

Environmental Education



Nature first

Extended edition celebrating this 100th issue

**NAEE becomes a provider of
environmental education**

In the field...



Inspiring Field Studies Educators

40 years of NAFSO

Pages 14-21



**NAEE's Kenrick
project**

Pages 6-9



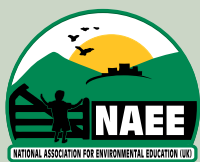
Getting wet

Page 46



Going Batty

Page 32



National Association for Environmental Education (UK)

NAEE UK has, for over fifty years, provided support for educators and education professionals to supply and deliver all aspects of environmental education across all levels of the curriculum.

NAEE (UK) is a voluntary organisation, with no state funding, run by experienced teachers from a wide variety of educational institutions. We use funds raised from subscriptions and donations to promote the teaching of environmental education across the curriculum as well as education for sustainable development.

Membership

Membership is open to those directly involved in environmental education or those with a related interest.

There are different categories of membership.

Student:	Free
Individual:	£20
School or other organisation:	£30
University:	£40

Overseas membership is available and payment should be made in GBP *only*.

Europe:	£40
Elsewhere:	£50

The National Association for Environmental Education is run by teachers, for teachers, to provide resources such as *Environmental Education*, advice and a forum for promoting education for sustainable development.



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I enclose a cheque for £..... Membership Category (see above):

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Editor

Philip Sainty

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National Association for Environmental Education (UK)

University of Wolverhampton

Walsall Campus

Gorway Road

Walsall WS1 3BD

Tel/Fax: 01922 631 200

Email: info@naee.org.ukWebsite: www.naee.org.ukFacebook: www.facebook.com/NAEEUKTwitter: http://twitter.com/NAEE_UK**Contributions:**

The editor welcomes articles and reviews by members and supporters. Contact editor@naeeuk.plus.com for details

Books, DVDs and other materials for review should be sent to the NAEE office above.

The opinions expressed in the articles of this journal are those of the authors and do not necessarily represent those of the NAEE.

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Contents

	Page
Letters from MPs <i>Juliette Green</i>	4
Co-Chairs' letter <i>Gabrielle Back and Henricus Peters</i>	5
Cover story: NAEE's Kenrick Project <i>NAEE's executive members provide environmental education</i>	6
Building a sensory garden <i>Gayle Plant</i>	10
SEN schools projects <i>Sarah-Jane Mason</i>	11
Cover story: NAFSO special features <i>Celebrating 40 years of NAFSO</i>	14-21
Comment: President William Scott	22
Comment: Vice-President Mick Waters	24
History of <i>Environmental Education</i>	25
An overview of outdoor learning <i>Geoff Cooper</i>	28
The Year of the Bat <i>Juliette Green</i>	32
Arts and environmental education <i>Philippa Toulson</i>	34
Early years in Scotland <i>Juliet Robertson</i>	36
Scotland's outdoors <i>Robbie Nicol and Peter Higgins</i>	38
Brownies, Whales and Dolphins <i>Jess Feghali-Brown</i>	40
New Zealand <i>Jenny Lynch</i>	41
Tree project <i>Rebeca Cipollitti and Jennifer Van</i>	42
Cloud studies <i>Muhammad Raza Khan and Alona Sheridan</i>	43
Nature in Taiwan <i>Henricus Peters</i>	44
Water education <i>Nicole Rosenleaf Ritter</i>	46
Review: Conference review <i>David Fellows</i>	48
Review: Book Review <i>Juliette Green</i>	49
Review: Webwatch <i>Henricus Peters</i>	50

Cover main Picture: Pupil from Lozell's Class 3F finding out who lives in the leaf litter, by Heatha Gregory.

Other pictures (l-r): Lozell's pupils investigating minibests and their habitats, by Heatha Gregory; Getting wet at Project Wet; A Common Pipistrelle bat, by Hugh Clarke/BCT

Statutory response

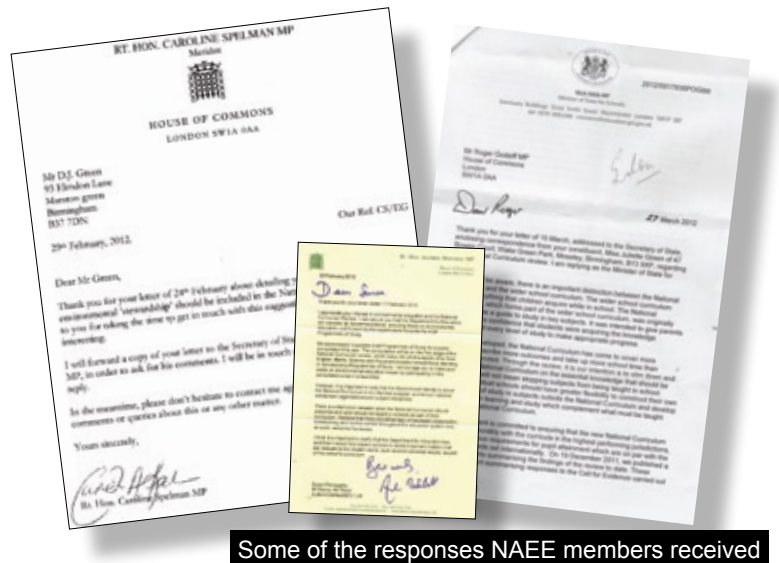
Ministers' responses to NAEF's support for environmental education as part of the curriculum review

Juliette Green
Executive member
NAEE

Earlier this year we asked our members and the members of the NAEF Executive to write letters to their MPs in support of including environmental education in the curriculum. In particular, we wanted to show our support for Aim 5 of the recommendations given by the Expert Panel in their review of the National Curriculum. The suggestion of Aim 5 was to: "Promote understanding of sustainability in the stewardship of resources locally, nationally and globally" and cited examples of "high performing jurisdictions" whose curricula give a high-level reference to sustainability.

Several members received replies from their MPs (representing all of the political parties), agreeing with our points and passing on our recommendations to the Secretary of State for Education, Michael Gove MP. Of particular interest was the letter from Andrew Mitchell (MP for Sutton Coldfield and Secretary of State for International Development), who wrote: "I think it is important to clarify that the Department for Education has said that it would fully expect schools to tackle important matters that are relevant to the modern world, such as environmental issues, as part of the school's curriculum."

As a result of the letters sent by MPs, some NAEF members received additional letters from Michael Gove MP and Nick Gibb MP (Minister of State for Schools). Unfortunately these responses were disappointingly vague and generic, focusing mainly on restating the purposes and process of the review and the distinction between the National Curriculum and the "wider school curriculum", of which we were already aware, rather than referring explicitly to the environmental aspects of the review that we had asked about. (It was also rather discouraging to see that the wording of the letter from Nick Gibb was exactly the same as that of the



Some of the responses NAEF members received

letter from Michael Gove!)

It was encouraging to read that the Department for Education are; "Committed to sustainable development and the importance of preparing young people for the future." They mention the Sustainable Schools Alliance: "a group of voluntary organisations who are working together to provide a clear and compelling offer of support to schools across the country."

NAEF are stakeholders and supporters of the Alliance, but, as is the case with many individuals involved in environmental education, the high membership fee and the additional cost of attending meetings mean we cannot afford membership status.

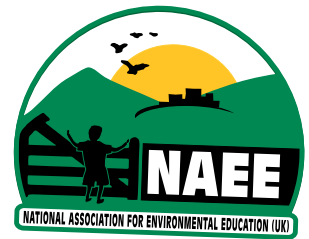
While we support the importance of sustainability education, we feel that this is only one aspect of environmental education: young people must have an understanding of the environment in order to be able to live sustainable lifestyles. We intend to write to both the Secretary of State for Education and DEFRA (who also support the Sustainable Schools Alliance) in order to clarify the differences between ESD and EE and to call again for an inclusion of environmental education in the new curriculum.

Our next step will be to respond to the consultation on the draft Programmes of Study for subjects other than English, mathematics, science and PE, which are due to be published soon.

If any members have comments that they would like us to include in our response, they are encouraged to send them to us at info@naee.org.uk

Welcome to a very special edition

Dear Colleagues,



This is 'special' for several reasons. The milestone of 100 journals is, we believe, particularly significant to mark as, since government funds were cut, NAEF has continued, grown, and has influential clout. We are, for example, in direct communication with key MPs about the latest Curriculum Review (see opposite). Our journal has persisted to report and challenge while some other publications have sadly gone.

It's special because we set our net for a world catch: to find out something of the status of environmental education via our partners in Australia, New Zealand, China, Pakistan, the United States then coming home to our shores to see how we are applying lessons learned here.

In Birmingham, NAEF's launch of the Kenrick Days project (page 6) is a key plank in our new strategy to enrich the lives of children and young people. The timing for those children, and its celebration in this edition, could not be better. The UK theme continues with what may be a first: a feature of our friends in the National Association of Field Studies Officers.

It might be called "field studies", "environmental education", "education for sustainable development", "nature education", "urban education"... The vocabulary may change, but the intention, as pointed out by our special commentators (pages 22 and 24), is that of reconnecting children and young people with the world about them: the remit of NAEF.

