



WWF SCHOOLS' CASE STUDIES SERIES

Working towards Education for Sustainable Development

Is it possible to deliver Education for Sustainable Development successfully in Secondary schools? How can a subject-based curriculum be used to encourage pupils to make connections, thus allowing them to relate what they learn at school to their present and future lives?

This case study explores how staff at a Secondary school in the Highlands have devised strategies to integrate Education for Sustainable Development into the curriculum for S1/S2 (12-14 year olds). Read on to discover how they have moved from a system of rotating subjects towards a more holistic, theme-based approach which has involved nearly everyone in the school and has established links with the local community.

Making connections

Setting the scene

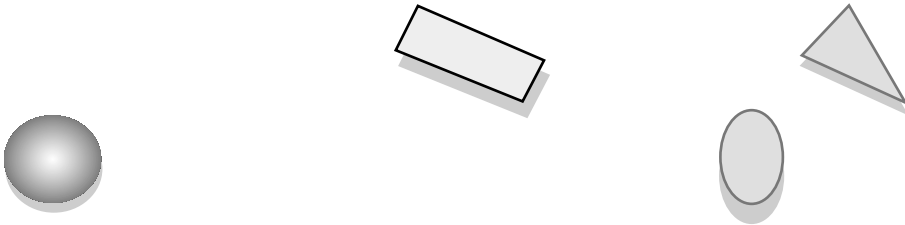
In 1996, Golspie High School established Education for Sustainable Development (ESD) as a rotation subject in S1/S2. This allowed us to build up a reputation for good practice, including successful involvement in many environmental projects such as the WWF Bright Sparks initiative (see 'Background' on the back page). 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 work loads and took attention away from ESD.

Working across subject departments



Source: Cartoon by Angela Martin in *The School Is Us*, WWF-UK/Manchester DEP, 1994



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".


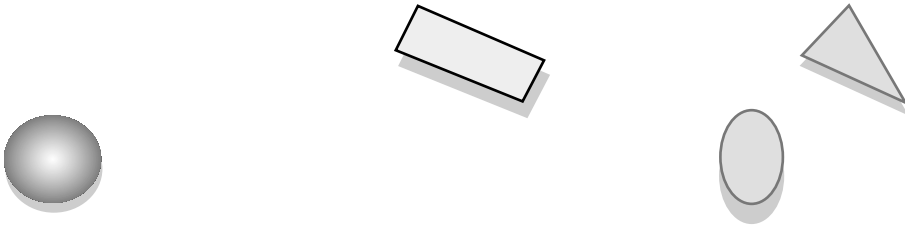
Ironically, acting on this government advice brought an end to rotational subject teaching at Golspie at S1 and S2, effectively removing Environmental Education in its current form from the curriculum. However, at the same time we recognised that these changes brought opportunities to introduce new and 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.



"I think it is very important that children learn about waste recycling, and keeping worms is like keeping any other form of livestock. They need to be looked after to make sure that they have enough oxygen, moisture, food and bedding."

Fergus Morrison, Golspie Meal Mill





Fergus and pupils at the wormery

"I don't mind handling the worms, but it's tickly when they start wiggling between your fingers."

Heather Ward, age 13

Pupils happily handling worms!



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 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


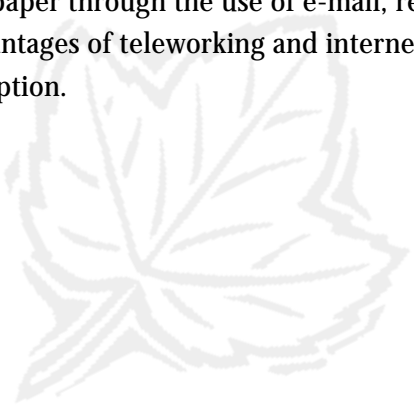
The department decided to adopt a new approach to their existing six week unit on paper-making. This included introducing paper as a material, examination of the paper-making process and creating a piece of artwork using recycled paper.

