what to buy with their money. This proved to be a very valuable lesson in using and applying maths.

The children made decisions based not just on the fun value of the equipment, but also on its sustainability. The majority vote was taken and the equipment was duly ordered. Each class was given their own box with a list of the contents. The arrival of the boxes caused much excitement, and questions about care and responsibility were raised. Play equipment has been provided before, but there is no doubt that this new initiative has led to increased responsibility. In adverse weather conditions, each class decides whether or not to take their equipment out. Questions raised by the children provide opportunities for discussion, negotiation and problem solving: "What if something goes over the fence?" led to a discussion about the consequences of actions; "What if it goes into the wrong box?" led to a decision to provide a box for lost equipment.

The Eco-Schools Committee also discussed other playtime issues such as children who have no one to play with and a 'friendship bus stop' was made for children wanting to join in a game. There were some initial communication problems with this, namely very large lines of children rushing around, pretending to be buses! (Great fun, but the cause of accidents.) The purpose of the 'friendship stop' was therefore discussed in assembly and has been used properly since!

A special box of equipment has also been provided using the children's ideas. An area of the field has been designated for football, and the class of the teacher on duty is able to play when the weather conditions are good. The list of 'special' equipment continues to grow, whilst efforts are being made to ensure that the children are also able to play cooperatively without equipment. The Committee is compiling a list of playground games for use on wet days.

All the staff agree that playtimes are now a happier experience and duty days are no longer to be dreaded.

Benefits of the work

When we started to introduce ESD into the school, it was seen as an important way of developing children's interest in their environment, but it has gone much further than that. Knowledge and understanding of the environment will foster interest and even caring, but this alone is not enough. Without the values and attitudes that underpin ESD, how can we expect future generations to develop into caring and responsible people with an active desire to protect and care for each other and our world? Equally, how can we expect our children to achieve without a positive attitude to learning?

Our whole school approach to ESD has helped the children to develop not only an awareness of the world around them, but also empathy and an improved ability to consider the consequences of their actions. The staff's understanding of ESD has also deepened, and they are now planning for ESD and making links throughout the curriculum, whenever the learning is appropriate. The values and attitudes that underpin ESD have served to provide our Infant school with an entire Scheme of Work for PSHE; one which we have found to be not only relevant, but also to contain essential elements of any PSHE curriculum. ESD has also been the catalyst that has enabled the staff to focus on the particular needs of the children within our school, providing a meaningful context in which to develop the children's attitudes and awareness of their role within their environment.

This case study was written by Annette Gale (with assistance from Liz Holloway), Woodfield Infant School. Woodfield serves about 260 pupils in rural Shrewsbury. It participated in Making it Happen from 1998 – 2000.

Bright Sparks (1995 – 2001)

The WWF/Hydro Electric Bright Sparks Award Scheme invited Scottish teachers of Year 5 – 14 Environmental Studies to submit classroom projects on the themes 'People and Trees', 'People and Energy' and 'People and Water.' Schools were encouraged to interpret the themes as broadly as possible.

Bright Sparks projects were expected to:

- engage pupils by exploring an environmental or sustainability related issue that concerns them in connection with the themes;
- be firmly positioned within the Environmental Studies 5 – 14 curriculum, integrate across more than one attainment outcome, and particularly help to deliver the strand – 'Developing Informed Attitudes' (collaborative approaches between subject teachers in the secondary school were encouraged.);
- expose children to a range of different attitudes to an issue and encourage them to listen, empathise with, question and probe viewpoints they encounter during their study;
- help children to determine their own attitudes and views; and encourage participation in, or a strategy for, practical activity by the children as a result of their study.

The scheme was open to all schools in Scotland. All project entries that fulfilled the above criteria received Bright Sparks certificates. A small number of projects of special merit were selected to receive a combination of cash and WWF educational materials totalling up to £5,000.

WWF offered in-service training to all Scottish educators as a component of the award scheme. Professional development was offered at various locations around the country.

Two extension programmes, Generators and Live Wires, supported and encouraged schools to further develop their projects or embark on new ones, and to disseminate the learning from their work.

CS 25

A FRIENDLY HABITAT FOR ALL

Craigellachie Primary School, Banffshire

Setting the scene

Craigellachie village, our local environment, nestles on the hillside overlooking the River Spey. A hundred years ago, the school was built at the summit of the village, offering spectacular views over the valley. With such an inspirational backdrop, this could hardly be described as an area of environmental deprivation. However, even in 1899 environmental issues were to the fore! A number of objections were raised concerning the suitability of the site for the new school, due to the possible contamination from "the odour arising from the distillery refuse". The HMI of the day were called in to decide on the issue. Meanwhile the complainants are rumoured to have deployed several people to "stir up the distilling residuum with poles", presumably to enhance the impact. Their efforts were in vain – an enquiry concluded that their fears were unfounded and the building of our present school went ahead as planned.

Almost 100 years later, we still had no problems with distillery refuse. Instead, our main environmental concern was a rather featureless playground which often became a sea of mud in wet weather. In addition, the vast expanse of bare grass in the school grounds provided a stark contrast to the magnificent views over the surrounding countryside. Something had to be done. Action was necessary and action was taken.

We hope that, by sharing some of our successes and challenges, we can help you to develop and use your school grounds in ways that can support education for sustainable development. Don't expect major changes to happen overnight. This is a long-term commitment and is one that has to be constantly reviewed – we started back in 1993! Nor can we offer this as a recipe for success. Every school is unique and will require an individual approach. However, we can guarantee that using school grounds as a vehicle to deliver education for sustainable development will take you on many adventures, provide stimulating experiences, and numerous opportunities for just having fun.

Making a start – 1993 onwards

Like many schools, we embarked on our school grounds improvements by following advice offered in recommended guidelines. We applied for grant aid from Scottish Natural Heritage and established a Management Group. Our first discussions focused on the need to create an interesting, lively and ecologically diverse area that would benefit both the children and their environment. From the start we wanted to involve the children as much as possible. Our first task was to work with them to draw up a School Charter.

The school grounds development has become an integral part of our lives. As such, it naturally features in development plans, policy decisions and the daily curriculum. It is important to note that this is not a one-off project: this is our policy in practice.

There is little doubt that the development and use of our school grounds allowed the children to acquire a wide range of environmental knowledge and skills which could be transferred into different contexts. Self-esteem was raised, and pupils became increasingly confident in expressing their own ideas about local and global issues. This naturally led to involvement in environmental projects, competitions, conferences and community consultations.

Environmental Awards

It is difficult to ensure that awards don't become the driving-force behind an initiative. We tried to avoid this by finding ways to directly link competitions into our Environmental Studies Policy Web.
All environmental programmes need moments of pause in order to celebrate their existence, mark their success, or help change their direction. Used in this way, awards can be extremely valuable. Of course, there is no doubt that some prizes have provided very useful funding for us. For example, we used the £1,000 from our BT Environmental Award to raise another £4,000, allowing us to build a much needed all-weather games area. However, perhaps more importantly, the resultant radio and press coverage has allowed the children's opinions and achievements to have an impact on the wider community.

Conferences – children's participation in practice

Conferences, by and for children, can contribute enormously to children's participation. However, like awards, it is very important that they build on current work and have genuine follow-up. By 1995, we felt that it would be valuable to have representation at the world's first International Children's Conference on the Environment at Eastbourne. Children from throughout Britain were asked to write a letter if they were interested in attending. On the strength of their letters about our school grounds development, two of our senior pupils were asked to join 800 other children from around the world. Craigellachie's whole school approach to sustainability was about to be taken to a wider audience! The girls, Cara and Lesley, also had a unique opportunity to share in the achievements of others. This had a bigger impact on the school and local community than any of us could have possibly imagined.

Let's do it! (Moray Schools Conference)

Inspired by the Eastbourne Conference, Cara and Lesley were determined to share their experience with other children. After consulting fellow pupils at Craigellachie, they approached teaching staff with the ambitious idea of organising the first children's environmental conference in Moray. Almost 160 children from 20 schools took part, along with environmental experts who answered questions and helped run workshops in Elgin Town Hall.

The conference was very successful, and children from a variety of schools came up with a raft of ideas to improve the local area. At Craigellachie, this included a plan to create a cycle pathway that would link our village to neighbouring settlements. This is proving to be more challenging than the children had first anticipated. The pupils are beginning to understand that negotiating agreements with land owners and other interest groups can be a very slow business! The idea has not been abandoned, but has been placed to one side. The pupils didn't view this as a failure: the time was simply not right. Besides, as teachers, we were confident that the process itself had allowed the pupils to begin to develop some of the essential skills required in community participation. This was confirmed when the children were given the opportunity to take part in a consultation with respect to Local Biodiversity Action Plans.

Backing biodiversity

Although initially apprehensive about consulting P6/7 children (10 – 11 year olds) on the future of our local woodland, Phil Whitfield of Forest Enterprise was pleasantly surprised by the experience and the outcomes of the exercise. The session was conducted as a standard adult-targeted activity. Our pupils had no problems with this because they were already familiar with the skills of brainstorming, group discussion and plenary sessions. They thoroughly enjoyed and appreciated the opportunity to influence changes to an important local amenity. They also recognised that these changes would, of course, only become effective as they grew up and became the community that would benefit.

The children came to the consultation without predetermined or personal agendas. As a result, they were open to a range of ideas and possibilities. They were prepared to listen to other points of view. Their ideas were diverse, interesting, mostly relevant and feasible, but sometimes totally far-fetched. Some will actually be implemented. What a positive message to give children. They understood the need for biodiversity and the needs of other interests. As adults we are sure they will remember being part of the decision-making process that reshaped their local woodland.

1999 and beyond

Everything is growing well – sometimes too well it feels! This is decidedly a maintenance year in terms of plant life and planting. Nothing stands still, however, and our environmental policy continues to drive the curriculum in new directions, reflecting our on-going commitment to sustainability and Agenda 21 (the plan of action for the 21st century agreed by over 150 governments at the Rio Earth Summit in 1992).

A quiet corner

Thanks to CITB, the Construction Industry Training Board, we had a £500 grant to create a wildflower garden where children can read, eat lunch and quietly reflect.

Energy project

Energy was a major P6/7 (10 – 11 year olds) theme this year and has led to a full audit of our energy consumption. With the help of Moray Council and Stewart King Environmental Engineers, we are devising an energy policy for the school. One of our major decisions was to use solar energy, and we have now been awarded a grant from CREATE (a part government funded agency dedicated to energy education – visit www.create.org.uk for further information). We intend that this approach will become an integral part of school life to encourage values and behaviour that will take us into a sustainable 21st century.

Sustainability in a Speyside village

Waste and recycling is another popular primary school topic and we are currently developing this theme as a community effort. The idea is to identify needs in the village and to jointly campaign for adequate recycling facilities. Like the cycle path, progress has been slow and the project is 'resting' at the moment. The right time will come, and at the end of the day the campaign is simply a vehicle to progress children's understanding and their ability to be active in changing a situation for the better.

The millennium

The year 2000 was our 100th birthday and the occasion presented lots of opportunities to focus on our school grounds and the village – to celebrate in style!

Going with the flow

Sometimes things just don't go to plan and it is tempting to become frustrated and critical. For example, many of the possible solutions to our waste/recycling programme needed support and finance. This would have entailed many hours of staff time which was simply not available. Class/group dynamics changed, leading to a marked reduction in

cooperation, motivation and interest among the senior pupils. We decided to go with the flow and postpone new developments until the following school year. For us, pupil participation is a key element, and without it the learning experience is incomplete. The interests of the children are now leading us in different directions and the outcomes are changing. However, we are confident that, whatever happens with our school grounds, there will be tangible results from our efforts. In addition, through their involvement the pupils will develop a genuine appreciation of democracy, and a sense of their own environmental responsibility and competence.