Education is, once again, facing dilemmas. With tightening budgets, cut backs and the very nature of environmental education being questioned, again: visit our twitter and facebook pages and 'Bill Scott's blog' (written independently, by our president) for the latest.

Despite this, NAEF holds firm—and is moving forward in several ways.

NAEF's vision is widely recognised and, with the assistance of a Kenrick Fund grant, we are enabling school children, who might otherwise not be able to, to visit an environmental education centre. This is but one of the many ways that we and you, our colleagues and readers, keep our purpose special.

We hope you are inspired by what you read: inspired to keep working with young people to help them to reconnect with their environment; inspired to help NAEF in this important endeavor; inspired to write in and tell us how do this. We continue to look forward to the journey of your ideas and action for environmental education, so together we can make the next 100 editions special.



Gabrielle Back



Henricus Peters

NAEF Co-Chairs



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Bringing Birmingham children to nature

**Sue Fenoughty, NAEF Executive,
formerly Advisory teacher for
Environmental Education, Birmingham**

It is very timely that this, the 100th edition of *Environmental Education*, contains the news of NAEF's latest project, where the Association has branched out to become a 'provider' of environmental education. Since the demise of environmental education as a cross-curricular theme in the National Curriculum and the subsequent withdrawal of Government core funding, NAEF has seen its membership and finances dwindle and despite all our efforts, the future for environmental education and our Association looked bleak. Fortunately there are still people who believe in the importance of environmental education for our children, and our vice-president, Anne Kenrick, is one of them. In memory of her late husband, Hugh Kenrick, who was a keen naturalist, she has donated funds to NAEF to further the cause of environmental education for young people, and in particular to fund bursaries for schools in the urban areas of Birmingham to spend a cost-free day at one of the environmental centres staffed by the city's education department Outdoor Learning Service.

This project will help to highlight the importance of environmental education in the lives of our children—and what many, many of them have been missing since it was wiped from the curriculum. For those readers who don't remember the pre-1996 curriculum, when environmental education (sometimes known as 'environmental studies') is cross-curricular, it is education (i) *about* the environment (theoretical knowledge gained through subjects such as science and geography), (ii) *in* the environment ('hands-on' knowledge and skills gained by going out into the environment), (iii) *for* the environment (gaining the caring attitudes to look after the environment as a result of (i) and (ii)). NAEF argues that without environmental education, children and adults alike cannot really understand the need to live a more sustainable lifestyle, if they don't understand how their lifestyle is harming the planet.

After years of battling to keep environmental education alive, this project gives NAEF the opportunity to put it into practice, with the help of the schools and environmental centres in Birmingham that will benefit from the Kenrick bursaries.



Hugh Kenrick Days

**Nina Hatch, NAEF Vice Chair & Head of
Centre at Mount Pleasant School Farm
Birmingham**

The Outdoor Learning Service of Birmingham City Council has for many years maintained a network of day and residential centres. Spread across the Midlands and as far as North Wales they have offered schools' young people a varied range of adventurous outdoor and environmental learning experiences. When I joined as one of the two teachers based on a working farm in 1988 it was the envy of many local authorities. An annual Environmental Education festival was held showcasing work from many primary and secondary schools.

Sadly the rigours of the National Curriculum followed in 2010 by the financial crisis in local government funding, have led to restrictions in what the Service can offer. Staffing reductions and the need to become self-funding have reduced opportunities for the City's teachers to pursue environmental education at a time when their pupils are even less aware of their relationship to the world today and its future. Some centres have been closed or no longer have permanent staff on the site.

The OLS staff made sterling efforts to adapt to these changes. We still offer days linked to environmental and sustainability themes at our remaining sites. Schools can undertake the John Muir Award for environmental conservation at the Bell Heath Centre and both Bell Heath and Hams Hall centres still introduce teachers and pupils to the type of investigations that used to be the backbone of environmental education. At Mount Pleasant School Farm I introduce children to the links between food and farming and the sustainability of our lifestyle. Visits can still be supported at the Nature Centre and Botanical Gardens BUT the future, probably as a charity or social enterprise is very uncertain. The support of inspirational outside funders such as the Hugh Kenrick Trust will enable this essential work to develop, survive and thrive.



Pond life identification with St Paul's Community School

One small step to support school visits to environmental centres

Mrs Anne Kenrick, H. & A. Kenrick Charitable Trust, Birmingham

It is well known that it was a disaster, in 1996, that teaching and learning about the environment was removed from the curriculum, where it had been delivered as a cross-curricular theme.

As a consequence, teachers-in-training are not equipped to teach our present and future generations to understand, enjoy, respect and care for the astonishing inheritance around us; whether this environment be the sea, the air, the rocks, the earth or the ground under our feet.

Besides the joys of our fields, woods and gardens, the term 'environment' covers a multitude of issues and problems that face the world today: lack of resources, starvation and pollution to name but a few.

The NAEF, originally established in the 1950s, carried on working after 1996 as its members believed passionately in the value of environmental education and they have given their services voluntarily to the work to return this cross-curricular subject to the curriculum. As teachers themselves, they know that children learn from first hand experience, and strongly support visits to environmental centres and also farms where urban children can see that their bread starts as a blade of

grass, that milk comes from a cow, eggs are laid by hens and the wool in their jumper originated from a sheep.

NAEF volunteers have, under their own initiative and limited resources, now launched a 'cost-free' day's outing to an environmental centre for nine schools annually within the city of Birmingham.

I do hope that support, interest, funds and encouragement will be given to these teacher volunteers to help them extend their work to other regions of the UK.

We all want the experience and excitement of environmental education for our own children which will help them to grow up with the knowledge and understanding to care and protect their inheritance, the natural world.

It is my own hope too, that all this effort and inspiration might bring greater respect and care for all humanity.

The Launch of the Kenrick Project on Monday 14 May 2012 was celebrated by a visit from Lozells Primary School, Birmingham, to the Bell Heath Outdoor Centre, Belbroughton, near Birmingham.



Kate Gatherall, Year 3 teacher, Lozells Primary School, Aston, Birmingham

My school, Lozells Primary, is situated in Aston. A densely populated built-up area of Birmingham, and although we have managed to start a garden area in the grounds, there is little in this urban environment that brings nature into the classroom.

We visited the Bell Heath Environmental Education Centre with 58 children, in order to extend 3 areas of our curriculum studies outdoors: science, literacy and numeracy. As part of their science work, my Year 3 pupils are studying life-cycles and habitats, and at Bell Heath they were able to investigate pond and stream life; two new activities which, due to the school's location, had not been possible in Lozells.

The children enjoyed looking for creatures in their habitats, and the pond life was easy to see, but hard to catch.

The class then went to investigate insects to be found in a woodland habitat. They began to see that habitats are everywhere and they began to find out how different creatures adapted to different habitats in so many diverse places. The children were thinking about how insects moved and behaved, especially when trying to avoid being found.

Botanical Gardens, Birmingham, May 2012

Teacher shows 7-year-olds a Swiss Cheese Plant

Pupil: Ooh, is that where our cheese comes from?

Fellow pupil: No, silly, cheese comes from pigs, doesn't it?

When we return to school, this visit will be linked with our garden project where we aim to grow vegetables for our lunch hall. We saw the woodland minibeasts working away, turning the leaf litter into soil – we will be looking at how this important function can be used to help us grow our food, by helping us make our own compost. The children are seeing that even the smallest beings are created with a job to do and need to be looked after.

The whole visit helped students to get a better understanding of why it is important to look after the environment, by protecting local habitats, and why we need to recycle. When we get back to school, we are going to create a play to share with the rest of the school, where my pupils will outline the importance of looking after our environment.

From Caroline Hutton, director of Martineau Gardens, Birmingham

Being so close to the city centre, many people are surprised to find the 'green oasis' known as Martineau Gardens. This unexpected centre is ideal for school groups and we can support teachers in delivering aspects of their curriculum, using our grounds. Literacy, science, maths, drama - we have so many different ways of being able to weave environmental education into the work schools do - indeed student teachers from the University of Birmingham are using our facilities to learn how to deliver Environmental Education within the formal curriculum, taking this important work into the future.

"My shrimp was really, really fast. I did catch it in the end though."

Pupil class 3F

From Jeff Herbert, Deputy Principal, Bell Heath Outdoor Learning Centre

We had a brilliant day at Bell Heath with Lozells Primary thanks to the grant of £400 from The Hugh Kenrick Trust. With school budgets being tight and the high cost of transport it is difficult for schools to afford environmental trips, but with the grant we were able to support the Year 3 teachers with their environment topic. We had two tutors and they worked with a class each. The children were able to do a minibeast hunt in the woods where they found lots of bugs and evidence to show that foxes and rabbits had been there. They had a walk down the stream looking for creatures hiding under stones and they also found newts in the pond. They were also able to explore the woods using their senses; listening for birds, looking into the trees on a 'mirror walk' and making their own perfumes from the herbs growing round the grounds. Afterwards they were able to collect natural materials to make their own environmental art. The children were very creative, some made patterns, others pictures such as a butterfly made from cones, stones, buttercups and daisies. The most common picture was a smiley face which was what everyone had after a great day out!