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 have 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, 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 have helped Dunrobin Castle to reduce its waste disposal problem also
- the role of the school in promoting stewardship and citizenship has been acknowledged by the local community and press.



**Golspie High School pupils
and wormery friends!**

© Clive Grewcock

Worming their way back into the soil

Thousands of worms are chewing their way through food waste from Dunrobin Castle kitchen and Goldspie High School canteen to make rich compost, in a pioneer recycling project backed by a Highland environmental trust.

Consultant Fergus Morrison, who runs Golspie Meal Mill, is supervising the waste minimisation schemes, having set up his own wormery by using pig manure, meal sweepings and chaff, cardboard and paper.

"We are really just copying nature," he says. "One organism's waste is another's food resource.

"I think it is very important that children learn about waste recycling, and keeping worms is like keeping any other form of livestock. They need looking after..."

Biology teacher Sean Meikle at Golspie High School said that canteen staff separate organic material in dinner leftovers for the worms.

"The educational slant in all of this is a lesson in the sustainability aspect and care for the environment," said Mr Meikle.

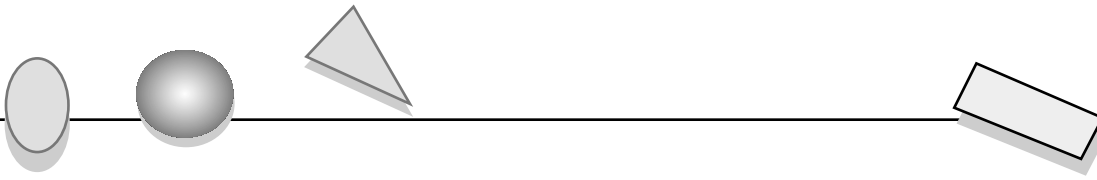
"It demonstrates to the pupils that even on a small local scale we can deal with the waste that we all produce, and how the problem could be addressed on a global scale."

With well-established "green" credentials, the school received a grant from Waste – Highland Action on Minimisation (WHAM) to set up the demonstration wormery.

It is now also being used for a second environmental initiative, with the assistance of a £500 award from WWF and Scottish Hydro Electric Generators scheme to promote cross-curricular development of environmental responsibility...

The intention, according to Mr Meikle, is for the pupils to develop informed attitudes towards issues such as sustainability and stewardship as part of a whole school approach.

Source: *The Northern Times*, 4 February 2000



What's this got to do with Education for Sustainable Development?

Some important learning outcomes achieved and built on throughout the project:

Knowledge and understanding

- how natural processes work and are interconnected
- what is involved in different methods of providing for human needs and wants
- how the processes of decision-making work and how to take part in them.

Skills

- co-operation
- critical thinking
- negotiation
- problem-solving
- informed decision-making
- creativity; an ability to envision alternatives
- a belief in a positive future.

Values and attitudes

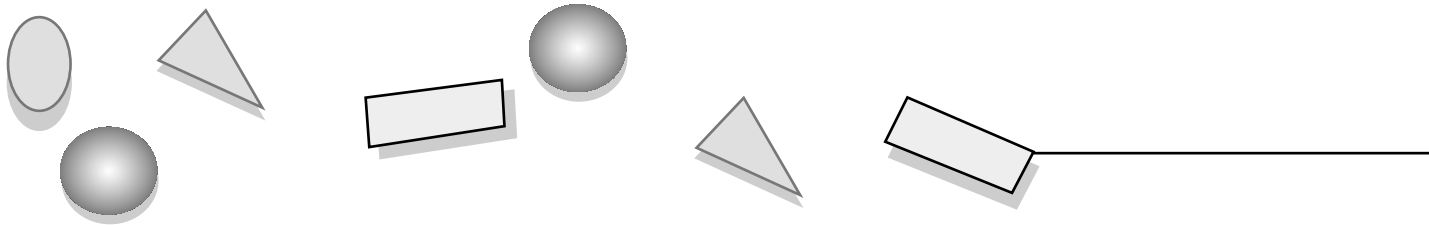
- a sense of identity and self-esteem
- a commitment to the well-being of living things
- empathy and awareness of other points of view
- an understanding that quality of life is not just dependent on standard of living
- an understanding of collective rights and responsibilities
- a belief that, working with others, people can make a difference
- a belief in a positive future.