This case study was written by Joyce Gilbert, Gillian Symons and Lynette Borradaile, based on a report written by Barbara O'Brien, Head Teacher, Craigellachie Primary School. Craigellachie Primary School is in rural Banffshire and has four teachers and 71 pupils.

CS 26

MAKING CONNECTIONS

Golspie High School, Sutherland

Setting the scene

In 1996, Golspie High School established education for sustainable development (ESD) as a rotation subject in S1/S2 (12 – 14 year olds). This allowed us to build up a reputation for good practice, including successful involvement in many environmental projects such as the WWF Bright Sparks initiative. However, like many secondary schools, we faced problems with respect to delivering ESD, for example:

- subjects were taught by many different teachers;
- competing pressures meant that it was difficult to gather and maintain momentum for ESD as part of the curriculum;
- the implementation of 'Higher Still' (courses and units for 14 – 18 year olds) took priority away from developing the 5 – 14 Curriculum programme;
- school inspection added to workloads and took attention away from ESD.

Fortunately there was support from the School Development Plan which highlighted a major issue emphasised in the recent government document *Curriculum Design for the Secondary Stages*, namely "...to provide more coherence across the S1/S2 curriculum," for which a criterion for success was given as "cross-curricular policies are implemented". In addition, one of the principle aims of the school also made a clear connection with the idea of a cross-curricular environmental theme, namely "To encourage pupils to make a responsible contribution to their school and community, and to have a care for the environment".

Ironically, acting on this government advice brought an end to rotational subject teaching at Golspie at S1 (12 – 13 year olds) and S2 (13 – 14 year olds), effectively removing environmental education in its current form from the curriculum. However, at the same time we recognised that these changes brought opportunities to introduce new and exciting approaches to education for sustainable development at our school.

Planning and implementation

A core group of four teachers was established, representing different 'faculty' areas of the school, and who had an interest in enhancing the school's delivery of ESD. The group decided on a theme to act as a vehicle for cross-curricular links – 'Waste and Recycling'. This is a popular theme, already being addressed in both the formal and informal curriculum. We also felt that it was a theme that would enable the development of informed attitudes in environmental sustainability and stewardship.

To promote this theme, Golspie became involved in 'Waste – Highlands Action on Minimisation (WHAM)'. With advice and help, we established

a composting facility at the school using worms as the principle agent of digestion. By disposing of waste cardboard and paper, as well as organic waste from the school kitchens in this way, we hoped to minimise the waste leaving the school for the local landfill site. More importantly, though, our aim was to stimulate discussion on wider issues relating to waste and recycling. Developing attitudes for positive citizenship was viewed as a key outcome of the project.

The project was an inclusive one, involving the whole school community: parents, pupils, teachers, janitors, kitchen staff and the Senior Management Team. We were fortunate to have the assistance of Fergus Morrison, who had successfully set up his own wormery at Golspie Meal Mill.

Waste from nearby Dunrobin Castle was also processed by the school wormery, thus involving the wider community in the project. This was not a planned element of the project, but was a natural response to 12 year old Shane Sutherland's comment, "By the way, my dad has a wormery too. He works at Dunrobin Castle Gardens. I think they feed them on dung, cardboard and food from the castle." The pupils themselves are very committed to the project and have quickly developed an affinity for worms!

Communications

From the outset, the staff, parents and pupils of the school were aware of Golspie's previous WWF Bright Sparks success. As a small school, information exchange between departments and staff is relatively efficient. The background and aims of the 'Waste and Recycling' project were outlined to staff at a meeting, a contact for information was established in each department, and all staff were kept informed through the school intranet facility. A member of the Senior Management Team is kept abreast of developments and contributes to the core group.

Working together

Early on in the process, each subject department was asked to identify areas in their S1/S2 (12 – 14 year olds) syllabus where work relating to the theme of waste and recycling was currently being addressed, and all existing materials relating to the theme were collated. The following examples summarise the results of our audit, and illustrate how even a small change in emphasis can support a more holistic approach.

Art and design

The Department decided to adopt a new approach to their existing six-week unit on paper-making. This included introducing paper as a material, examination of the paper-making process and creating a piece of artwork using recycled paper.

Drama
After their successful 'Energy Savers' play in 1998, it was decided to develop a performance on the theme of 'Waste and Recycling' to tour local primary schools. Work is in progress.

Computing and Information Technology
The pupils have been introduced to energy saving operating systems, minimising paper through the use of e-mail, recycling printer cartridges, and the advantages of teleworking and Internet shopping to cut down fuel consumption.

English
Building on the unifying theme of 'Waste and Recycling', the Department was able to place a different emphasis on the existing unit 'Seas in Danger'.

Geography
Staff have recognised the importance of their existing unit, 'People and their Environment', which addresses issues relating to pollution and the production of waste.

Home Economics
Teaching and kitchen staff were very supportive of the project and suggested the installation of food waste bins in the kitchen which can be transferred to the wormery and conventional compost bins. They also wish to address sensible use of detergents.

Modern languages
Golspie is linked with a French school in Thann. It was suggested that the pupils could exchange information via e-mail with respect to Local Authority commitment to recycling and waste minimisation.

Personal and Social Development
The school has been involved in a number of health initiatives and staff decided to include recycling when discussing responsible attitudes and behaviour.

Religious and Moral Education (RME)
Golspie is very fortunate to have a member of staff with a degree in philosophy who has developed a unit entitled 'Stewardship and Environmental Responsibility'. This supports the 5 – 14 RME Personal Search topic 'The Natural World', and has provided excellent links with the 'Waste and Recycling' project.

The Support for Learning Department, which has an excellent overview of S1 and S2 (12 – 14 year olds), provided helpful feedback. Other departments that didn't have materials directly related to the theme were keen to try to develop ways of contributing to the project.

Outcomes

For the first time, education for sustainable development has been addressed within the school curriculum, and teachers and Senior Management Team are recognising the potential benefits:

- the environment is no longer viewed as something covered by the science department;
- the profile of ESD has been highlighted in the school community. The worm composting and waste minimisation project has got people talking about issues relating to waste. Pupils, teachers and non-teaching staff, and the wider community have all commented and taken part – one janitor has his eye on the worms for their fishing potential;
- there has been a stimulation of debate on other environmental issues within the school;
- we have reduced the amount of waste leaving the school, and may also have helped Dunrobin Castle to reduce its waste disposal problem;
- the role of the school in promoting stewardship and citizenship has been acknowledged by the local community and press.

Evaluation

We intend to undertake a large-scale evaluation to seek feedback from the pupils on the success of the cross-curricular links and the effectiveness of our approach to education for sustainable development. This will be carried out either by interview or questionnaire. We used these techniques to determine the pupils' opinions on waste and recycling before the cross-curricular initiative started, and this feedback will have to be analysed. The next step will be to repeat the process to evaluate the impact of the Generators initiative. Teaching staff will also be asked to assess the benefits of the programme.

What next?

We intend to develop further the approach to education for sustainable development outlined above by constructing teaching timelines for all staff. These will identify how each subject department is contributing to the theme throughout the teaching year and facilitate teachers in establishing cross-curricular links. We will consolidate the waste minimisation project and look for other opportunities to address and implement ESD.

This case study was written by Joyce Gilbert, Gillian Symons and Lynnette Borradaile, based on a report written by Sean Meikle, Golspie High School, Sutherland. Golspie High School has a current roll of around 400 and serves a large rural area including the east-coast villages of Sutherland in the far north of Scotland.

CS 27

MAKING A START – ENERGY SAVING IN SCHOOL

Largue Primary School, Aberdeenshire

Setting the scene

The idea of children's involvement in monitoring the environment is not new. Many schools regularly make records of the weather, especially temperature and rainfall. Such environmental monitoring is recognised as an excellent way of developing skills in collecting and analysing data.

In line with many primary schools, one of our themes is energy. We felt that it would be relatively easy to involve pupils in monitoring energy consumption of the building at Largue Primary School. At the same time, the energy theme would provide excellent opportunities to focus on attitudes, behaviour and sustainable lifestyles.

The school building consists of two sections. The older part, used now for a canteen , hall, office and staff room, was built in the 19th century. Its granite walls keep it cool, even in the middle of summer. A newer, double mobile unit houses the classroom and cloakroom areas. All lighting and heating is by electricity, and we are therefore always very conscious of the high cost of heating – in the old building in particular.

The recent floods in the nearby town of Elgin were a timely reminder of why saving energy is a globally important issue. The increase in severe weather events throughout the world is convincing scientists that global warming is having an effect on our ocean and weather systems. An important contributor to global warming is the production of 'greenhouse gasses' being emitted into the atmosphere – a large proportion coming from our fossil-fuelled power stations.

As we were approaching the time when we were about to study energy again with the senior class – a composite P4 – 7 (8 – 12 year olds), we recognised that there was little practical evidence of the children being aware of energy conservation. We also had to admit that the adults in the school were not good role models. It was clear that the enthusiasm generated during our topic on energy was not sustained, despite the fact that it was reinforced during occasional visits to Ballater Environmental Education Centre. Something would have to be done throughout the year. The question was, if this was to be a long-term commitment, how could it be designed to be manageable? Further, we knew that whatever approach we decided to adopt would have to fit with our current planning grid. This has an added challenge since the P4 – 7 class is made up of four year groups, so we have a four year cycle of Environmental Studies projects.

Just as these concerns were being raised, details of the WWF/Scottish Hydro-Electric Generators Scheme arrived in school. It was perfect timing, providing just the focus we needed to make a start on raising awareness of the need for energy conservation in school. It would also address issues related to our planned review of 5 – 14 Environmental Studies contained within our School Development Plan.

Involving the children

The aim of the project was to help the children to develop informed attitudes to energy conservation that could be sustained and disseminated throughout the school and community. As teachers, we recognised that it was important for the children to identify the need to monitor energy consumption in school and to be involved in the design of a survey. We hoped that this approach would give the pupils a sense of ownership of the project. It would also allow them to appreciate that surveys are something that they can initiate themselves, rather than something always designed by adults.

Towards the end of the Summer Term, as our project on energy was reaching its conclusion, we gave the class information on the cost of heating the school. We hoped that the knowledge and understanding gained in the previous weeks would encourage them to take action. However, it was important that it should be their decision!

By June the class had decided to look at ways of saving energy in school. They came up with a number of energy-saving strategies such as closing windows and doors, turning off taps, and using heat sensibly. The suggestions were picked up again after the summer holidays. The pupils recognised that if these were put in place in the Autumn Term, any changes would show up in the meter readings in November. It would be simple to make a comparison with the units used the previous year.

Involving others

The campaign started on September 15th with a special assembly for P1 – P3 (5 – 7 year olds) to explain why it is important to save energy and what everyone can do about it. A press release resulted in a visit from our local newspaper, the *Huntly Express*. Pupils Jayne and David became celebrities for the day when they read their original rap on Peterhead local radio. The pupils also designed some colourful posters that could be displayed in a prominent position in the school. This helped to raise awareness with visitors and prevent us all from absent-mindedly forgetting to close doors and switch off lights after a week or so.

Our janitor, Mr Ross, has to read the electricity meters each week so that we know how much we have used. He's the only person in the school who is tall enough to reach the meters, and even he has to use a ladder! His

commitment to the initiative is also valuable because all the other adults involved in the life of the school are women.

Making a difference

The long awaited electricity bill arrived in November. We were delighted to discover that there had been a saving of almost 5 per cent compared to the same period in the previous year. This encouraged us to make further savings. We use the booster heaters in the hall after everyone is inside and switch them off again when we have finished dinner. At the end of the day it is Martin's job to remember to close the blinds in the classroom before we go home.