Whilst Lozells Primary school children were enjoying their day at Bell Heath, volunteers were preparing for a visit from secondary school students and their teacher at Martineau Gardens, less than two miles from Birmingham city centre.

From Steve Miles, Science teacher at St. Paul's Community School, Balsall Heath, Birmingham

The over-arching goal of St Paul's School is to combat disadvantage and support pupils who have been excluded, failed or alienated by large mainstream schools. It seeks to reconnect pupils with the mainstream, and enable them to succeed and achieve.

Having been stuck in a classroom for many years teaching a curriculum that was unappealing to the majority of pupils, I thought it was time for a change. In September 2011, I began the Environmental Land Based Science GCSE which looks at three main areas: (i) Management of the Natural Environment; (ii) Plant Cultivation & Small Animal Care; (iii) Commercial Horticulture, Agriculture & Livestock Husbandry.

My passion had always been for wildlife, studying nature and working with animals. Taking a leap of faith into the unknown and attempting a course that would result in pupils with emotional and behavioural difficulties engaging with the outdoors and animals was considered risky.

Success is already evident. A recent Ofsted inspection remarked how this curriculum had really changed pupils' enjoyment of science. So what have we been doing? First: regular visits to our partner city farm to learn how to look after chickens, rabbits, ducks and sheep were well received. Then pond dipping: sampling the biodiversity in the Birmingham Martineau Gardens pond provided pupils with real-life field work. Here they also prepared beds with composted leaf litter in poly-tunnels and thinned out plants around the gardens. These activities provided opportunities for classroom-allergic pupils to shine and engage with skills that could begin a lifelong passion for gardening. Martineau Gardens also provided opportunities for pupils to be aware of where the food they see on their plates comes from. A particular attraction was the fruit orchard that turned teenagers from the urban jungle, who would usually fill their pockets with junk food, into filling their pockets with apples. It has been a delight

to see pupils who struggle with academic subjects being enthused to come to lessons, learning science through practical experience. In the Summer term we aim to have many more sessions at the Gardens due to the support of NAEF and the Kenrick Trust.

"My millipede ran along and buried itself under the soil and leaves; when I caught it, it rolled up into a ball. The hedgehog rolls up into a ball as well. I think they do it for protection."

Pupil class 3F

Photo: Haetha Gregory



Lozells boys investigate minibeasts and their habitats

Gabrielle Back, Co-chair of NAEF, former science teacher, Coventry

The Kenrick Day Project group has been working tirelessly to organise and launch this beneficial new initiative to start this summer. As we are all aware, the situation for many Outdoor Learning Centres has dramatically changed during the last few years and much of their funding has been withdrawn, forcing them to become self-financing. As a consequence, the cost to the schools for a day's visit has become prohibitive, particularly to those in inner cities that have no outdoor facilities of their own. The funding from the Kenrick Trust will not only give Birmingham's urban schoolchildren the opportunity to develop their knowledge and

understanding of the wider environment, but also will help to give them the attitudes and skills needed to care for our planet, both now, and in the future. Our thanks go to the Kenrick Trust for presenting NAEF with the means to carry out this very meaningful project.

Young disabled champions realise that RIGHTS makes SENSE

Gayle Plant

Participation Co-ordinator and Advocate
Birmingham









Young Disabled Champions (part of the 'Voice is Power' Birmingham Children and Young People's Parliament) are a group of young people who are ambassadors

for children and young people with disabilities in Birmingham. They ensure that young disabled children and young people have a voice in strategic decision-making and processes across the city.

In 2011 the Young Disabled Champions applied for a grant from UK Youth Starbucks to plan, design and create a sensory garden. The young people prepared a very professional 'pitch' for a panel of professionals. They were chosen out of 200 applications and were awarded a grant of £2000.

The Young Disabled Champions were thinking of other children and young people when they came up with the idea to plan and design a sensory garden. They wanted to give children and young people with disabilities who live in residential care the opportunity to enjoy a sensory and play experience. The garden is being developed at the premises of 'Rights and Participation' in Handsworth, where support is provided to children and young people who are looked after by Birmingham City Council.

The Participation Team and Young Disabled Champions have been working in partnership with Parks Services. The plan for the Rights and Sensory Garden includes:

-  an allotment;
-  herb garden;
-  wishing well;
-  hopscotch and giant games;
-  wild flower meadow;
-  bird tables;
-  yellow brick road; and
-  an undercover seating area.

Every child and young person with a disability will have the opportunity to write their 'hopes and dreams for the future' on a stone which will be placed in the garden.

The Young Disabled Champions hope that children and young people in residential care in



Making strategic decisions

Birmingham will take the opportunity to use the 'Rights Makes Sense' Sensory Garden on a regular basis. This will give the children and young people the opportunity to learn new skills, such as planting and growing their own herbs and vegetables, to explore new experiences, work as part of a team and raise their self-esteem and confidence. The Young Disabled Champions found working with Parks Services to be an extremely empowering opportunity; the young people were listened to and all their ideas were used in the final design and build of the 'Rights Makes Sense' Sensory Garden.

There will be a grand opening of the garden to coincide with *G2K12 Day for Children and Young People in Care* in Birmingham on Wednesday 25th July 2012.

More information—

For any more information please contact Gayle Plant: 0121 675 7549,

e-mail: gayle.plant@birmingham.gov.uk.

Details of the 'Voice is Power' Birmingham Children and Young People's Parliament and Young Disabled Champions can be found at www.vip.bham.org.uk.

Vulnerable children helped back into learning

Sarah-Jane Mason

SEN Schools Project Officer
Royal Horticultural Society

The Royal Horticultural Society (RHS) is committed to inspiring and supporting gardening in schools and has over 15,000 schools registered to the Campaign for School Gardening. My name is Sarah-Jane and I am a Campaign for School Gardening Outreach Project Officer. I have been working with schools in West Yorkshire since 2006.

For the last 18 months I have been involved in a project called *Moving Up, Growing On*, which looks at the potential of gardening to improve engagement with learning, and employment opportunities for young people with Special Educational Needs (SEN). During this project I worked with 130 students (ages 4-19) and 80 teachers across six different learning environments. All the students had different educational needs, meaning that a person-centred approach was vital to their learning. The findings of this project are now published in a new report, *Moving Up, Growing On – Gardening for a better future*. The *Moving Up, Growing On* project and report were made possible through the legacy left to the RHS by the late Peter Rees.

Gardening is a practical subject, so for a student with SEN this means that it is accessible: it makes learning fun and opens up a new world of possibilities. My work with Hafsa, a hearing-impaired student, clearly demonstrated how gardening can affect a student's wellbeing and confidence. When I began working with Hafsa she was a very quiet student and would not speak up in class. The nurturing effect of the garden allowed Hafsa to develop new gardening skills, new friends and the confidence to make a presentation to the whole school at a Green Day event.

Gardening is also a fantastic tool for breaking down barriers and offering children a different environment in which to learn. The *Moving Up, Growing On* report shows how gardening in schools can help even the most disengaged students. My favourite story from the report is that of Ghulam, a 13-year-old who was starting to become disengaged from education. Following my work



A clear engagement with raising plants

with Ghulam, he now wants to start his own gardening business when he leaves school and he has enrolled on a placement to gain accreditation through the National Open College Network for his practical skills.

During their involvement with the project, students learnt an average of 15 new horticultural and life skills. These skills are providing a foundation for some students to move into further education and participate in work experience. These achievements will be a vital part of their progress towards living a more independent life.

More information—

For further information on the RHS Campaign for School Gardening visit:

www.rhs.org.uk/schoolgardening

To download the full report visit: [http://apps.rhs.org.uk/schoolgardening/teachershome/resources/](http://apps.rhs.org.uk/schoolgardening/teachershome/resources/specialeducationalneeds/default.aspx)

[specialeducationalneeds/default.aspx](http://apps.rhs.org.uk/schoolgardening/teachershome/resources/specialeducationalneeds/default.aspx)



Early Childhood Action

Young children's need for natural, unforced early learning

MARIE-LOUISE CHARLTON
and **RICHARD HOUSE**
Co-Founders
Early Childhood Action

*It is not half so important to know as to feel,
when introducing a child to the natural world.*
Rachel Carson

The new early-years organisation Early Childhood Action (ECA) is currently creating a framework document for early childhood that will be published later this year, constituting a direct ideological challenge to England's revised Early Years Foundation Stage (EYFS). Below we show how ECA's central values are consistent with an approach to early experience that is deeply rooted in environmental and ecological concerns.

Stephen Moss's new National Trust report on 'natural childhood' maintains that children's health and education are suffering because they do not have sufficient experience of nature: a modern condition sometimes known as 'nature deficit disorder', with today's 'cotton-wool culture' seriously disrupting children's opportunities for experiential learning. According to Moss, less than 10 per cent of children are now playing in wild spaces: disturbingly down from 50 per cent just 30 years ago.

It is essential that today's young children come to experience from an early age nature's joys and beauty. As mature citizens they will have the stewardship



Learning through play

responsibility for protecting and caring for our world, and for passing it on to future generations intact; yet we continually deny children their right to explore and wonder, and become knowledgeable about, the mysteries of our planet.