Golspie High School's Top Ten Tips for Teachers

Please don't feel daunted. We didn't follow all of these suggestions, but we have learned that they are important through experience!

1. Don't bite off more than you can chew. Remember all the other demands on your time and set realistic targets.
2. Highlight blocks of time when you can devote more energy to the project, eg study leave.
3. A plan established at the onset is essential, but be prepared to be flexible and go with the flow at times.
4. Establish a core team at the onset and delegate tasks evenly among the team.
5. Meet on a regular basis to maintain momentum.
6. Identify immediate short-term targets rather than unrealistic long-term goals.
7. Involve as many members of the school and wider community as possible.
8. Keep the Senior Management Team informed.
9. Think of ways to involve pupils at all stages of development.
10. Communicate with other schools undertaking similar projects.

And finally, don't forget to celebrate, reflect on and evaluate your achievements!

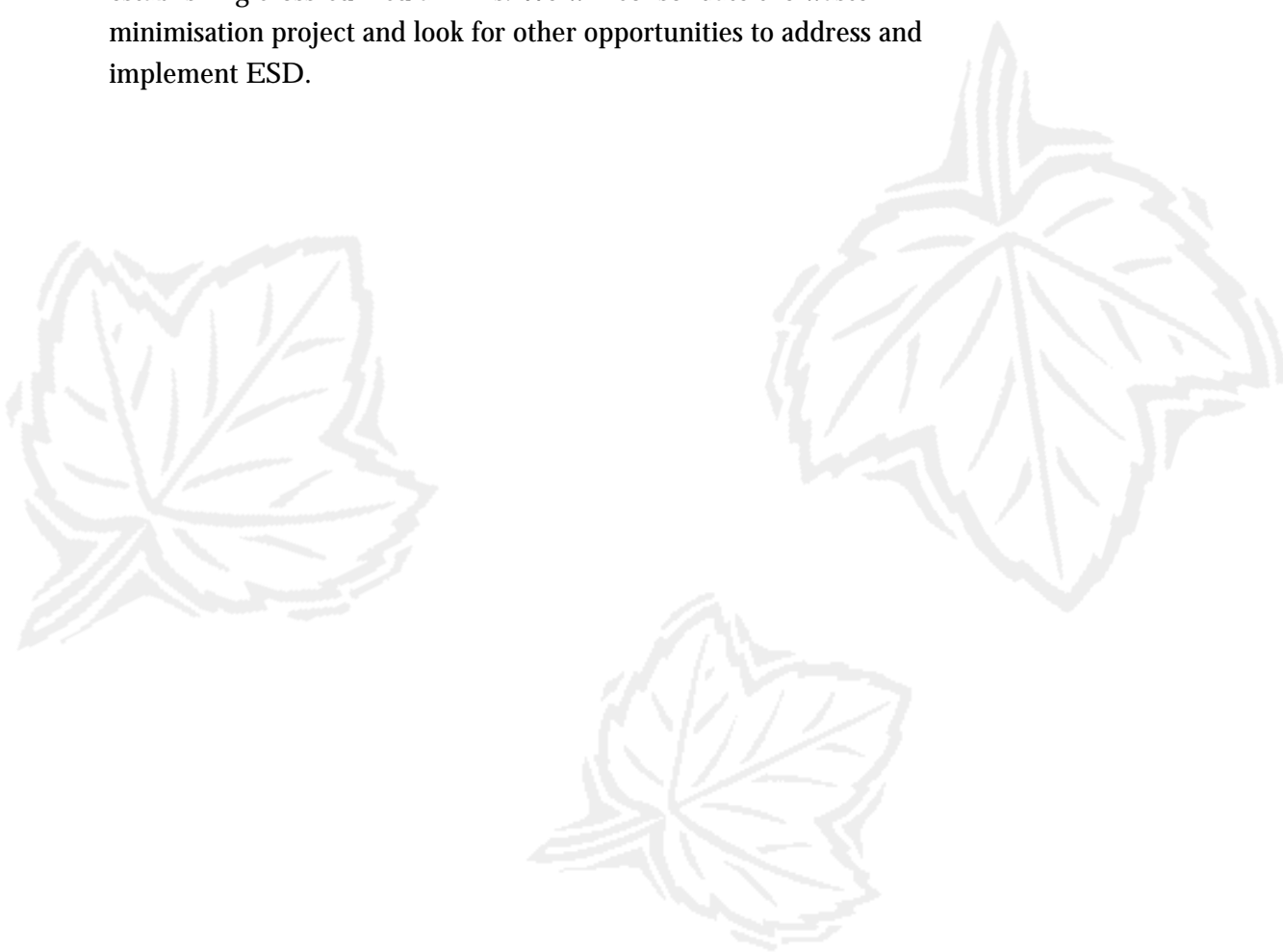


Evaluation

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 (see 'Background' on back page). 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.

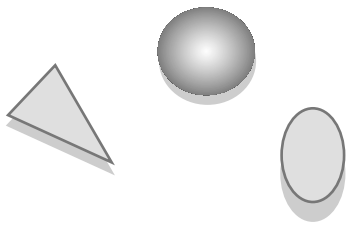


The school and its project

Golspie High School has a current roll of 435 and serves a large rural area including the east coast villages of Sutherland in the far north of Scotland. There is no doubt that people living in remote communities such as ours enjoy a high quality of environment. However, these areas also have fragile economies and it is widely recognised that developing mechanisms for sustainable development in the Highlands is essential. At Golspie, we recognise that we have an important role to play in Education for Sustainable Development, and as a result the school has been involved in many local environmental initiatives. Waste minimisation is a high priority in the Highlands, where transport is expensive and landfill limited. A waste/recycling project is therefore highly relevant and has provided an ideal vehicle to promote ESD at our school.