At the beginning of the next term the class discussed what they had done and decided that they wanted to continue with the project. Their enthusiasm and commitment has made us feel that the initiative has been successful.

Gradually the children are beginning to appreciate that their actions may make a difference to fuel bills and to long-term sustainability. It is early days, but we feel we are moving in the right direction.

Conservation is quite a difficult concept for young people. They understand the notion of use and non-use, but 'necessary use' is more difficult. At first some of the younger children suggested stopping using the computers as a way of saving energy! These concepts and accompanying attitudes develop slowly, and it is in addressing such areas that our approach seems to be ideal. A four-year cycle is often viewed as a problem. For us, a spiral curriculum model allows excellent opportunities for review and reflection. In a world with an ever-increasing pace of life, there is a place for 'slow knowledge'!

Sustaining the practice

We've moved on to the next part of our Environmental Studies topic grid and the energy initiative is running alongside. We feel that a manageable, on-going project provides valuable opportunities to re-visit issues using different perspectives. This makes it easier for the children to make connections and think critically. This is often difficult to achieve in an otherwise subject-orientated, knowledge-based curriculum. We have resisted the temptation to have a curriculum that is content driven. Instead we use familiar topics to focus on the development of skills and attitudes that can naturally be transferred to many different areas of the curriculum.

At the moment our time commitment to the energy initiative is relatively small. Current plans are modest and include another assembly for P1 – P3 (5 – 7 year olds), plus a presentation to parents. However, our aim is not an exciting flashy project but something that we hope will become embedded

in the behaviour of everyone, both at school and at home. After all, education for sustainable development has to be sustained itself! Perhaps James (age 10) summed it up when he said of the project, "It's fun and it's easy to do" – surely a recipe for success!

This case study was written by Joyce Gilbert, Gillian Symons and Lynnette Borradaile, based on a report written by Eleanor Anderson, Largue Primary School, Aberdeenshire. Largue Primary School is a 26 pupil, two teacher school set in rolling countryside in rural Aberdeenshire.

CS 28

FIGHTING TO BREATHE – AN ENVIRONMENTAL CAMPAIGN

Lourdes Secondary School, Glasgow

Setting the scene

This is the story of something that came together as a result of a number of coincidences. It involves an average second year group of 13 – 14 year olds working through their 5 – 14 Environmental Studies science course and myself, their teacher. Here is a group of young urban teenagers who are generally hard to motivate and whose attitudes often reflect their background and their experience of living in a large, built up area. They have very little interest in the wider environment, let alone issues relating to sustainable development.

As teachers we try to make the science units as relevant to students as possible in the hope that something might spark their imagination and provide motivation for participating and learning. In our school a unit on air pollution is thus followed by one on 'acids and alkalis', including an investigation of acid rain as an environmental issue. The students go into the field and measure pollution levels, and we talk about the consequences of car exhaust fumes in our local area. In this way, they build up some personal experience and practical skills relating to air pollution in the local area.

Around the time we were studying these units, I was encouraged by information about the Bright Sparks Award Scheme and an associated professional development day to follow up an idea found in the briefing materials – a website with information on organising a 'Car Free Day'. This proved to be a catalyst for the project that is the theme of this case study.

The self-esteem of the students, both as individuals and as a group, was generally low. There was a feeling that they could not bring about change themselves; nobody would listen to them. It was, therefore, a significant moment when, having discussed the possibility of running a campaign to encourage the school and the local community to support a 'Car Free Day', the students decided they should do it. In addition, they were interested in monitoring the success of their campaign. These young people were motivated, they wanted to make a difference – and know it.

How to approach the campaign? The students take up the story...

"Time was short, so we needed to agree a plan of action, with everyone contributing. It was agreed that we would:

- *carry out a questionnaire to obtain an idea of how extensive car use was as a means of getting to and from school;*
- *promote Car Free Day using posters in the school and local shops, and a banner on Paisley Road West;*
- *carry out two traffic counts on Paisley Road West and Berryknowes Road – exactly one week before Car Free Day and again (same time) on Car Free Day;*
- *survey school staff and students to determine the impact of the campaign on them.*

We decided to use the questionnaire survey with the first year students (S1, 12 – 13 year olds) – the year group most likely to be brought to school by car, and the staff, many of whom travel to school by car.

We wanted to attract wider attention to our campaign locally, so we decided to hang a banner up outside the school, and to write to bus companies, local primary schools, local councillors, local businesses and the press. This involved a lot of letter writing.

A budget of around £100 was made available from the school's Superbowl fund. (Superbowl is a Greater Glasgow based, Council run, schools environmental competition, held annually.) This involved us managing a budget and making decisions on how to spend it. We considered buying a banner, but it was so expensive that we decided to make our own. We used the money instead to buy T-shirts with the Car Free Day logo on them. They could then be used again in the future.

As the time scale was quite short, the plan underwent very little modification.

In all the planning and decision-making, we referred to our teacher for guidance and support, and she steered us at times, but mostly we were in control."

Could we make a difference?

This was the main question that we hoped to answer.

We worked in teams with responsibility for different parts of the project. Some parts were so large that everyone was involved. For each task we got ourselves organised.

The questionnaire

Initially, we had a group working with the Principal Teacher of geography making up the questionnaire. Over 200 questionnaires were handed out and collected back in. They were then analysed and our conclusions drawn from the results. Those planning to study Standard Grade (equivalent to GCSE) geography opted for this task.

Posters and banner

The poster group started working on individual posters. They soon realised how long this would take so they produced a few basic designs which were photocopied, and asked people to add slogans. The Art Department gave us advice for our banner and two people worked with one of the art teachers to transfer the Car Free Day logo onto the banner. "Be cool – walk to school" and "Don't fuss – take the bus" were two examples of the variety of slogans we came up with.

Letters and press releases

The letter writing group started off writing letters by hand, but soon resorted to a word processed letter – modified, depending on the intended recipient. Press releases were prepared and sent out.

"For some of us it was only when the project got going and there was a chance we might get our photos taken by the media, or be on TV, that we got motivated. For others, we really got worked up about the issue, and were prepared to discuss the challenges with people in the class, corridor, anywhere – trying to persuade people to take some action. Either way, we were involved and doing something."

Challenges and solutions in secondary schools

From the teacher's perspective, the main challenges for such a project were time, inflexibility of the timetable, and space – not unusual! An extra period of science in the S2 timetable provided more time overall, enabling the project to go ahead. However, this time was rationed to a 50 minute block, resulting in our work being done in bursts. This was less efficient than if we had been able to concentrate on one area for a longer period – a morning, say. The tasks most affected by this were:

- making the banner – it kept being taken out and put away, and
- analysing the surveys – we kept losing track of what had been done.

This meant we had to have several recounts, although using the computer helped a little.

Challenges and solutions in secondary schools

We carried out our project during the Higher and Standard Grade exams. This helped as there were fewer classes using the classrooms, and materials could be left out from one day to the next.

What about the outcomes…

...in the school

It brought together students and staff in tackling a local environmental issue that had relevance to our lives and mattered to us – we called the campaign 'Fighting to Breathe'.

The students had the opportunity to take responsibility for their own learning through an issue that mattered to us all; and to manage, deliver and evaluate an environmental campaign – for real. Teachers noticed that deadlines were met and progress made when the students were in charge and were allowed to do things their way. The more the students were involved in the decision-making, the more was done.

As teachers, we had the opportunity to work with students closely in a 'real world situation'. In addition, it was a less formal opportunity to see how well the students tackled the tasks required and approached specific, science-based, assessable tasks, such as the different methods of collecting and analysing data.

There was a real sense of community about the school, as more and more people became involved and interested in the campaign. The article in the *Evening Times* helped by giving the campaign a degree of credibility with the other students.

Other students were motivated by it – geography students in S3 (14 – 15 years) to S6 (17 – 18 years) took some of the data collected and developed it for an entry into an Association for Geographical Information competition. Their entry earned a Highly Commended award. The campaign also featured as part of the school's entry in the Superbowl competition. The school took first place in this competition – the first time that we have won it.

...in the wider community
Outside the school others in the local community made the connection. The local business community acknowledged and supported us by writing back. One offered prizes for those who made the effort to do without their car on Car Free Day. The local Councillor was also very supportive.

...on the day
What happened on Car Free Day? Would you believe it! When completed, the survey count showed that there was more traffic on the road on Car Free Day than there had been at the same time the week before. There was a significant increase in the number of cars! Did this mean our campaign had been a failure?

What a disappointment! But let's look again more critically at the evidence and influencing factors... Later in the day we realised the real reason for the increase in cars. The original planning for the survey had carefully chosen to avoid rush hour traffic. What we had not recognised was the other significant event being held on June 16th, 1998 – Scotland playing in the World Cup! As a consequence, a lot of local people were leaving work early to get home in time to see the game: their going home time coincided with our monitoring time.

Had we realised earlier in our planning, we might have chosen a different day for our own 'local' car free day. This might have shown a difference in our favour. As it is, we have no way of assessing the true impact of our campaign on people using cars locally, and it may also explain why we didn't get much media coverage.

How did we do – did we make a difference?

The answer is 'yes'. In school, since the campaign, more staff have experimented with alternative methods of getting to work. There has also been a group set up in school to investigate the possibility of more students being encouraged to cycle to school.

Sharing our experiences

There is a general feeling that the basic methodology behind the project could be of use in many areas of teaching Environmental Studies. The benefits to the students involved in running and evaluating the success of their own campaign were so great that the need to tell other groups (school and community) about the work became the next potential challenge to be undertaken.

This case study is providing one means of disseminating the project and its outcomes. Ideas for further dissemination have been discussed with the Science Advisor for Glasgow, the Principal Teacher of geography and Senior Management at Lourdes Secondary. As a consequence, as part of the WWF Live Wires programme we have started to produce material for a CD ROM which will reach a wide teacher audience, be flexible in its use and which can be referred to when needed. This is being achieved with the help of a colleague, interested students and other local primary schools.

Links with Developing Informed Attitudes and education for sustainable development

The links between the project and education for sustainable development go beyond the starting point of an environmental investigation based on scientific method. The project made our young students aware of the complexity of addressing environmental problems, encouraging sustainable solutions and affecting people's lifestyle.

It addressed not only the environmental problem and its related science, but also economic and social factors: the current demands for higher standards of living; the importance of self and status in society; and the difficulty in getting people to question accepted ways of thinking and doing. The project was a powerful vehicle for helping young people address what matters to them, and in doing so, to develop informed attitudes and confidence in themselves.

This 'real world', project-based approach motivated most of the students because it addressed issues that mattered to them. As such, it provided effective and meaningful learning, as well as influencing people's choices (theirs and others) for a better future.

Those who care, realise that the chances of persuading people to give up their cars altogether are pretty low. However, we can hope to persuade people to think twice before using their cars for short journeys, and to consider alternatives to the car. By doing this we can reduce the number of cars on the road and improve the quality of the air that we breathe. The Lourdes students and teachers believe that it was worth trying to do something positive for our local area. This was our commitment to a healthier and more sustainable future. We did it – we made a difference.

This case study was written by Lynnette Borradaile, based on a report written by Pauline McAdam at Lourdes Secondary School, Glasgow. Lourdes Secondary is a large (about 1,400 pupils) Catholic comprehensive school in the south-west of Glasgow. It is bordered on one side by Paisley Road West, which is a main traffic link between Glasgow and Paisley. Both the M77 and M8 motorways pass through the school's catchment area.

CS 29

WAYS FORWARD IN DEVELOPING INFORMED ATTITUDES

Lunnasting Primary School, Shetland

Setting the scene

Saaba, a dance group from West Central Africa, visited Lunnasting Primary School in Shetland and involved us all in an exciting afternoon of dancing and drumming. The children's response was one of great enthusiasm and interest.