The benefits of outdoors experience for young children are legion. For example, embodied, experiential learning is privileged, rather than narrow cognitive learning; children directly experience the changing seasons and the archetypal rhythms of life: birth, development, decay, death and rebirth; they can move, and run, learning experientially about their own bodies and their limits, pitting themselves against the natural world: climbing trees, balancing on walls and developing gross motor skills in the process. They learn about caring for the environment; they experience wonder, with space for learning about calmness and serenity. And, last but not least, the outdoors is NOT a television screen or a computer game!

The outdoors can (thankfully!) displace alienating technology, as Britain's recently retiring Olympic medalist Amy Williams recently declared when praising her own TV-free childhood.

Conversely, denying children access to the outdoors is detrimental on many levels. Adults need to access the outdoors, with lack of sun-light



Challenging behaviour

having damaging physical and mental health effects; but for 'adults in the making', these needs are even greater. Moreover, outdoors, children spontaneously initiate imaginative play in which deep-level learning takes place—such an essential aspect of healthy early development and learning.

The term 'nature deficit disorder' recognises that many of young people's problems are due to lifestyles far removed from our original roots. Our human propensity is to interact in and with the natural world, and not with non-human technologies. Despite our rapid evolution, we are simply not ready for a sedentary, predominantly computerised world. Our basic biological needs must be met if we are to maintain physical and mental health, and function optimally.

Learning through practical experiences naturally precedes abstract learning, especially for children. Learning through play in a living, engaging outdoor environment not only 'scaffolds' later learning, but reduces the risk of obesity, stress and depression. If practitioners and children choose to interact with the wealth of natural resources that surround them outdoors, then—appropriately, perhaps, inadvertently!—all areas of learning will be addressed. Many programmes helping children with additional needs are also closely involved with nature and living things.

Young children need to be able to make judgements based on experiential knowledge of what they can do; and if such proactive exploratory learning is missed early on, children will assess risk less competently. Being in charge of their own activity in a testing environment raises confidence and self-esteem, encouraging perseverance and developing resilience. These qualities are all highly desirable not only in life in general but also when immersed in a learning situation. Skills and qualities adopted and strengthened in the outdoors can therefore be transferred to, and accommodated in, all learning situations to positive effect. Thus, Howard Gardner has updated his celebrated theory of 'multiple intelligences' to include 'naturalist intelligence' for which there is now a list of descriptors that marry well with, and are transferrable to, other intelligences, and which some teachers are making good use of.

As founder-members of Early Childhood Action (ECA), launched to challenge the 'too much, too soon' mentality that dominates the government's legally mandatory Early Years Foundation Stage 'curriculum' to which all England's young children from birth to 5 are statutorily subject, we are highly sympathetic to those who place learning through nature at the centre of early childhood experience. Whilst ECA is not campaigning explicitly for an exclusively outdoors early-years curriculum,



It's all gone a bit Winnie-the-Pooh

all of the above arguments are ones which we enthusiastically embrace in our approach to early development and learning.

More information—

For further information about ECA and to offer your support, please visit www.earlychildhoodaction.com

Further Reading—

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Marie-Louise Charlton is an Independent Early Years Consultant, and Richard House is Senior Lecturer in Psychotherapy, University of Roehampton and a trained Steiner Kindergarten teacher.
 Correspondence: shadinsky1@yahoo.co.uk or r.house@roehampton.ac.uk





What is NAFSO?

NAFSO is the only organisation in the British Isles whose principal function is to represent and support professionals employed in field studies.

It is a voluntary organisation with an Executive Committee and President elected by members.

It aims to provide a voice for its members, enabling them to express and share views on the issues, problems and developments in the major areas of environmental and outdoor education.

What does NAFSO do?

-  Organises: annual Professional Development Event and weekend conferences for members;
-  Publishes: annual Journal & Review; a termly newsletter and occasional papers, such as *Learning Outdoors—everyone's included* (see page 19);
-  Engages: with and advises national bodies e.g. LOTC, NAEE, SEEd;
-  Promotes: high quality field studies within the world of education.

WHO's WHO in NAFSO?

The range of interests and professional expertise within the membership of NAFSO is well illustrated by those who are currently on the Executive Committee.

Peter Smith

Has served as President of NAFSO since 2006 and his wide understanding of current debates concerning schooling and education is much valued.

Eddie McDonnell first joined NAFSO in 1974! A geographer by training, his teaching career includes being Head of a Field Centre in Northern Ireland. He serves on NAFSO's Exec.as *Treasurer*.



Chas Matthews

('Chairman Chas') has ensured that NAFSO has been at the heart of discussions and decisions at national level, especially through Growing Schools, FACE, NAEE, SEEd and LOTC.



Trish Zimmerman is currently Secretary but has contributed to many of NAFSO's influential publications. Now a free-lance teacher based in Bournemouth, involved in field studies, Eco Schools and outdoor activities: anything that gets kids 'out and about'.



Tony Thomas NAFSO's *Vice Chairman* has spent a lifetime championing outdoor learning, especially field studies, and was instrumental in the establishment of the UK's Council for Learning Outside the Classroom.

Clare Shorter has taught at Hampshire's Sparsholt Schools' Centre for Environmental Education for over 10 years. Having had a varied background in wildlife conservation and publishing in the UK and in Africa, Clare's main contribution to NAFSO is as *Newsletter Editor*.

David Etheridge is very much 'at home' in the wild countryside of England's North-East. Since 2005, he has co-managed Durham LA's 'Outdoor and Sustainability Education Service' (OASES) one of the largest in the UK. He is *Website Manager* for NAFSO.



Dave Jackson

Dave and his wife Sam have both been very active in NAFSO in recent years with Dave now *Membership Secretary*. He has a glamorous-sounding job as manager of the Eagle's Nest Field Study Centre high in the Cevennes Mountains of Southern France.



Michelle Rogers NAFSO's *Journal Editor*, ran the Field Studies department for Allnatt Venues in rural Dorset until recently. She now works in mentoring and training with the Institute for Outdoor Learning (IOL) and teaches at RSPB's Conwy Reserve amidst the fantastic landscapes of North Wales.



Tom Davis

With a geography background, having rejected the idea of a school teaching career because it might mean too much time indoors, Tom is now responsible for Study Courses (including Field Studies) throughout PGL in the UK and overseas and has seen this work expand greatly in its scope and quality.



Dan Moncrieff is Head of Centre at the Field Studies Council's 'Rhyd-y-Creiau' centre in Snowdonia. He joined the Exec. in 2010 and immediately threw himself enthusiastically into organising NAFSO's annual Professional Development Event for 2012.



These are some of the answers to the question "*Why are you on the NAFSO Executive?*":

"Over the years NAFSO has done a lot for me, so now that I'm a 'gentleman of leisure' I'm taking the opportunity to give something back."

"I enjoy the opportunity to meet members from a huge range of working situations and experiences and I believe that diversity is a key strength of the organisation."

"Being involved gives me opportunities to learn from the other great work going on around the country which other members are spearheading."

"I want to support colleagues who are working hard to ensure there is an organisation to enable people to share ideas, learn from each other and ensure they are kept up to date with the changes in education."

"I joined the Exec. to help develop NAFSO and to discover more about the national fieldwork scene. I have stayed because they are a great team to work with."

"I was pleased to accept an invitation to join the Exec., as a way of supporting an organisation with high quality outdoor learning at its heart."

"I enjoy being part of a committee that does influence the industry and being able to play a role in that."

nafso.org.uk

Happiness: Caught or taught?

Can field-based education contribute?

This article by Peter Smith, president of NAFSO, has been précised from the original in the 2011 *NAFSO Journal and Review* where the whole article, with full references, can be read: www.nafso.org.uk

“I want my child to be happy in school” is a consistent and persistent parental wish. The position of UK children in the UNESCO [2007] report on their wellbeing, at the bottom of some 30 rich countries, shows the importance of this continuing parental aspiration. Can, and does, the way we teach, particularly the way we teach field studies, help promote and develop children’s wellbeing and happiness?

To be happy, to enjoy a happy life, has been an ambition of people from the earliest times. It would be possible to go on at length quoting eminent sources such as Epicurus, Seneca, Kant, JS Mill, the Dalai Lama and the American Declaration of Independence to illustrate the point that happiness is a vital feature of human life. It all depends what you mean by happiness. Whether this happiness will be caused by the school is not clear with no way of clearly and verifiably knowing quite what it is that the school does, or does not do, that will generate this hoped-for happiness. It will almost certainly be everything about the school and its ethos.

The topic of happiness is constantly relevant in education, though rarely discussed as such. As all teachers must know, unhappy children will surely learn less than happy ones. Rousseau considered this at length in his book *Emile* [1762] and came up with views about styles of learning and experiences that continue to influence progressive and liberal educators, especially those who favour and use the outdoor and offsite environment as their classroom. Recently, Anthony Seldon [2007], the head teacher at Wellington College, has made a strong and public case for having ‘happiness’ as a specific feature of the school’s curriculum. One area of learning he proposes is how simply being out in the natural world can improve children’s wellbeing.

What can field-based teaching and those working from field centres do to contribute to happiness and wellbeing? Can fieldwork help make happy or happier students? The answer is almost certainly yes, if it plays to its known strengths and successes. What it must not do is to assume some sort of monopoly of the best practices, which

should in any case be found in most schools and classroom - based teaching. What particularly, in its emphases and practices, can fieldwork bring to promoting some sort of happiness or contentment?