It is widely agreed that ESD should provide a holistic approach to the curriculum where pupils are given opportunities to develop skills in problem-solving, decision-making and participation. Such learning clearly links with the development of informed attitudes, including an interest in adopting more sustainable lifestyles. We feel that the ideas and insights shared in this case study are relevant to all schools wishing to adopt a more holistic approach in the first two years of Secondary education. As teachers we have been delighted by the many outcomes of our waste and recycling initiative. Perhaps one of the most important has been that the 'environment' is no longer viewed as something covered only by the science department.

For further information on the project, contact the Headteacher, Golspie High School, Golspie, Sutherland.



Valuable resources

Children's Participation, Roger Hart,

Earthscan/UNICEF. ISBN 1 85383 322 3.

Global Teacher, Global Learner, Graham Pike & David Selby, Hodder & Stoughton. ISBN 0 340 40261 X.

Wise Up to Waste, Waste Watch (a support pack for the 15-18 age group). Send a SAE to Waste Watch, Europa House, 13-17 Ironmonger Row, London EC1V 3QG.

Useful websites

www.wastewatch.org.uk – for background

information about Waste Watch, resources and up-to-date tips about waste and recycling.

Acknowledgements

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Background

This case study is one of a series published by WWF-UK. Each one describes aspects of work undertaken by schools across the UK whilst involved in WWF professional and curriculum development programmes.

In Scotland, support was provided through the Bright Sparks and Generators Award Schemes – managed by WWF-Scotland and sponsored by Scottish Hydro Electric – between 1996 and 2000. The schemes focused on the 5-14 Environmental Studies Guidelines (for those outwith Scotland, this is the curriculum context for teaching science, social subjects and technology) which provide an opportunity for integrating the principles of Education for Sustainable Development. In particular, the schemes aimed to stimulate good policy and practice, demonstrating ways to integrate the 'Developing Informed Attitudes' strand within the guidelines. This is one way in which WWF helps develop ideas for new teaching and learning approaches – equipping students for thinking and acting in ways supporting the goals of sustainable development.



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