With such a stimulus, we decided to set up a project that would allow the children to explore the similarities and differences between their community – Vidlin, on Shetland, and villages in Saaba's home country – Burkino Faso. Because the school was already interested in the Bright Sparks Award Scheme, and its theme 'People and Water', we decided to take two core themes – water and Africa – to provide a focus for this comparison. The highly creative beginning was a strong stimulus to the enthusiasm and hard work that followed.

The class group mainly involved in the project was a composite P4 – 7 (8 – 12 year olds). As Head Teacher and Class Teacher, I was keen that the project plan developed with a clear set of outcomes in mind, making it easier to remain focused and to evaluate progress. Although particularly relating to attainment outcomes in the 5 – 14 Environmental Studies curriculum guidelines, I also wanted to achieve a balance of cross-curricular outcomes. Saaba's dancing and music – the initial stimulus – with their formal place in expressive arts, demonstrate perfectly how learning has to be connected, particularly when involved in developing informed attitudes and learning to live in more sustainable ways.

What's going on here?

Through a variety of activities the children see how the world is changing, and that these changes, particularly in respect to water, are often the result of human decisions. They witness first hand what it is like to be without water. This gives the children a direct insight into the way others have to live their lives. The children are moved by their experiences and are sufficiently motivated to want to try to help. In particular, involvement in the project encourages the children to see the connections, similarities and differences between the issue of water locally and globally in the wider world of Africa.

The experiences encountered during the project contributed to the children's personal and social development. They were encouraged

throughout to gather information from many different sources, to critically reflect on it all, and to react personally, by providing solutions: for example, suggestions for ways of making improvements to the water supply, both at home and in Africa. The children also worked in different groups and partnerships to encourage discussion. There were children with different learning difficulties in the class: they had few writing skills but they contributed many excellent ideas and practical solutions.

Most useful of all were the opportunities taken, and connections made, with others outside the school – both near and far. There were new learning experiences from which both children and teachers could benefit, and others were influenced by the enthusiasm in the school and what was being achieved – helping some to see how they could make a difference too.

These and other activities the children undertook, helped to influence their attitudes as they became more experienced and better informed.

Here are some of the outcomes we were looking to achieve, and ways in which we met them:

An inclusive process, dependent on active participation

- encouraging the children to take an active part in all aspects of the project – decision-making, activities, visits, making new contacts;
- taking part in further dance/music and drama following Saaba, with the music teacher and a Dancer in Residence;
- creating animal masks, African tie-dye and patterned materials;
- designing and carrying out water experiments; and
- visiting a water treatment plant.

Involvement of the pupils in decision-making processes

- encouraging the children in taking decisions and implementing their ideas;
- a role play exercise, solving the problem of how to deal with a cut in water supply;
- investigating the illness caused by guinea worm and researching solutions to this problem disease; and
- carrying out science experiments that are organised in a way which allows the children to decide their own design strategies.

Building on local connections at home

- collecting data on water use in our own homes, enabling graphs to be drawn using 'real' figures;
- comparing a day in the life of our mums in Shetland with that of mums in Burkino Faso; and
- visiting local sites, and inviting local people and parents to visit and talk.

Building on global connections with Africa (and Europe)

- setting up a website for the school for promoting and exchanging information;
- reading newspapers for information on Africa and problems caused by too much/ little water;
- constructing a new World Map in the playground, seeing how big Africa is and where it is in relation to other places;
- making contacts with international organisations concerned with people and water, and Africa – UNICEF, Oxfam, WWF, Water Aid, Plan International UK; and
- joining the EU Comenius Project through the Internet, making contact with French, Italian and German schools. (This opportunity occurred after the project had started, when the school was contacted by a French school asking us to join their project on a water theme. This led to the Lunnasting project moving in different but connected directions, and widening the teachers' experience.)

Increasing involvement with the broader community

- developing an expressive arts performance for the local community on our Bright Sparks project;
- organising and taking part in a Water Aid Day to raise funds for improving water supplies in developing countries;
- involving the Shetland Field Studies Trust in our outdoor learning activities;
- writing letters to spread the word of what is being achieved; and
- learning how to use resources provided by outside organisations.

Everything coming together – promoting the principles of education for sustainable development

The combination of a well structured, cross-curricular project, and the high level of enthusiasm of everyone involved, resulted in a significant level of active learning through participation, and many positive outcomes.

Some outcomes that have not been illustrated already follow below:

- the whole school approach which raised our staff's awareness of sustainability issues; for example, when the whole school was involved in finding out how much water we use in our homes;
- the school learning how to make use of the Internet for research – Burkino Faso was one of the countries featured in the 'On the Line' project (a millennium project founded by Oxfam, WWF-UK and Channel Four). Increasing use will be made of the Internet in the future;
- the children learning well together, even with a wide age group, as there were many opportunities for differentiation. (For example, a mixed age brainstorming group would be led by an older child);
- the children learning about taking responsibility through organising and following through the Water Aid Day, and developing the local community's Bright Sparks evening and presentation (and thereby feeling they have achieved some positive action to help);

- the children learning that answers to problems are not always high tech ones. Even in this country, there are water shortages and people should be more aware of not wasting water;
- the teachers and children benefiting from links to European schools through the Comenius connection, including the exchange of ideas, reassurance that schools in different countries have much in common, and direct use of foreign languages; and
- members of the wider local community becoming more aware of what the school was doing, through press reports and attending the school events – learning a lot about the project and sustainability issues.

Moving on

The teachers at Lunnasting have now written this highly successful, cross-curricular project into the four year cycle School Project Plan.

The initial stimulus provided by Saaba was invaluable. However, we feel that the topic could be easily attempted without it. It could also be easily transferred to a different topic, like forests, fuel, food or energy.

Although this was a completely new project for the school, it was thoroughly enjoyed by all. It covered so many aspects of the 5 – 14 curriculum that it fulfilled (as would be the case for the National Curriculum) a wide range and large number of the attainment outcomes. We feel that very little of the project will need to be changed in the future, except it might be easier to focus on another area of Africa, on which information would be more readily available.

This case study was written by Lynnette Borradaile based on a report written by Norma Smith, Head Teacher and Class Teacher, Lunnasting Primary School. Lunnasting serves about 30 pupils in rural Vidlin, Shetland.

CS 30

TAKING THE LEAD IN DESIGNING AND PLANTING A MINI-WOODLAND

McLean Primary School, Dunfermline,Fife

Setting the scene

Our project began simply because we were interested in environmental issues, and in trying out new teaching and learning strategies. As Class Teachers for P4 (8 – 9 years) and P5 (9 – 10 years) in a large primary school, we wanted to explore an environmental theme involving team teaching. We took as our starting point the Bright Sparks Award Scheme theme 'People and Trees'. The challenge for us was its emphasis on Developing Informed Attitudes as an integral part of meeting the curriculum content requirements and attainment outcomes for Environmental Studies 5 – 14.

As well as achieving the above attainment outcomes, we decided that our project on 'People and Trees' should:

- start from the pupils' experience;
- allow the pupils to take ownership of the venture;
- ensure pupil involvement in all stages, from planning to evaluation;
- provide knowledge and understanding from a balanced range of sources – not just books;
- help the pupils to determine their own views;
- give pupils the experience of participating in collective democratic processes;
- raise pupils' self-esteem and develop their social skills;
- raise the awareness of the whole school about certain environmental issues; and
- provide opportunities to forge different links with the wider community.

Overall we wanted to see how we could promote a curriculum in school that works for a more just and environmentally sustainable future.

From initial discussions with the children it was evident that they thought they were powerless to make changes concerning their environment. Through the project we hoped to involve the pupils in activities which would show them that action supporting, for example, biodiversity (the variety of living things and other related nature conservation issues) is for everyone. We thought it important that even our eight and nine year olds should realise that they have a responsibility and an important role to play.

In the beginning... a field visit

The initial stimulus for the pupils was a visit to Townhill Woods, a mile from the school. The field trip was a great success for pupils and teachers alike, providing everyone with first-hand experience of a woodland. The children loved it. Our visit was facilitated by the local Council's Countryside Ranger. His knowledge and personality meant he quickly established an excellent relationship with the children. He also had activities for everyone to do, introducing us to the trees, the woodland and its other inhabitants.

These are some of the activities we did:

- Meet a tree – the children were blindfolded and led by their partner to a tree. After feeling/smelling/listening to the tree in different ways and places, they were led away and the blindfold removed. Then they had to try and recognise 'their' tree.
- How old am I? – the children were shown how to work out the age of trees by measuring their girth.
- Who else is around? – the children were asked to look for signs of animal life. The greatest excitement came when they were searching for signs of red deer – their droppings were the key evidence!

Back to school – nurturing the seedbed

Back at school, after the visit, the children talked and wrote about what they had seen and done. From their work it was obvious they were enthralled and very much interested in the woodland.

In class, over the next three weeks, we investigated many aspects of living things in the woodland. A clear change in attitudes was already evident. Those who had not really considered their environment before were now very excited about it.

We had reached a crucial stage. We felt the children now had both the knowledge base and confidence to take the reins. We would soon find out the direction our children wished to go. This was the point where we and the children would move into the unfamiliar territory of developing informed attitudes, critical thinking and child-led project management.

From the seed of an idea to a seedling project

We brought both our classes together and posed this question: How can we encourage all pupils in McLean School to care about trees as we do?

The children came up with a long list, including:

- making leaflets;
- organising competitions;
- talking at assemblies; and
- planting a seed or acorn and watching it grow.

Euan gave the last idea in a very animated way. At this point all the children became very excited, saying "That's a great idea!" and "Yes, we want to plant trees!"

Now the teachers' 'double act' began: we played devil's advocates and put forward as many hurdles as possible. We warmed to the role – giving the children a hard time and saying things like:
"You can't do that!"
"You're only children!"
"Where on earth would we do this?"
"Why should we let you plant trees?"
"Can you give us reasons for planting trees?"

The children were ready with their responses and hands shot up. We said that we needed them to bring us at least 10 good reasons for planting trees. If they wished, they could enlist the help of anyone at home. The next morning they far exceeded the 10 required reasons.

We recognised that this was the ideal opportunity to encourage the children to take greater responsibility for the project. We admitted that they had convinced us, but there were conditions they must meet: they would need to persuade the School Management Team that it was a good idea; they needed to find a suitable planting place, and they would have to do all the work themselves.

After persuading the Deputy Head Teacher, four very nervous and excited class representatives walked down a long corridor to the Head Teacher's office. Thirty minutes later, four pale, exhausted jellies emerged from the lion's den, and reported back to their classmates with the good news: the project could go ahead.

The project grows and branches out

The children decided to plant in a small site within the school perimeter. So, on a lovely summer afternoon, they measured and drew up a plan of this grassy patch. Their research extended to investigating and including suitable native species for their mini-woodland. The classes realised that they needed expert advice and, in their opinion, a Countryside Ranger would be ideal, so letters were written to the Countryside Ranger Service. When the Countryside Ranger visited, the pupils made many decisions about the design of their woodland, and set a date for planting 60 native trees and bulbs – 19 November.

The pupils decided that we needed to involve the whole school. They carried out the following activities:

- presentations at school assemblies – 'The Disappearing Forest';
- in the main corridor, a mini-woodland notice board was regularly updated;
- a variety of woodland competitions were organised for all classes, and
- a 'whole school survey' was devised to ascertain the views of their peers. The results of the questionnaire survey showed overwhelming support from their peers. This motivated our classes to proceed even more enthusiastically.

Funds were needed to purchase the 60 native trees and bulbs for the mini-woodland. An approach for funding support was made to the Council-administered Fife Grounds for Learning Environmental Awards Scheme which gives grants for this kind of initiative.