Most fieldwork is undertaken outdoors and there is widely available evidence that merely being outdoors contributes positively to healthy and happier children [RSPB 2010, Natural England 2010]. This is not just the feeling that being outside the confines of the school buildings and classroom must be better than being inside. Much fieldwork can and does take place within the school estate, only minutes from the classroom [Ofsted 2008]. There has been discussion of ‘green exercises’, of being in a green environment for five minutes a day to promote mental health and a happier disposition [BBC 2010, Barton 2010]. Although relating specifically to gardening, the Royal Horticultural Society [RHS 2010] has shown children being happier and better behaved when involved in growing things outdoors. Broader definitions of field-based work should include gardening, and have many of the same characteristics which make for the arousal of interest and curiosity by being outside.

Being successful in learning is a major key to self-esteem, and to subsequent happiness. However just doing fieldwork is no guarantee of success, achievement or happiness. The value of the field is that children can often have, and be given, more opportunities for being independent from the near presence of a teacher in this wider environment. Emotional satisfaction can often be seen in this style of learning, with a social dimension to it that requires successful discussion and negotiation. It is active learning, with the processes and outcomes being more in the hands of the students than might often seem to them in their more traditional academic surroundings.

A difficulty with considering the nature of this sort of happiness is whether it is an end state, a goal to be achieved, or whether it is a process happening all the time, or both! Do we only know



with hindsight that we were happy, or should we think that not being unhappy now is some sort of state of happiness? This may be relevant to the ways in which some sorts of fieldwork experiences are very memorable and contribute positively to the way people look back on them. These are often the good shared memories of reunions. The memories may well be there because of the rarity or relative infrequency of the events away from the school, residential experiences particularly. Of the 15000 hours or so that children spend in their secondary school careers being educated at school, [Rutter 1979] only a small amount is spent doing field-based study. Of course, not all fieldwork is enjoyed by all children, and a cold, wet day can put anyone off, though the novelty and fun of a residential setting can make up for some of this. In any case, challenge the average child with the question of what they were doing, say, three or four weeks ago in the classroom, in almost any subject, and then ask them to recall the events of a field-based day somewhere, be it a museum visit or a geography field day. Recall of the latter will certainly be stronger, and based on the greater novelty of that experience this ought to lead to happy memories for most.

To return to the initial question: it is clearly difficult to prove any direct causal relationship between undertaking field-based study and being happy, though some associated elements may be recognised and accepted. It is reasonable to demonstrate that the various elements of field-based work, their novelty, their difference in style from much class-based teaching, the anticipation and excitement engendered, the independence in working methods they can offer to learners, the value of social and group-based work undertaken, the memories generated and the motivation to achieve successful academic outcomes are all things which, collectively, make for students' greater wellbeing, or whatever you wish to call happiness.

Green Heart Den outdoor classroom

This article is adapted from NAFSO's first electronic publication: *Learning Outdoors—everyone's included!* Examples of best practice promoting inclusion of all young people in real learning opportunities in school grounds and outdoor environmental centres.

This 'urban oasis' in Barrow-In-Furness, Cumbria, is proving to be a great outdoor classroom for students from local schools. Pupils are undertaking the role of 'Junior Wardens' to manage and protect this site. Colin Smith, Head teacher of one of the local schools involved, commented on their work saying:

"It's a brilliant scheme. It encourages children to take responsibility for their environment and work cooperatively for the good of the community."

The Green Heart Den is managed by the Marsh Street Arches and Garden Community Interest Company who are a group of local champions who have been working with the 'Junior Wardens' as part of their John Muir Award whilst transforming an area of derelict land into a community garden.

The JMA is an environmental award scheme aiming to encourage people of all ages and backgrounds to discover, enjoy and care for the planet's wild places which are places that give people a sense of wildness from mountain top to local garden, or anywhere nature prevails. It encourages awareness and responsibility for the natural environment in a spirit of fun and adventure. Pupils have to do a range of activities that involve the following four challenges: discover a wild place; explore it; conserve it; share their experiences. There are three levels of the John Muir Award with the same four challenges repeated with increased involvement in terms of time, activity, responsibility and ownership. The John Muir Award is open and welcoming to all, regardless of age, sex, race, class or ability. Participation can be through involvement in an organisation, as an individual or small independent group or family. For more information visit www.johnmuiraward.org and www.greenheartden.blogspot.com

Ten top tips for teaching outdoors

David Fellows, NAEF executive, reviewed the NAFSO publication *Food, Farms and Fieldwork—a resource for teachers in Environmental Education* (Autumn 2008). He found this article, written by Clare Shorter, useful so here it is in full. The whole magazine is available in an electronic format on www.nafso.org

1. Plan for preparation and follow-up work in order to maximise the learning from practical outdoor sessions, day visits or residential visits to field centres. Structure the learning on the day with an introductory warming-up activity, then focus on the specific learning, review the learning, perhaps refocus for a second session then review again. Ideally finish with a calming session.
2. Before you step outside agree the physical limits with your pupils. Bushes, paths and flower beds may create boundaries or pupils may be told to stay within sight of you and keep looking out or listening for signals. As the pupils learn the behaviour expected of them and can be trusted to respond to signals, you can gradually extend the working area and outdoor time.
3. Have a recall signal such as a duck whistle for “freeze and listen” and an owl hoot for “come closer and listen”, which is much more fun and friendly than an ordinary sports whistle.
4. Go out whatever the weather (apart from extreme conditions) as weather is part of the experience. Generally only adults comment on the weather! Can pupils bring their wellington boots and waterproof coats to school on a regular basis? Perhaps the school can have a central boot collection and a class set of waterproofs.
5. Help the pupils learn to gather around so they can all see and hear. A circle is often the best arrangement, or a half circle. Use natural features, chalk lines on the sports field or circle games they can learn.
6. Group control of children in windy conditions can be difficult as they are often more excitable and cannot hear you. Choose sheltered stopping or meeting places and ensure you can all hear each other.
7. Stand so you are looking at the sun. If the pupils have their backs to the sun they will have no excuse for not looking and listening!
8. Dirty hands are good! Getting everyone to join in is successful. Dirt can be washed off hands and children cannot feel textures through gloves.
9. Old clothes for outdoor work are sensible. New white trainers, strappy tops and shorts are inviting parental disapproval, sunburn and nettle stings in that order! Dressing for the weather needs to be taught and learnt in these days of central heating and general ignorance of the seasons. Choosing the right clothing for anticipated weather conditions makes good preparation. It can also help pupils to learn about managing risks.
10. Keep paperwork to a minimum or, better still, have no clipboards or worksheets at all! Collected items or photos can stimulate memories for a brainstorming session later. If pupils must record then learning to use key words is an appropriate skill. Handwriting and spelling don’t matter in fieldwork provided pupils can read and understand what they have written afterwards. Cardboard recording sheets last longer than paper even in damp conditions. Pencils write on wet card, pens do not. Large clear plastic bags make good clipboard covers and pupils can put their hands inside to write.

Having creative fun within the environment

An all-inclusive activity

Emily Homfray

Head of Teaching
Allnatt's Chatsworth Centre

The outdoor environment can be used in a very creative but subtle way to encourage learning. We may be familiar with land art by the likes of Andy Goldsworthy, but how many of us have

considered using such art as an environmental education tool? Environmental creativity, where children use natural or other resources found outdoors to create their works of art, is an all encompassing activity since it can be carried out in any outdoor setting, be it a beach or school yard.

One of the most important things about environmental creativity is that children find it FUN. But there are other benefits: it often helps break down barriers because a child that is reluctant to touch, say, smelly and slimy seaweed, may focus on the colour or texture of the material for his/her artwork and happily pick it up! It also provokes questions about sustainability since a piece of art is ephemeral and natural materials will return to nature. If litter is used, children can see that even something we see as rubbish can produce something of interest and they have to consider whether they should clear it up at the end of the session.

A good introductory activity is to ask children to create either a self portrait or picture of an animal that they can identify with. Since this is a personal sculpture it can allow you

insight into the child's personality. It is important that you as group leader and other teachers carry out this task too as it helps ease any inhibitions that the children may have as well as providing some hilarity.

For a team building exercise, an interesting method is to divide a class into groups of, say 3 or

4. Each group has to create just half of a symmetrical sculpture in a given time; butterflies, fish, dragonflies and trees work well as objects. At the end of this time, groups move to another sculpture and have to complete it, taking care to copy it exactly by finding similar materials.

Images of works of art can be shown to a group to inspire them to create a piece of art for themselves. Children are told that they can create something as big or as small as they want but that it has to be based on just one word, such as 'lines', 'circle' or 'hole'.

Environmental creativity can be structured for children of different abilities, for your own learning objectives and be used for both individual reflective sessions as well as group work. A child's imagination is immense and often surprising and such activities can help in viewing the world around them in a new way.