It was also agreed that we should involve the wider community and get their support and help. Pupil-designed leaflets were made and delivered to inform neighbours of our plans; pupils telephoned and wrote to a Youth Training Group to invite them to help, and visited Kingdom Compost at Lochgelly, where household waste is made into compost.

Like many best-laid plans, the children's planting day had to be postponed. Due to the extremely mild weather our sapling 'whips' were not dormant yet, and therefore could not be lifted. The would-be tree planters were distraught at this news and we felt so sorry for them. We had to do something light-hearted to cheer them up, so we took them out to the woodland area and gave each of them a coloured band, representing a type of tree. The pupils stood at the spot where their trees should have been planted, and made a sad face.

On a very cold, wintry morning in early December, 55 pupils and two teachers braved the freezing weather to plant their whips. Again the Countryside Ranger was on hand supplying tools, saplings and expert advice. At last we had successfully planted up our mini-woodland!

On the 12 December 1997, the woodland was officially opened by our Countryside Ranger, Mr Bonar, and a commemorative plaque unveiled. For the same day, pupils and teachers put a lot of hard work and preparation into a well-attended presentation about woodland involving singing, story-telling, reporting and poetry. The audience comprised a variety of people, mainly parents and others who had helped and supported us throughout the project.

During term time and the long summer vacation, the pupils regularly visited the woodland to water their trees. The Countryside Ranger had advised us that each tree would need about a litre of water each week so the children organised a rota. A water barrel was placed in the wood and filled up before the holidays. It was agreed that, if necessary, the children would bring their own water in plastic bottles.

So… did the pupils have the power to change their environment?
On reflection, we say 'yes'! In addition, the pupils managed the project and took control of its direction and their learning. We felt that the project achieved all of the objectives we had set out at the beginning. In particular, we were amazed at the pupils' total ownership of the project and the way they took control.

There were a number of other positive outcomes, including:

- the high level of commitment and quality of work that was consistently produced throughout the project, even from normally low achievers;
- parents, during interviews, talking of their child's interest in and enthusiasm for the project outside school;
- the pupils becoming increasingly aware of the value of others' opinions; for example, in group work it was evident that the children were listening and responding thoughtfully; and
- the pupils developing a positive self-image, both from the variety of challenging experiences offered through the project and the requirements of the Bright Sparks Award Scheme; in particular the need for a portfolio and public presentation explaining the project.

At the point when the woodland was planted there was a realisation by the pupils that they had made a difference. There was a great feeling of achievement which continues as they watch the trees growing. The woodland is evidence of their positive and permanent contribution to increasing both the biodiversity and the interest value of the school grounds as a place to use and enjoy – for themselves and other pupils; now and in the future.

What about Developing Informed Attitudes and education for sustainable development?
Evaluating the development of informed attitudes is difficult. We used discussion as a means
of finding out how the pupils were thinking and developing their ideas. The following are the kinds of things that they were saying during the project:

- "This project is so important. Why doesn't everyone think like us?"
- "It's brilliant being in charge."
- "It's a real project!"
- "We love making decisions."
- "This is a fun way to learn – from our mistakes."
- "This project is good because it's more than just doing worksheets."
- "Everyone in class had a chance to do something special or important."

We concentrated on meeting the needs of our P4 and P5 pupils (8 – 9 and 9 – 10 year olds, respectively), particularly those relating to their personal and social development. Providing the children with the opportunity to take more control was not something we had tried before, but we are now convinced of its value. This project was a first building block towards positively addressing the Developing Informed Attitudes strand and education for sustainable development in the school. We have all learnt and benefited – teachers, pupils and the school environment, and we intend to build on this for future years.

This case study was written by Lynnette Borradaile based on a report written by Karen Robertson and Catherine Sinclair, McLean Primary School. Dunfermline, Fife. McLean Primary School has 350 pupils and 13 class teachers; three non-teaching staff and a full-time nursery school on site.

CS 31

WE ALL COUNT

Raigmore Primary School, Inverness

Setting the scene

The first few weeks in nursery are daunting for any child, but at Raigmore we faced additional challenges in that many of our children move abroad in the Spring and Summer Terms, and this can lead to an unsettled class environment. We felt that we needed a framework for learning that would provide continuity of experience and develop citizenship skills in order to give the children a sense of place in the classroom community. Past experience at Raigmore had highlighted the link between Environmental Studies and numeracy. Shopping, baking, bathing and splashing in puddles were identified as common home experiences that involve early pre-number skills. Based on these observations, we developed a series of mini-topics linked by a common thread which we called 'environmental number'.

Each area of the topic web focuses on an aspect of environmental investigation, and, within that area, there are activities that are based on common experiences. All of these every-day experiences involve use of maths. The centre of the web indicates relevant pre-number skills. We start and finish with 'Myself', shifting the emphasis from personal to communal responsibility for the environment.

Empowering the children

From the start, the children were given opportunities to explore and experiment with resources in a secure and happy environment. The early setting up of class rules also established an open forum for discussion. It was hoped that the children's growing range of skills would lead to a sense of empowerment and high self-esteem. In turn, these would help them to appreciate the impact that their actions have on the world around them. By adopting this approach, we found that nursery children quickly and naturally come to assume that they have a right and a responsibility to be involved with others in caring for their immediate environment, whether indoors or outside.

Encouraging active learning

We encouraged the children to take responsibility for their own learning through an active learning process, where investigation naturally led to problem-solving skills. Practical methods used to start any investigation/exploration were always grounded in familiar activities that could be extended through the use of books, videos, photographs, games, and art and craft activities.

For example, we planted seeds, watered and cared for them using photographs, books and plants to stimulate thought and further investigation. We then examined soil, mixing it with water and observing its separation. We followed up this practical investigation with the provision of small world scenarios involving a variety of props that were linked to plants and planting. The children started to ask lots of questions about food, farming and the weather. A visit to a nearby wooded area allowed the children to use their senses to gain first-hand experience of growth and decay of plants in their local environment. Active learning of this kind is progressive and can be extended continuously to become a very useful springboard for future learning. Most importantly, it allows the children to gradually make connections and build up concepts.

Education for sustainable development in action

It would be impossible to describe all of the changes and responses that have occurred throughout the year. However, the following examples capture some of the outcomes that have surprised and delighted both parents and teachers.

Increased awareness

The children have developed a heightened awareness of their local and global environment. Parents have recounted stories of their children confidently (and sometimes embarrassingly!) displaying their knowledge of vegetables to any willing listeners in the supermarket.

Health promotion

The children have developed a very good understanding of the importance of hygiene and healthy eating. Our theme, 'Looking after Ourselves', culminated with a visit to a Dental Fair run by Highland Health Board. Afterwards there was an increased demand for milk at snack-time, and the parents also reported milk became more popular at home.

Maths

There has been a very noticeable increase in mathematical awareness. Small world and construction play has involved sorting/matching, categorising according to colour, size, pattern and function. Often the children are so engrossed in solving a problem that they have been using maths without realising it.

Citizenship skills

The children developed a sense of self-worth and value as a member of the class community by expressing choices, planning and taking part in decision-making. This growing collective responsibility was expressed through greater cooperative play and increased acts of kindness towards new, upset or sick children.

Sense of place
The children were taken outdoors as often as possible. Each outing was approached as a time for exploration and discovery. Through these experiences, the children became more familiar with their local environment.

Teachers too!
The changes in attitudes were not just confined to the children. As staff we were learning too! We gained a greater insight into the value of 'home' knowledge, in particular how it can support and sustain themes in school. We had an amusing example of this when two children were discussing ice:

First child:
"I picked up the ice and shoved it in my bag so no one could steal it – and it disappeared, it was magic."
Second child: "No, silly! It melted and your bag got all wet. My mum says you're a silly sausage!"

From this experience we changed our planning to include experiments using ice cubes and water. Relating learning to the real world helps children develop a sense of place as well as motivating them to improve basic skills.

We felt that evaluation was very important. This was carried out in a number of ways, including:

- holding meetings of the Nursery Team to review each daily plan to identify any gaps that had developed and to evaluate new activities;
- seeking feedback from parents, verbally or via our system of 'Home from School Books'. This gave the parents a private opportunity to reflect on their child's learning and development within the Nursery, and allowed them to share views and ideas;
- developing a system of tracking sheets where we could record play preferences and each child's interest in props and activities. We also used the Highland Council Nursery Profiles to chart learning and development; and
- sharing information with interested and involved colleagues. This provided us with very useful objective feedback.

Challenges

One of our main challenges was the disruption caused when children and staff were absent due to illness. During the year flu, chickenpox and various tummy bugs all had an effect on the class dynamics. While this is inevitable in a group of young children, we tried to address this by stressing the importance of health and hygiene, and linking this into our project work.

Visits from placement students were also inclined to disrupt class routine. Of course, help in a busy classroom is always welcome, and we tried to ensure that disruption was kept to a minimum by informing visitors of our project aims and methods. For example, we changed our planning sheets to include clearer instructions and more detailed information that helped students and supply teachers keep on track with our projects.

The way forward

We believe that the project has put together 'building blocks' which will form an excellent, solid foundation for future learning, and we are confident about the long-term benefits to the whole school community.

This case study was written by education consultants Joyce Gilbert, Gillian Symons and Lynnette Borradaile, based on a report written by Kip Clark. Kip is a Nursery Teacher at Raigmore Primary School, in Inverness. Raigmore Nursery has 40 pupils aged 3 – 5 years from a mixed catchment area. It is situated in the main primary school building and benefits from being part of the normal routines of the school.

CS 32

ENVIRONMENTAL STUDIES – MAGIC WITH MUSIC

Roy Bridge Primary School, Inverness-shire

Setting the scene

The deep tones of a laboriously played scale on a euphonium, or the steady beat and intricate rhythms being practised on the drums, are likely to be heard wafting on the air at Roy Bridge Primary School, Lochaber. From the Infant classroom, there may be strains from an instrument that is unrecognisable: not unpleasant, but certainly different. This is one of the home-made variety, as yet not on the market, played and made by these youngest ones; giving them enormous pleasure and satisfaction.

At Roy Bridge Primary School, we aim to make singing and music-making as natural to the pupils as falling off their chairs or riding their bicycles. From P1 (5 – 6 years), the children in this two-teacher school in the Highlands are given every opportunity to express themselves through the medium of music. Most children play an instrument by the time they reach P4 (8 – 9 years). Music spills over into many other areas of the 5 – 14 Curriculum beyond its formal place within expressive arts, and nowhere more effectively than through Environmental Studies.

Roy Bridge is just an ordinary village school and the children are no more musically gifted than any similar group of children. However, as teachers, we firmly believe in the value of music in enhancing many aspects of learning. We have found that it encourages discipline and self-awareness; stimulates memory; aids understanding; promotes self-discipline, and encourages cooperation and communication with others. Through music, children learn in an enjoyable and active way. It provides a powerful platform for delivering messages – and for receiving them. It is an ideal tool in the Environmental Studies programme, where Developing Informed Attitudes for life is an all-important strand for teaching and learning.

Music with everything

Music brings life and colour to even the most unlikely topic: it is a magical 'mixer'. In our recent Bright Sparks projects on 'People and Water', and subsequently through Generators (a Bright Sparks extension programme encouraging schools to develop their projects or develop new ones), we adopted musical approaches wherever we thought it helpful to do so. What follows is an account of how we went about it, and some ideas that you might adopt, or adapt, for your own situation.

Music can be as simple or as complicated as you like. Straightforward chants and rhythms can be as effective as more elaborate compositions.

Here are a couple of approaches we use to enhance topic work:

Raps
We often use raps with a strong rhythmic beat in our project work. The older children especially enjoy this method and learn easily from it. It is particularly suitable for narrative work and the children have composed many raps themselves. There are usually opportunities for individual children to speak a single word or a line, and this is both popular with the children and adds variety and interest to the overall effect. The clicking of fingers can help keep a steady pulse. We introduced our 'People and Water' project with a rap describing how it all began with the painting of the old bicycle shelter.

Spoken verse
For P1 (5 – 6 years) to P3 (7 – 8 years), I find an ideal way for the children to absorb lots of facts is to put them into verse form. Let each child take a line and perhaps have them all coming together for the final few lines or punch line. It works a treat! Speaking with accompanying actions, the children absorb a great deal of information quite painlessly, without even realising they are learning. Although they may only have one line each to learn, they soon know the whole verse!

Both the spoken methods described above can be enhanced by some simple instrumentation. Perhaps use instruments for sound effects or for emphasising the beat. I find these 'musical poems' are useful ways of communicating information at assemblies, where whole-class participation is important but preparation time may be limited.

Adapting tunes to suit...

The non-specialist music teacher may tend to shy away from teaching songs and tunes, but again you can keep things very simple.

Rhymes
Why not take a well-known tune, a nursery rhyme perhaps, and adapt the words to suit. On the theme of 'People and Water', my class enjoyed singing these words to the tune of "Here we go round the mulberry bush", together with a few simple actions: "This is the way we turn the tap... This is the way we wash our hands... This is the way we brush our teeth... This is the way we swim in the sea... This is the way we splash in a puddle..." etc.

Action songs and rounds
Children love action songs and where the tune is kept simple, they can concentrate on doing appropriate movements. We devised our own simple action song for our study about hydro-electricity. The younger children simply sang it through, using their arms to imitate the turning wheel of the water mill. The older children were more challenged by singing the song as a round. Simple sound effects were added by brushing their hands in a circular motion over a piece of cardboard.

. . .or composing your own

There are plenty of songs available on environmental themes but not always perhaps on the topic of the moment. We have realised that composition by the teacher and/or class allows not only for all-important pupil involvement, but also means the music can focus directly on particular aspects of the topic.

For instance, in our investigation of hydro-electricity, we wanted to sing about the monks at Fort Augustus Abbey who produced one of the earliest electricity supplies in Scotland. Not much point looking in the music catalogues for that! So we wrote our own words and put them to music. Again, some difficult concepts and language seemed to be no problem, even to the youngest child, when presented in a musical context – as a song.

We are fortunate at Roy Bridge that both the Head Teacher and I can read and write music and play the piano. It is, undoubtedly, an advantage. However, the lack of such musical skills should not be a major obstacle, nor should it deter any teacher from taking a more musically adventurous approach.

If there is a visiting music specialist, or a pupil or parent with musical skills, enlist their help. Ask them either to write down the tunes, or perhaps to record themselves playing on the piano on a tape for the children to sing to later. The skills of individual, musically gifted pupils should not be underestimated. I asked a P7 (11 year old) boy, a fluent pianist and cellist, to write a tune for a song we had written in class about the workmen (known as 'navvies') working on the nearby Laggan Dam – "The Navvy's Song". It was excellent and the children loved it.

Working together

In a school of 33 pupils, it is possible and, indeed, desirable, that at times they all come together to work; similarly it can be done in a class of the same size, or even for a combination of such classes – a whole year group. Since our 'People and Water' project was a whole school study, it was even more appropriate that we shared some of our experiences. An original dramatic action song – "Underwater World" – proved the perfect opportunity for all age groups to work together.

With the children themselves making numerous suggestions, we actually composed two versions of the song on a similar theme. In the first version, the children sing and act out the different underwater creatures in costume. In the second, the children sing and accompany themselves on instruments. The children performed both versions at the local Music Festival to large, appreciative audiences.

The value of this sharing was soon apparent. The children worked in mixed age groups and the P3 seaweeds (7 – 8 year olds) were soon swaying as

gracefully as the P7 ones (11 – 12 year olds). The P1 shoals of fish (5 – 6 year olds) were shown how to twist and wriggle by their older brothers and sisters, and the young puffins took no time at all to copy the older ones in tossing sand eels in their beaks, while waddling around the stage! There was a great sense of togetherness and of each individual contribution being an important part of the whole.

The instrumental version provided further opportunity for shared activity but also took into account individual talent and ability. So the tiny P1 (5 year old) cellist played just a few notes carefully but to great effect, whilst the more advanced P6 (10/11 year old) pupil performed a most haunting melody in the "Whale's Song" on his cello.

The beauty of original composition is that one can write for particular children in the school/class. You can assess their needs and abilities and allow them the chance to take part at their own level. In this way, everyone feels useful and needed. In the event, every child played something; the P1s (5 – 6 year olds) using old film canisters filled with rice and peas as maracas. At the same time, they were learning another important environmental lesson on saving energy – re-using and recycling!

The outcome of these two musical activities was very obvious. In a disciplined but enjoyable way, the children were learning so much about the various sea creatures: their habitat, lifestyle, appearance, peculiarities, feeding habits and lots more. They had not made a conscious effort to learn, though – it just happened, as easily and naturally as it did for them to learn the songs.

Links with Developing Informed Attitudes and ESD

We take great care within the school to raise an awareness of the need to live more environmentally sustainable lives; participating in activities demonstrating how this can be done and integrating it into school practice generally. The 5 – 14 Environmental Studies guidelines provide many opportunities within which environmental, as well as social and economic awareness, can be developed. This can be a useful basis on which to build a climate for Developing Informed Attitudes. Occasionally, and we hope increasingly, these attitudes will lead to action – stemming from a desire to change what has been going on as a normal but, we now realise, less sustainable practice.

Reducing our impact – to creative effect

During our 'People and Water' project, the need to conserve energy and reduce our impact on the environment was also discovered. The children found that a good way of doing this was to reduce our consumption of materials, and to re-use or recycle materials as much as possible. As a result, we have set up a recycling centre at school. Here, likely items of waste

material are collected, sorted and stored for use, for example, in our expressive arts or science work. In particular, we have been making our own musical instruments from what was just 'rubbish', and for which we have now found a new use.

The children are amazed themselves at the lovely instruments they can make – where time, imagination and some bits of 'rubbish' are the only resources used. The 5 – 8 year olds use cardboard tubes, balloons and old newspaper to construct sturdy, colourful maracas. I watch, fascinated by the absorbed expressions as the children work, and by the increasing nimbleness of their fingers as they master the technique of papier mâché.

By varying the filler materials, they are able to produce a range of sounds, from the low rumble of nuts to the high pitched shiver of rice. Sixteen maracas filled with eight different sorts of fillings (all brought from the food cupboard because they were out-of-date) provided us with a reasonable octave of ascending sounds – not quite a scale, but not far off.

We worked out the tune of "I hear thunder" using the maracas. At first, we sang "pasta, peas, barley, pasta...". As each pair of children became familiar with when it was their turn to shake their maracas, they were able to sing the words of the song and accompany themselves on their own hand-made instruments. This was no mean achievement for 4 – 7 year olds and their pleasure at realising it was immense. There was the added satisfaction of feeling they owned the sound because they had made the instrument – a good reason for full participation.

Meanwhile, the older children (8 – 12 year olds) have also been very busy with a 'load of rubbish'. They, likewise, have produced some very attractive working models: guitars from tissue boxes; maracas from washing-up liquid containers; drums from papier mâché, and beautifully decorated rainmakers. The instruments do take a great deal of time to make as there are various stages in their development – at least four or five layers of papier mâché for the maracas and drums, and the designing and printing of their decorations. However, we have no doubt the final product, and the learning and skill outcomes for the children, are well worth the time, effort and patience required.

We have since made many more and different instruments – including the slipper pipes! The instruments have been used in presenting an original musical drama on the theme of 'rubbish' (a Generators project which will be the subject of another case study from Roy Bridge), taking our message to all the primary schools in Fort William. It is through involving the children in such music-based projects that we are able to encourage them to think about things and understand the importance of sustainability in our world. In particular, they seem to understand the need to minimise our consumption (and resulting waste) of the planet's resources, both as individuals and collectively in society.

Music – a language understood across the globe

Allied to these and other projects is our on-going liaison with Kakamega School in Kenya. The children have corresponded with the Kenyans for over a year now and there has been a valuable exchange of information. The children are coming to understand the similarities and differences that exist between the two countries – social, cultural, environmental, technological and economic.

Most recently, the Roy Bridge children have written to their Kenyan friends describing their recycling project and the instruments they have made. They have asked for information and advice regarding African musical instruments. We know they are masters of recycling materials and this no doubt applies to the instruments they use. So far we have been sent some pictures of their instruments, together with descriptions and explanations of their uses.

The Highland youngsters have learnt that their Kenyan counter-parts have fewer possessions. They will therefore not be surprised to hear that the Kenyans have no formal or bought instruments. This knowledge will help them view their own violins, flutes and trumpets with new eyes, and to appreciate their own good fortune in having such instruments so readily available. (Further ideas on associated themes can be found in the case study "Sustain the note – developing an understanding of sustainability through music".)

The exchange is also developing their growing awareness of global and social justice. They see their Kenyan friends enjoying a good quality of life without the possessions they, themselves, have taken for granted until now. Thus, they are beginning to appreciate the difference between standard of living and quality of life. They are so proud of their homemade maracas (which their Kenyan friends might take for granted) that they have sent some to them, as well as to children in Romania whom they are sponsoring.

Who hears the message?

Parents, friends and the village community at large are fully involved in our activities, and music provides a wonderful opportunity for communicating in an enjoyable, entertaining manner. Concerts in the Village Hall and at the Lochaber Music Festival provide both small and larger local platforms for presenting our dramatic action songs, such as “Underwater World”, “The Song of the Birchwood” and others of an environmental nature. As with the children, the audiences are left with important messages buzzing in their heads. The families are also involved in the collection of re-usable waste materials and soon learn about sustainable living from their enlightened offspring!

When you sing, people understand

We have taken our environmental messages via music to other Lochaber schools. We plan to provide a professional development session for local teachers as part of the Live Wires programme – an extension of the Bright Sparks Award whereby a small number of schools are supported by WWF to share their Bright Sparks experience with other teachers and schools, in a variety of ways. We will continue to use the voice of music because we find it such a powerful and effective means of communication.

There are many other ways we incorporate music into the life of the school. Perhaps what is most uplifting of all about our music-making is the sheer fun and enjoyment it engenders – and the enormous sense of achievement. We can all take part and we can share it with others – and isn't that, after all, at the heart of education for sustainable development?

This case study was written by education consultant Lynette Borradaile based on a report written by Margaret Sargent. Margaret works at Roy Bridge Primary School, a two-teacher, 33 pupil school in the Lochaber district of the Scottish Highlands.

CS 33

RECYCLING IN THE EXPRESSIVE ARTS

Roy Bridge Primary School, Inverness-shire

Setting the scene

The idea of a recycling project began when pupils at Roy Bridge Primary School found a plastic milk carton on a beach at Loch Linnhe during an investigation of the seashore. The children wrote letters of concern to both the supermarket in question and the Highland Council, and invited someone from WHAM (Waste – Highland Action on Minimisation) to visit the school and talk to them about rubbish. They were encouraged to think of ways to reduce and re-use their rubbish. One of the ideas was to make musical instruments from waste materials.

Rubbish alert

Our school cleaner gave me a very suspicious look when I warned her that, during the next couple of terms, our classroom was to become the official 'Roy Bridge Recycling Centre'. "I think it's just a way of disguising your usual rubbish," she said a trifle uncharitably, I thought, as the room began to overflow with boxes, plastic cartons and trays donated by families in response to our appeal for rubbish. Well, maybe she did have a point! But the children themselves had decided on recycling as their special project. We were now committed to using waste materials in as many imaginative and useful ways as possible. This was going to be no ordinary school-based recycling project. Instead we set ourselves the goal of encouraging whole families to reconsider their attitudes to waste disposal and to adopt more enlightened ways of dealing with their rubbish.