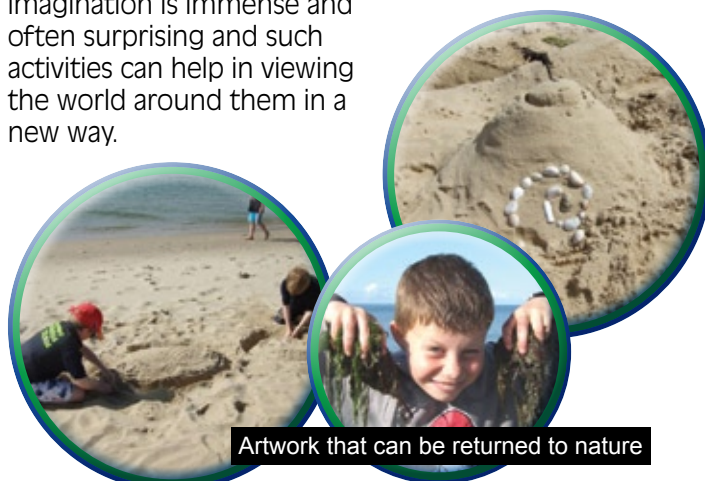
Seaside seaweed sculpture



Miniature artful specimens



Photos: Emily Homfray



Artwork that can be returned to nature

Interactive Learning and Assessment for Learning (AfL) in the Outdoor Classroom

Daniel Moncrieff

Centre Manager
FSC Rhyd-y-Creiau

Field tutors using the outdoor classroom are adept at working out where students are with their learning and how they can progress. We are often faced with a new group each morning and we need to quickly check how much students know about a topic and use this to correctly pitch the activities we are running. Practitioners working in this environment develop effective questioning skills to help them with this challenge and this article focuses on activities designed specifically for outdoor learning, based on a workshop at the NAFSO January 2009 conference.

David Job (1999) outlines how the most effective learning is likely to occur when students are encouraged to both think about the

environment they are studying and also have an emotional response to the place they are in. He argues that investigations set up for students often lead to a mechanistic interaction with the environment when undertaking fieldwork. For example, a typical river study may involve some high level thinking setting up hypotheses, and considering what methods to employ to test these. Once they return from the river, identifying trends in data and coming to some overall conclusions is often challenging. However the level of thinking involved in standing in a river and measuring the depth and width can be limited. How many of us have listened to students recording depths of 90cm, in 10cm of water, because the metre rule is the wrong way around? An all-too-common mistake, which illustrates how students are not always thinking and connecting with the location they are in. Instead they are at times robotically collecting data. The following ideas are not suggested as a panacea to this problem, but are some ways in which I try to help students to think in the field and provide ways for you to check their understanding.

Our outdoor classrooms can be cold and wet, and this can hinder learning. One technique, which can be useful when outlining different concepts, is 'Kungfu landforms'. If you give key landforms and processes in the landscape a Kungfu move, every time you say that term students make the sound and move associated with it. For example, if you are explaining how headlands are formed, you might want a Kungfu move for a stack where everyone stands tall, and because stacks are big high features students shout 'stack' in a high voice. Moves can be invented for any landform or process, and where possible the move and

Students using Kungfu to explain the formation of glaciated landscapes in Snowdonia



the sound you make should link to the term you are describing. This gives kinaesthetic and audio learners a hook to hang their learning on, as well as keeping them warm as you explain the key concepts you want to cover; and it helps you check everyone is following your explanation.

To check students' understanding of a key concept you can ask everyone to explain the idea to a partner nearby. Then you can circulate and check for understanding and awareness of technical vocabulary. In bad weather this may be difficult; an amusing alternative is to ask people to explain a concept to a partner in one minute through mime: misconceptions on the formation of truncated spurs in the mountains or longshore drift on the beach can be spotted even when the wind is too high to hear anyone properly. Also this kinaesthetic activity, hopefully, reinforces learning and keeps everyone warm. One of the advantages of outdoor learning is there is plenty of 'grey' time, such as walking between sites, in minibuses and when students are collecting data, when you can discuss misconceptions with individuals and small groups whilst everyone else is occupied. The first step in this AfL process is to identify who does not understand the key concepts.

To ensure students are spotting some of the features around them 'I-spy' can be a useful starter activity when visiting a site. Students can play against each other, choosing increasingly technical terms to gain a competitive advantage. This helps you identify the vocabulary students are familiar with. It can also be a useful way to start a field sketch activity, as students will have already picked out many of the things in the landscape that they can label their picture with.

Helping students understand the patterns and complexities operating in the environments we visit can be difficult. Most of the students' data is analysed when we are removed from that environment back in the classroom. Sometimes students find it hard to remember where data was collected from, and thus difficult to explain trends at the end of their investigation. Digital photographs are an easy way to remind students about the places they visited, and can be projected up quickly while data is being analysed. Alternatively students can begin to look at their data out in the field; and using 'people graphs' can be useful here. One of the easiest to create is two dispersion graphs side by side. For example, if you have eight pairs of students collecting data on the percentage cover of plants on and off a path the following method could be used:

- 1. Ask each pair of students to decide which student is going to represent the data they found on the path, whilst the other



Taking an imaginary picture of a notable landscape feature ('geo squishing')

represents the data of the path. Ask them to remember the number they represent and where they represent data from on or off the path.

- 2. All the students stand in one long line in order from biggest to smallest.
- 3. Now ask the students representing the data from off the path to take a big step forward.
- 4. You now have two dispersion graphs side by side and you can see which tends to have more vegetation cover, and how great the overlap is between your data.

If you have any outliers or odd results you can visit where that data was collected while still out in the field. Also this is often a good place to introduce and identify the median, mode and range of your data. The aim is to ensure students begin thinking about their results in the field, rather than only back in the classroom.

To review learning, a handy tool can be an adapted use of Environmental art. Give students ten minutes to use the environment around them, and anything in it which isn't going to be damaged by its use by students, to create a piece of environmental art showing something they have learnt about during the session. They might create a sculpture of a mini-beast they have found, or make a representation of a meander. This allows you to circulate and listen to students talking about their creations and to check for misconceptions, whilst this sensory activity reinforces learning, and often works well as a quick plenary.

Making the most of the outdoor classroom must involve students interacting and thinking about the world around them. Memorable activities for students to hang their learning on can be more useful than repetitive data collection. We, as practitioners in these inspiring environments, need a range of techniques at our disposal to help them to do this and to check they are making effective progress.

Further Reading—

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You can contact Daniel at:
daniel.rc@field-studies-council.org



1979 and all that

Prof. Bill Scott
President
NAEE

The December 1979 edition of *Environmental Education* [Volume 11] carried a 5-page article about an HMI environmental education text: *Curriculum 11-16: supplementary working*

papers. However, the article was just a verbatim copy of the text as though it needed no introduction, explanation, or comment. This tone was matched by Keith Barber's editorial, where you can almost hear his sigh:

"It is perhaps inevitable that this edition of Environmental Education should include reference to H.M. Inspectorate's Curriculum 11-16 Document on several quite separate occasions. The publication from D.E.S. has been long awaited, and although it does not contain anything revolutionary it does give recognition at last to work that has been going on for years."

This "work that has been going on" included NAEE's own 1976 statement of aims that were explicitly referenced by HMI, as were the Tbilisi declaration, UNESCO and Council of Europe publications, and influential UK documents by the Schools Council, and by authors such as Sean Carson. A job well done, perhaps?

Obviously not, of course, and I do wonder whether the NAEE Executive missed the document's small print about its status:

"This publication is intended to stimulate professional discussion. The views expressed are those of the authors and not necessarily of the Inspectorate as a whole or of the Department for Education and Science. Nothing said is to be construed as implying Government commitment to the provision of additional resources."

Clearly, although the DES [Department of Education and Science] may well have published the paper, it did not own it. What a pity; on every count.

Re-reading the text, 30-plus years on, I was struck just how pertinent, and 'revolutionary' even, some of it now feels. The document begins by stating that environmental education...






"is to be regarded as a function of the whole curriculum, formal and informal...furthered through established subjects and by courses in environmental science and environmental studies which in varying degree are interdisciplinary. There is a common purpose in these to foster an understanding of the processes and complex relationships which effect environmental patterns, together with a sensitivity to environmental quality and a concern for the wise and equitable management of the earth's resources."

The second sentence here is all that is provided by way of contextualisation, and it shows both a liberal education approach (foster understanding) and a more value-orientation (concern for wise and equitable use of resources). The overall liberal orientation wins out, however, given the lack of reference to problem-solving which tends to dominate UN texts.

HMI then cite the Tbilisi goals for environmental education and note that; *"it is desirable to identify a set of overall aims for guidance in syllabus and curriculum construction"*. The paper then asks how a school is to translate such aims into realistic objectives for 11-16 pupils, noting that the school *"bears only a part of the total responsibility"* for this, and outlines a *"possible framework"* focused around

Awareness Competence Understanding Concern

These reflect the five Tbilisi categories of environmental education objectives, which are to help social groups and individuals:

-  acquire an awareness and sensitivity to the total environment and its allied problems
-  gain a variety of experience in, and acquire a basic understanding of, the environment and its associated problems
-  acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection
-  acquire the skills for identifying and solving environmental problems, and to...
-  provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

The focus on the social as well as on individuals is striking and HMI develop their own ideas from it that are relevant today, stating:

"There is an implicit progression from learning which is mainly directed towards personal development to learning which increasingly takes into account the needs of society."