Community spirit

From the start there was considerable subject overlap and much cooperation from visiting teachers and parents. After expressing some doubt, our cleaner turned up trumps and produced a number of strong banana boxes that she had salvaged from the supermarket in Fort William! This community spirit and general responsiveness from all connected with our small, two-teacher school was a feature of the whole project, and undoubtedly contributed to its overall success.

Making a start

The cleaner's boxes made ideal sorting centres and, before long, the Infant children were engrossed in separating the different types of materials into relevantly labelled boxes. Even before we began to utilise our waste, the children were developing a 'feel' for the rubbish, recognising which things were readily re-usable, and which were difficult to decompose or expensive

to recycle. Perhaps though, we had not stressed that tins, bottles, etc should be washed and clean before bringing to school, but had presumed too much of our young collectors. It was, therefore, a bit of a shock when I opened one five year old child's bag to find tins containing remnants of baked beans and vegetable soup that had recently been enjoyed by the family!

Having collected a wide range of materials, we began to use them in all aspects of the expressive arts curriculum, including music, art and PE.

Making music

The instrument-making was a wonderful opportunity for every child in the school to produce something he or she could use in a musical context, as well as giving each one a sense of ownership. The Infant class concentrated on maracas, flutes and jingling johnnies, while the older ones (8 – 12 year olds) made a variety of instruments. The young children became expert in the use of papier mâché, skilfully sticking coat upon coat of torn newspaper and glue onto a balloon attached to a cardboard roll. We discussed what filling materials to use and parents were happy to send out-of-date lentils, pasta, dried peas and the like, to provide a variety of good sounds. The handles of the maracas were stuffed with pieces of old foam cushion before applying a final coat of paint and individual designs. Last of all came a coat of varnish, and the maracas were ready to use.

Flutes or kazoos followed, this time made from longer cardboard rolls, but painted and decorated as before with the pupils' own designs. The children had learned how to make a fascinating sound with these and are often to be heard playing tunes on them. Soon new instruments were being designed. Jamie, who lives in a local hotel, brought in bags of metal bottle tops and, after some trial and error, these were attached to pieces of doweling (used years ago as ice axes in a play) to make convincing alternative tambourines.

Meanwhile, under the guidance of our helpful art teacher, the older children produced some very attractive working models: guitars from tissue boxes, maracas from washing-up liquid containers, drums from papier mâché, and carefully decorated rainmakers from long cardboard tubes. The visiting music teacher donated his collection of empty beer bottles so that we could create our own 'bottlespiel' – a glass variant of the glockenspiel. The piece de resistance, though, must surely be the 'slipper pipes' – a splendid construction designed by Sandy's dad and the older pupils, using various lengths of plastic pipe and an old, iron bedstead salvaged from his junk pile. The instrument is so-called because the sound is produced by striking the plastic pipes with a pair of slippers. In a series of science/technology workshops, the children worked out how to measure each pipe to produce the required pitch. The unusual resonating sound now adds an interesting dimension to our music-making. This provided a wonderful opportunity to link science with arts, encouraging children to take a more holistic view of their project.

Art (The Birchwood Mural)…

Work in art and craft was wide-ranging and challenging too. Outside the classroom, the children gave the main gable end a face-lift, using a colourful mural to transform the plain, mould-ridden wall into something beautiful. The mural is based on a local birchwood that is visited regularly by the children. Each child in the school designed and painted plants and creatures until the entire wall was alive with birds, other animals, flowers and trees. This particular effort has not only brightened up their environment and provided a superb educational resource, but it has also given the pupils a great sense of pride.

…and craft

Within the classroom, the rubbish was under attack again and before long some remarkable transformations had taken place.

The children began to view rubbish in a completely different light. Suddenly everything had a use. Plastic food trays and jar tops were ideal for mixing paints, and old film cases made excellent individual glue pots. Margarine tubs became water containers, and a whisky canister was transformed into the perfect paintbrush holder. Large plastic sweetie containers now hold corks and thread reels, while ice cream tubs have solved that old classroom problem of disappearing pencils.

A 'first glass' enterprise'

The older pupils in P4 – P7 (8 – 11 year olds) had decorated glass jars earlier in the term whilst studying glass recycling. When we needed a money-making idea for a stall at a Christmas coffee morning to raise money for the village hall, we thought a school effort in glass jar painting would be the perfect answer. Each child was asked to bring in their own jar, where possible with flat surfaces to make painting easier for tiny fingers. After a little help with black outlining, even the youngest child was able to produce a very attractive candle holder. The stall was very successful, many of the children eagerly queuing with a pound coin in hand to buy back their own jar! Almost £50 was raised from these throwaway jars – recycled for a cause that would benefit the whole community.

We continued to salvage rubbish to use in artwork. Now the children are doing it automatically, bringing in all sorts of bits and pieces and suggesting ways to use them. One six-year old boy enjoyed the glass painting so much, he received a glass painting kit for Christmas. Since then he has done some lovely designs on any transparent plastic lids he can find. These make original cards or pretty sun-catchers at the window.

Drama

Plays and dramatic activities have always provided opportunities for recycling. The parents have realised over the years how much their help is appreciated, and often send in old clothes or fabrics that they suspect could be useful in our dramatic work. This has led to our having a valuable bank of varied and accessible material that can be restored and re-used. Although storage is not easy in our leaky, flat-roofed classroom, it is worth saving items that are already the products of much time, thought and effort.

PE/Dance

Our peripatetic PE teacher devised lots of novel activities using rubbish, including making lightweight 'balls' from plastic bags filled with newspaper, and plastic bottle skittles. One week she divided the class into two and gave one half different percussion instruments from the music trolley. They used the instruments in turn while the rest of the class moved in different ways to the various sounds. She then told them to bring in their own junk instruments the following week. They followed the same routine, but with all sorts of original sound pieces. Scraping tins, shaking maracas, striking old metal tubes – all in all it turned out to be a brilliant lesson. The children realised once again that interesting sounds can be produced just as well from junk as from expensive, bought instruments.

'The Litterbug' musical

The PE teacher also helped us work out a dance routine for our musical production, 'The Litterbug', which toured all the primary schools in Fort William. This memorable climax brought together all the different aspects of our recycling project. All the costumes for this play were made from rubbish, as were all the many instruments. We wrote our own song and the final verse summarised the message behind the term's work, encouraging all those who heard it to respond.

Locally…

The response from pupils and teachers alike to 'The Litterbug' musical tour made clear that we already had an important role to play in helping to raise awareness of sustainability issues in local schools. We have also made contact with the recently formed Lochaber Environment Group in Fort William. We hope to continue our liaison with them in helping to develop an Education for Sustainable Development Strategy. Most importantly, conversations with parents have revealed that the local community is taking the 'Reduce, Re-use, Recycle' message seriously.

…and globally

The school's recycling project has also had an impact on young people in other parts of the world. One of our former pupils went to Cluj Napoca, Romania to initiate a 'Music as Therapy' programme for children and adults with special needs. Anxious to become involved in this very worthwhile venture, we decided to send out some of our home-made maracas to the Santa Maria Centre. The children also corresponded with children at Kakamega School in Kenya. They wrote to them requesting information on their musical instruments and the importance of recycling in their lives. They sent out a maraca and a jingling johnnie, and received pictures of traditional African instruments in return. The pupils sent out maracas to children in Kenya.

Sustaining the practice

Having successfully raised the profile in a number of ways, we wondered how we could continue to remind our families and local community of the on-going need for reducing, re-using and recycling. We decided to make some laminated picture work cards that provide accurate records as well as a reference for future work. This has been both a valuable language exercise and a consolidation and evaluation process, involving all pupils from P3 – P7 (7 – 11 year olds). The work cards are available to other local schools who may wish to bring recycling projects into the classroom.

A final reminder of the need for continued sustainable practice came in the form of our Generator 2000 calendar. The front depicts pictures of many of the recycling activities, together with the logo 'Reduce, Re-use, Recycle'. On the back of the calendar is the 'Family Guide to Recycling: 50 Top Tips from Roy Bridge School'. Here every pupil has contributed at least one suggestion on how families can help work towards a sustainable future. If mums, dads, sisters, brothers, grannies and friends adopt even some of these suggestions, then, in one village community at least, a real effort will have been made towards protecting and sustaining our environment. It is a small start, as much about changing attitudes as anything, but hopefully – as the saying goes – 'large oaks from little acorns will grow'.

This case study was written by education consultants Joyce Gilbert, Gillian Symons and Lynette Borradaile and is based on a report by Margaret Sargent. Margaret works at Roy Bridge Primary School, a two-teacher, 33 pupil school in the Lochaber district of the Scottish Highlands.

Our World (2001 – 2002)

Over view

The Our World project was developed by WWF and supported by government:

- to engage UK schools and the education community in the 2002 World Summit on Sustainable Development;
- to begin the process of mainstreaming ESD with key target audiences through popular and engaging activities;
- to provide opportunities for young people in the UK to engage with decision-makers across the UK on sustainability issues and provide a platform for the voices of young people in the UK at the World Summit; and
- to increase the use of WWF's dedicated education website – wwflearning.

The Our World project consisted on the following linked elements:

'Schools Challenge' – a competition for UK schools to develop a visionary sustainable development project for their school and community (launched September 2001);

Our World website – a website for pupils across the UK that featured a news magazine, quizzes and online jigsaws;

Online pupil debates – web-based debates for primary and secondary schools:

- Primary school debate: Trading Places (4 –15 March 2002)
- Secondary school debate: Our World (29 April – 31 May 2002);
- Primary school debate: Young Reporters (23 September – 4 October 2002)
- Secondary school debate: Our World Newsroom (28 August – 11 October 2002).

Earth Champions – a representative of each winning school was identified to represent the views of UK youth at a meeting with Prime Minister, Tony Blair, on 13 June 2002, and through attendance at the World Summit on Sustainable Development, 28 August – 5 September 2002);

Professional development – a course for education professionals;

'Teacher Challenge' – an essay competition for teachers.

Four go to London

It was a week to remember for four schoolchildren involved in the WWF Our World project. First there was a tour round the BBC Studios with CBBC presenter Adrian Dickson; then the opportunity of a lifetime – a visit to No. 10 Downing Street.

The four pupils had been invited to meet Prime Minister, Rt Hon Tony Blair, MP and Secretary of State for the Environment, Rt Hon Margaret Beckett, MP at Downing Street to make their voices heard on key global environment issues.

The four 'Earth Champions' – Tim Green (age 10) from Brixington Junior School, Devon; Peter Burton (age 10) from Ballymena Primary School, Country Antrim; Stephanie Wiseman (age 11) from Lunnasting Primary School, Shetland, and Rhys Davies (age 17) from Ysgol Gyfun Llanhari, Mid Glamorgan – were selected from the four winning schools in WWF's Our World 'Schools Challenge' project. Their task: to share the concerns of young people from across the UK and to urge ministers to reflect these concerns at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa later this year.

The World Summit was one of the biggest and most important events of its kind, and the WWF Earth Champions played an active role there, representing the opinions of young people back home engaged in simultaneous internet debates, reporting back to the youth of the UK direct from the Summit on decisions taken, and interviewing ministers and other delegates.

Secretary of State for the Environment, Margaret Beckett, said: "I'm thrilled the Our World Project is offering young people in the UK the chance to be involved in WSSD, and sustainable development issues more generally... The voices of young people will be heard loud and clear in Johannesburg and I want them to know now they ARE important. They are the future. We want to make the world a better place for them and for generations to come. It's up to us all to make it work and to make it happen."