HMI then set out a range of topics that the informed citizen could be said to need a degree of knowledge and understanding of, arguing there is good reason to try to provide as wide a range of insights as possible. They go on to say something which seems to be of the utmost importance, and which, these 30 years on, is now eschewed as being too demanding and demotivating:

"What is perhaps most important is to convey the realisation that environmental systems are complex and environmental problems not easily resolved. This cannot readily be done solely through the medium of individual subjects or without taking a synoptic view from time to time. The proper study of environmental issues requires cooperative teaching approaches and automatically entails cross-disciplinary reference".

This kind of orientation is notable by its absence from, say, the last UK government's approach to sustainable schools which not only played down complexity and interconnectedness, but actually failed to identify ecology or biodiversity as issues to be studied or cared about.

HMI then discuss the "difficult questions of commitment and action", where the "overlap with social, moral and political education becomes clear", although these are only suitable, in their view, for those older than 15. They do make telling points, however, that remain the case today:

"Environmental issues provide good starting points in that they continually come to notice in unforced ways, they are real to pupils, and they may act as effective testing grounds for social, moral and political values...in a wide—often world-wide—context."

Despite this overtly liberal disposition, where unconstrained pupil learning is the point of the exercise, HMI do return to the idea of action:

"Various kinds of action are possible when pupils perceive a need. Participation in projects affecting the local environment can bring fruitful contact both with the general public and with professional people such as architects and planners."

Most significant here is the locating of agency

with pupils: "when pupils perceive a need". This centring on, and of, the learner foreshadows the stimulating approach of action competence in its commitment to an education that takes the learner seriously both as a learner, and also as an emerging citizen with a stake in society and the future.

HMI make it clear that they see that environmental education relates well to all the eight areas of experience that themselves identified in their publication Curriculum 11-16:

ethical	scientific	linguistic
mathematical	physical	social / political
aesthetic	spiritual	

These were a notable contribution by HMI to debates around what a broad and balanced curriculum might sensibly mean. It is clear that environmental education is seen by HMI as having something to contribute to all these areas, and that a school has something to gain across them all by having an environment focus.

The penultimate section of the report deals with what HMI term "reasonable expectations by age 16" [for] those (to the extent of their capabilities) who "will shortly become autonomous citizens". These, in our current language, might be seen as learning outcomes of sorts, and these reflect all eight areas of experience, and represent broad capabilities as befits a rounded education.

In the final section of the paper, HMI emphasise the importance of subjects, adding that while separate or combined subject approaches are both valid and necessary, the single subject approach has its limitations, and limits. Thirty years on, that is a truth still to be fully appreciated.

As I write this, government is considering an expert group proposal that one of five aims of the revised school curriculum in England ought to be to:

"promote understanding of sustainability in the stewardship of resources locally, nationally and globally."

This echoes the HMI view of the purpose of environmental education as to "foster ... a concern for the wise and equitable management of the earth's resources."

This is a pertinent phrasing, given that the availability and use of resources are key to the way that our lives and civilisation will be able to develop, and this phrasing may well be the best that we can now hope for: at least in terms of a high level statement of purpose. This will be worthless, however, unless it is accompanied by clear aims for subjects and for interdisciplinary learning that are based on it.

So, more than thirty years on, it seems very clear that HMI's considered thoughts remain valuable and that there is still a job for NAEE to do.

Passing it on



Mick Waters
Vice-President
NAEE

One hundred editions! How many teachers over the years have browsed through the NAEE journal and dwelt on an article that has caught their eye? How many teachers have picked up an idea or technique that they could use to extend their own teaching with the benefit of wisdom or practice from elsewhere? How many children have had their horizons extended through the interest that was excited in their teacher by a shared interest in the study of the world around us? How many of those children will have gone on to careers that have their heart in the environment, or joined one of the organisations that seeks to protect and nurture our planet? How many of those children will be adults with an enduring interest in the world around them and a fascination with nature as it unfolds before them?

These are examples of those incalculable questions. We would never know the answers. It is a bit like the dandelion seeds. How many, where do they go when the wind takes them away, how many survive, grow and thrive and what is the spread after several seasons? We never would know unless, of course, we set up a big project.

The thing is, just because we do not know the numbers does not make the importance any the less. We work now in a school system that is driven by data. If we can measure it, then it must be important and if we can put the data into graphs or spread sheets, then it must be correct. We can then use the suspect data to show whether schools are effective and we can then inspect our schools, using the suspect data, to say whether they are any good or not. It is all so logical until we look closely and see how the logic is fractured. The quest for the measurable is deeply flawed because, over the years, successive governments have led themselves to believe that they are counting the right things instead of realising that they are simply counting the easily countable. And then they hold the schools and teachers to account.

We need somehow to recognise properly the nature of learning, its spontaneity, its challenge, its bewilderment, its joy. We need to recognise that all learning is not linear and incremental and

that much of learning is the piecing together of gradually dawning knowledge. We need to recognise that the knowledge being acquired can lead to natural questions, problem solving, experimentation, hypotheses, testing, recording and conclusion. All of this happens when the skilled teacher takes children's learning forward by structuring opportunity around their natural interest and asks the best of questions at just the right time.

Of course, teachers need to be skilled and knowledgeable. That is why organisations like NAEE matter. In the wonderful new world of professionalism it should be government's requirement that every teacher joins a serious and accredited association dedicated to improving pupil experiences in a subject or area of the curriculum. The subject associations could be accredited, as could organisations like NAEE, SAPERE or Whole Education, which tend to embody several traditional subject domains. If every teacher was supported with the professional fees and the organisations gained the fees and could provide high quality professional dialogue for their members, think what would happen to the quality of discourse at the staff development days in school as people came together with growing understanding of a range of disciplines. Perhaps every teacher would be supported to attend one conference a year and bring back an idea that would enhance classroom practice across the school.

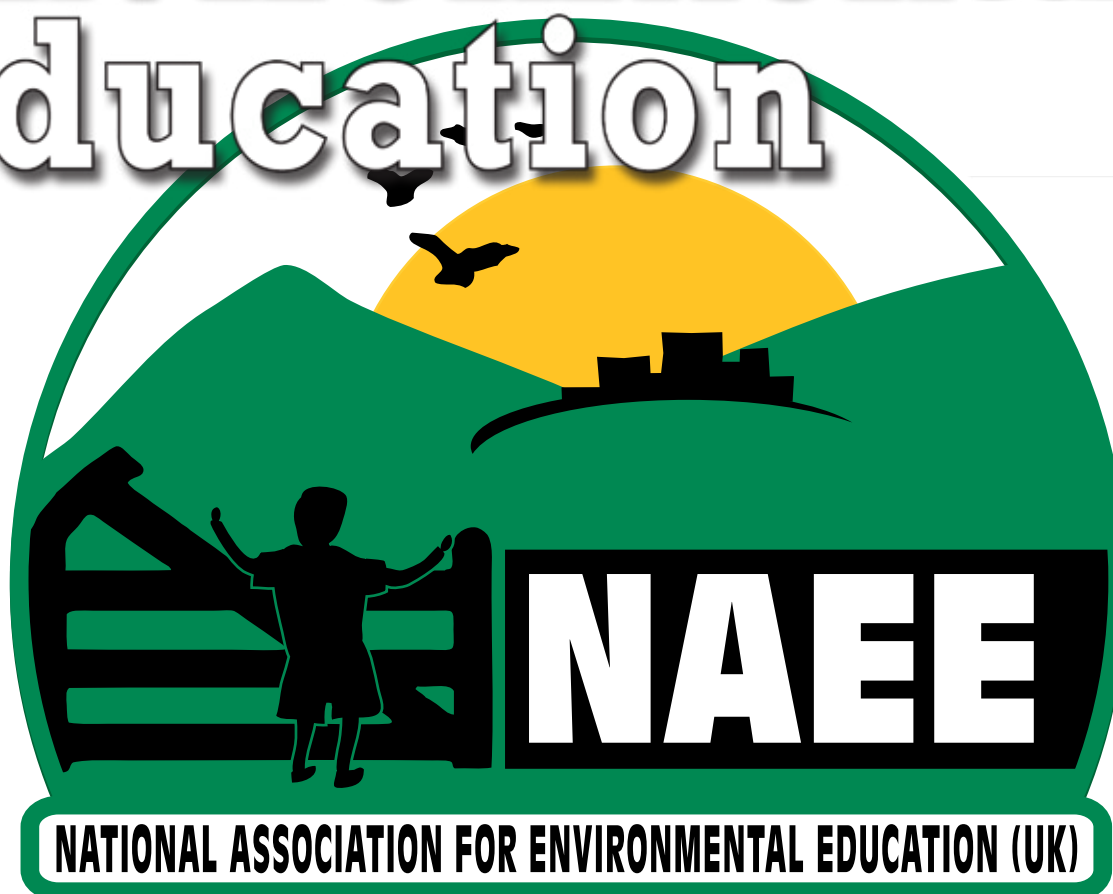
We would have a thriving and exciting teaching profession with wide-ranging and continually developing interests, knowledge and expertise. Who knows how many children would benefit.