Prime Minister, Tony Blair, welcomed the opportunity to hear what young people had to say about the future of the planet: "We share their concerns about poverty, quality of species and habitats, and access to clean energy and water... We must ensure that Johannesburg achieves concrete results, so that our children will inherit a safe and clean world. The Earth Champions will ensure that children's voices are heard – helping to set the world on the path towards a sustainable future."

This news item was written by WWF-UK Head of Publishing and Marketing, Cherry Duggan, 14/6/2002

Our World, One Year On

It's now a year since the World Summit on Sustainable Development in Johannesburg, where political leaders joined representatives from business and non-governmental organisations like WWF to discuss the big issues for the planet – issues like climate change, environmental protection and the eradication of poverty.

Also at the Summit were the WWF Earth Champions, youth representatives picked from the winning Our World schools. The four schools – one from each country of the UK – were awarded £15,000 to put towards a sustainability project. One year on, WWF staff have visited the schools to find out how their projects – and the Earth Champions – are getting on.

Ballymena Primary School, County Antrim, Northern Ireland
Chattering excitedly about skateboarding and his move from Ballymena Primary School to a local grammar school, Peter Burton is just like any other young man his age. Ask him about his trip to the World Summit in Johannesburg last year and it is obvious that the experience made a lasting impression on the 12-year old. Edel Moss from WWF's Northern Ireland office met with Peter at Ballymena Primary School to find out what messages he will take with him.

"The trip to Johannesburg was a brilliant experience," he said. "It really made me realise how much more we can do here in Northern Ireland. In Johannesburg they are building lots of sustainable homes and using renewable energy, but we aren't doing that here as much as we should."

One memorable part of Peter's trip was meeting David Trimble, the then Northern Ireland First Minister, at the Ivory Park Eco-Village. "I enjoyed meeting Mr Trimble," he said. "I told him our government could learn a lot from what was happening in Johannesburg."

Back at Ballymena Primary School, the Our World project is very much alive. Native apple trees have grown a little taller, the wildflower meadow, willow beds and herb garden are flourishing and with the speed the windmill is spinning, it looks as if it could supply electricity to most of Ballymena. The school has also incorporated sustainable development principles into the curriculum. And, as Peter walks round the grounds of Ballymena Primary School, it's obvious that the Our World project has been embraced by the entire school community as pupils are picking up litter and putting tins and bottles into recycling bins.

Brixington Junior School, Exmouth, Devon, England
Tim Green, WWF's Earth Champion for England, will never forget meeting Tony Blair at Downing Street last year and then the journey to the World Summit on Sustainable Development in Johannesburg. His memories relate

mostly to the unusual sounds and smells, but the indelible impressions came from street-life where "people in the streets were really poor, with no shoes, living in huts and always scrabbling for stuff".

Paul Walker, the teacher involved from Brixington, remembers vividly, "We were at the orphanage in Ivory Park where the majority of the children have AIDS, and what affected me most was how happy this little girl of seven years old was, just skipping through gravestones, laughing, playing on her recorder and completely oblivious to her sombre surroundings. It was perfectly normal for the children there to play in the graveyard."

With the money from WWF, Brixington has built a cabin made from wood from certified sources where they will hold meetings of their Eco-Club and regular classes on sustainability. The pupils remain at the fore of all decisions and have declared their wish to paint murals in the cabin illustrating both sustainable idyll and polluted nightmare. The cabin will also be pivotal in the sustainability trail that surrounds the perimeter of the school grounds. This trail will be divided into specific zones – all named, designed and built by the children. Names such as the inspiration zone, aqua world, and the peace garden will soon be features of the grounds; all developed to enrich the learning experience.

In addition to the nature trail, there are plans afoot to create a new pedestrian entrance to the school, to encourage children to walk to school. Such actions, together with the incorporation of sustainability issues into the curriculum should, according to Paul Walker, "make the children more aware of their place in the world".

Lunnasting Primary School, Shetland, Scotland

Stephanie Wiseman, Scotland's Earth Champion, has taken her role as an ambassador for the environment very seriously. A year on from the event and now at the big school, Jamie Grant from WWF Scotland interviewed her to see what she brought back from the experience.

Asked what she enjoyed most about going to South Africa, Stephanie instantly mentioned "the theme park and the water dome which has lots of different types of water pipes and things. We also went to three different local schools. The one I went to with Jack McConnel (Scotland's First Minister) was full of brightly painted tyres which they then used to make plant pots."

Since her return, Stephanie has written up a report, explaining what they did on the trip and what she enjoyed the most. "I also gave other schools a few tips on how they could save the world," she confided. "Just small things like recycle, turn off lights and pick up litter. They are all things I do as well." It's a key message: by making simple changes to our lifestyle, we can all make a difference.

And what about her old primary school, Lunnasting? It seems the school has been busy since winning the Our World award: in May they put solar paneling in the school roof and built a wind turbine from WWF money. They call it dragonfly. Together they power things like the lights and all the computors in the school.

Ysgol Gyfun Llanhari, near Cardiff, Wales

Rhys Davies, Welsh Earth Champion, returned from Johannesburg last year determined to help the students he'd met at Umqhele Secondary School in Ivory Park. Umqhele, a deprived township between Johannesburg and Pretoria, now has a new and unusual benefactor – or 1,107 benefactors to be precise, all hailing from Ysgol Gyfun Llanhari, Welsh Our World winners.

At Ysgol Gyfun Llanhari, the Our World project was seen as an instrument for communicating with others, enabling pupils to share experiences and ideas, and convey their vision of responsible citizenship to other young people of the world. The school developed their own theatre production dealing with issues of sustainable development identified by the pupils or by members of the local community. There is now a DVD of the production and profits from its sales will go to Umqhele.

One year on and Rhys Davies, the student nominated to represent the school, remains enthusiastic saying, "The visit to the World Summit was a 'once-in-a-lifetime experience' and I am indebted to Ysgol Gyfun Llanhari and WWF for providing such a wonderful opportunity. The visit has certainly had a lasting effect on my life and I hope to pursue some of the sustainable concerns in the future. I hope that my own contribution to the Summit was constructive and that, in representing the opinion of the youth of Wales, I have assisted others in making important decisions."

This article was written by WWF-UK News Editor, Guy Jowett, 15/9/2003

SECTION 3

SCHOOLS IN A CULTURE OF CHANGE

Lesson learning

WWF-UK bases its work in the formal education sector on the lessons it learns by working in close association with schools and education professionals. Individually the case studies offered by these schools are inspiring. Collectively, they illustrate the potential power of education as a social change agent and the capacity of schools to effectively prepare children to be lifelong learners and responsible and active citizens. The case studies inform both what we will do as we move forward and how we will do it.

Learning communities

The school award schemes, illustrated by the case studies in this publication, depended on one or two highly motivated individuals from each school to drive its *Learning for Sustainability*. These individuals were innovative and highly creative, but often viewed their interest in sustainability as unique in their school community. Accordingly, they placed all responsibility for ESD development and implementation on themselves. This approach, although necessary during ESD's experimental stages, made *Learning for Sustainability* vulnerable to staff job changes.

In the School Support Service (2004 – 2005), schools were required to register an ESD Steering Group and to commit to an inclusive, participatory approach to *Learning for Sustainability*. This approach offered the whole staff professional development opportunities and created a sense of shared ownership. The participatory approach facilitates and enhances a whole school approach and better embeds *Learning for Sustainability* in the culture of the school.

Whole school approach

What we viewed initially as independent levers for advancing ESD in schools – school culture and ethos, school assessment, teaching and learning, pupil involvement, community links, school leadership, and estate management – we now recognise as a system of levers that can and should be addressed together. Although we always recognised the systematic relationships among these, our experience with schools revealed the framework through which schools successfully could advance a whole school approach.

The Development Framework (WWF-UK, 2004) offers schools a non-prescriptive, participatory process for context-setting, self-assessment, strategic planning, and monitoring and evaluating in relation to their *Learning for Sustainability.* Its activities and tools include a school self-assessment activity with a behaviourally-anchored rating scale that considers all these levers and helps schools identify both successes and opportunities for improvement.

Support system

Each of the award schemes offered professional development opportunities for the education professionals leading the school-based ESD activities. Professional development – both initial teacher training and continuing professional development – is fundamental to the lifelong learning required by *Learning for Sustainability.* However, a range of professional development opportunities are needed to support the wide range of activities that advance *Learning for Sustainability*. Professional development for teachers and curriculum managers is as important as professional development for school leaders and governors (or school board members). At the present time, there are limited professional development opportunities for ESD available in the UK, outside those offered or being developed by WWF-UK.

Each of the award schemes also offered technical support. The ongoing need for current information and consultation with other professionals engaged in *Learning for Sustainability* is a characteristic of the emerging understanding that this a journey, rather than a destination. In the past, this technical support was available from organisations like WWF and others. In the future, this support should be offered by the emerging community of professional *Learning for Sustainability* practitioners. In the interim, this technical support will likely come from a combination of the two.

Another necessary support system element is easy access to a wide range of classroom teaching and learning resources. Although many educators embrace *Learning for Sustainability*, few have the time or funds to develop resources themselves. As the interest in ESD has grown, so have the number of resources and initiatives to support schools' *Learning for Sustainability.* Today, teachers have easy access to these. Their greatest challenge is sorting through the many offerings to identify which best meet the needs of their learners and the learning objectives they are working toward.

In order for schools successfully to advance *Learning for Sustainability*, they need a well-developed support system. The system should include an organising framework, diverse professional development opportunities, technical support services through specialist organisations or a professional community, easily accessible teaching and learning resources, and a tool for identifying those resources that best meet schools' and learners' needs.

All of this is underpinned by an action research approach to developing good practice – the whole school experiences that advance *Learning for Sustainability,* meet learners' needs and build a vibrant school culture and community.

Looking toward the future

The United Nations has designated 2005 – 2014 as the 'Decade of education for sustainable development'. More than 20 years after the Earth Summit and the international commitment to Agenda 21, the world community is increasingly prepared to tackle the education challenge.

Education systems respond to change pressures with measured, cautious experimentation. At some point, what initially appeared as an innovation is transformed into something that seems familiarly comfortable. What originally was fringe has been softened by refinement over the years and now seems mainstream.

After more than 20 years of working to introduce and advance *Learning for Sustainability*, WWF-UK is seeing the first signs of a growing comfort with, and mainstream interest in, *Learning for Sustainability.* The natural resource conservation issues that once were of interest to the 'school's environmentalist' are now of significant concern to the school bursar. The social justice issues that were the interest of the school's 'peace activist' now underpin the citizenship curriculum. Now that many schools are prepared to embrace *Learning for Sustainability* as a fundamental tenet of their school ethos, what is the role of the evolving evidence base?

As WWF-UK looks forward to its formal education work over the next decade, it has identified some key questions that will shape the evidence that it gathers:

- What evidence supports a participatory whole school approach to *Learning for Sustainability* as a strategy for advancing schools' core work – meeting the needs of all learners and cultivating a vibrant school community?
- What evidence shapes the school and community leadership strategies that effectively support and advance a participatory, whole school approach to *Learning for Sustainability?*
- What evidence sheds light on the role of primary and secondary formal education in the lifelong learning continuum that supports *Learning for Sustainability?*
- What evidence influences the kinds of policies and accountability systems that support the range of appropriate practices that characterise locally based and globally placed *Learning for Sustainability?*
- What evidence demonstrates that our emphasis on supporting education systems changes that advance participatory methods, systems and critical thinking skills and action skills will foster the behaviours that will advance the conservation mission of WWF-UK?

Contact us:

WWF-UK welcomes your views and comments. If you would like to respond to something you've read in this document, please e-mail us at:
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The mission of WWF is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

· conserving the world's biological diversity
· ensuring that the use of renewable resources is sustainable
· promoting the reduction of pollution and wasteful consumption

www.wwf.org.uk

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