Strategic thinkers often nod sagely about random development and utter something about not letting a thousand flowers bloom. For many children, seeing a thousand flowers bloom would be a life-enhancing experience. As the NAEE journal reaches a hundred, it needs readers (yes, you if you have got this far) to take it upon themselves to show the journal to one more colleague and ask them to join in. If they do, and repeat that with every subsequent edition, who knows how many children will have gained benefit by the time the journal reaches its two hundredth edition?

Read it and pass it on...for teachers and for children, blow those dandelion seeds of learning.

Mick Waters is Professor of Education,
Wolverhampton University

100 issues of Environmental Education



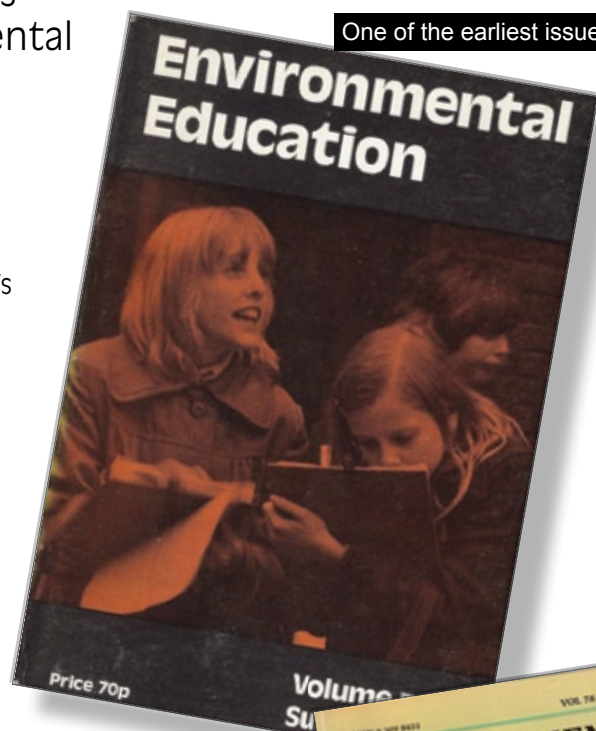
For more than 50 years NAEF has existed to champion all aspects of environmental education. For over 30 years we've reported on all aspects of education 'in', 'about' and 'for' the environment through our journal. We mark this milestone edition with a look back at the journal's past and to where the future may take us...



EE's 100

Environmental Education clocks up 100 editions over more than 30 years promoting environmental learning, *Henricus Peters* looks at how it has progressed over that time

From England, to Scotland, Pakistan and China, Australia, New Zealand, the United States, the coverage of 'the journal' has spread, via NAE's partners, friends and colleagues in these countries, beyond these shores to a global context. While we involve what is happening with environmental education and education for sustainable development across the globe, the focus is always on how we can do better in the United Kingdom. While many of these international examples may be in different contexts, they can be remarkably similar in respect of the challenges educators face: lack of funding, time and resources, children growing up and away from nature and unaware of its importance. NAE has always sought, through the pages of EE (*Environmental Education*), to arrive back at how 'we'—the Association, all of its contributing writers, the education system—are doing things, and to highlight areas for improvement in the United Kingdom.



Gets a new look



Some recent volumes of note

Vol. 66:

One of the guest editors was Prof. Bill Scott, now President of NAE

Vols 67-74:

Were all guest edited by our corresponding executive member Prof. Martin Ashley

Vol. 75:

Sue Fenoughty becomes editor, with David Fellows as guest editor

Vol. 86:

Henricus Peters is guest editor Katie Scanlan begins editing *News & Views*

A brief history of the journal

It has been referred to as a 'journal' since Volume 25 appeared in 1986, and it was always more than a Newsletter. It began life as folded A4 pages, then an A5 format laboriously typed-up and printed at the office by Philip Neal, the first Honorary Secretary, who, as reported in our last issue, has now sadly passed away. As membership increased, dissatisfaction was expressed with this format, especially as university libraries—always an important audience—complained that an A5 publication was not amenable to their displays and archives.

When Sue Fenoughty joined the NAEE Executive in 1999, Philip Neal was editor of the journal, and had been for several years, using 'cut and stick methods' put together by a very competent Birmingham printer—Philip did not use computers. When NAEE had government funding, the News & Views section was written by the 2 full-time members of staff. When the government cut funding, the 2 staff left and NAEE continued to function entirely through voluntary efforts. Volume 62 (Autumn 1999) was the first edition to appear after core funding was withdrawn. As Philip Neal's editorial stated at the time, this change was devastating for communication with members and

our profile: "This [particular] journal is only possible through the goodwill of advertisers, our printer and supportive individuals. I am afraid Volume 62 lacks a second colour for this print. There are fewer pages [32] ... but it has been published and I hope for better times next year."

For Volume 65 (Spring 2000: Millenium edition), Sue Fenoughty became section editor of News & Views. This was to be Philip's last full journal as editor. The present A4 format owes much to Colin Harris, Hertfordshire Geography Advisor and Chair of NAEE for a time, who was able to 'borrow' design talents from his County Hall to create a more professional and attractive cover; very similar to that with which we are now familiar.

Not everyone welcomed the change at first but the new format was found to be a success and boosted the image of NAEE. Sue Fenoughty eventually took over as editor of the journal as a whole, passing the editorship to Philip Sainty in 2008. From here the journal has endured to the present day.



Vol. 88:
Long-standing editorial board member, Godfrey Blunt, was guest editor

Vol. 89:
NAEE goes to Downing Street and Philip Sainty begins his tenure as editor

As the 'new media' take hold NAEE is increasingly represented on facebook, twitter and LinkedIn. Our goal is to stay true to our loyal membership by publishing regular quality journals. Each is, we hope, an improvement on the last (we value any and all suggestions!), while the development of these other forms helps us to reach out to educators who need to hear about us in a more direct and immediate mode. Here's to the next 100 editions, as we continue together on the environmental education journey!

Outdoor learning, environment and sustainability

Geoff Cooper

Chair of the Adventure and
Environmental Awareness Group
Cumbria

Beyond Environmental Education

The term 'environmental education' was introduced in the 1960's in Britain but its development can be traced to earlier environmental thinking in natural science, rural studies, fieldwork, countryside conservation and urban studies. It is commonly accepted that environmental education should include opportunities for learning *about*, learning *in* or *through* and learning *for* the environment. Most definitions now consider it as a process of learning that raises *awareness*, develops *understanding and skills*, clarifies *attitudes and values* and crucially leads to *action* for the environment.

I have argued for some time that outdoor learning is a powerful means of promoting environmental education (see for example, Cooper, 1994). For decades many outdoor and environmental organisations tried, with limited success, to gain recognition for environmental education in the formal school curriculum. Its acceptance has suffered further from the introduction of the National Curriculum, the decline of topic-based work and the concentration on literacy and numeracy.

Sustainable development: a broader concept

The term *sustainable development* has become increasingly important as a concept since the United Nations Earth Summit in Rio in 1992, when governments throughout the world drew up priorities for action on environment and development. Education for Sustainable Development has received government support in Britain for a number of years and it is now a cross-

curriculum dimension in schools in England, Wales and Scotland.

There have been many attempts to define sustainable development. An early definition and one often quoted is: "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (Brundtland Report, 1987). More recent definitions have stressed the importance of improving the quality of our lives without harming the ecosystems we depend upon.

Sustainable development is not just about conserving environments and maintaining biodiversity. It is also about the relationships between people on the planet and the term *global dimension* (England) or *global citizenship* (Wales) has been added to encompass the bigger picture of the world we live in and help schools make connections between the natural, social, economic and political domains. This area of learning includes understanding the arguments for sharing resources more equitably and for improving the quality of our lives in terms of access to health care, education, justice, work, leisure and democracy. It is about caring for people from all sections of society and countries of the world. It is concerned with both present and future generations. It implies the need for an ethic based on co-operation rather than competition, quality of life rather than standard of living and community rather than individual interest. I believe outdoor educators can play a key role in presenting this ethic and in challenging some of the excesses of our consumer society.

Education for sustainable development is therefore a broader concept than environmental education and includes aspects of personal and social education, citizenship, economic understanding, global awareness and ethical considerations.

What we can offer through Outdoor Learning

Whilst it is fairly obvious how outdoor learning

can contribute to environmental education, the links with sustainable development and global awareness are less apparent. Nevertheless, I believe outdoor learning can play a critical role in this process. The outdoors is an extremely powerful focus for learning through direct experience using the hand, heart and head. It places young people in real situations and it encourages them to take responsibility and reflect on their actions. Motivation and learning come easy when you need to keep your boat afloat, cook a meal or build a shelter. This experiential approach has long been recognised as a powerful means of learning, especially when it is processed through a learning cycle of 'plan, do and review.'

The outdoors allows for different learning styles. It offers possibilities to all types of learners, including those with visual, auditory or kinaesthetic learning preferences. Young people who underachieve in more formal situations such as classrooms can often benefit from the flexibility of outdoor learning methods. These encourage motivation, confidence and more positive attitudes to learning which are fundamental to education for sustainable development.

Outdoor education is not restricted by subject boundaries but can adopt an interdisciplinary approach making use of knowledge from the arts and sciences. It lends itself to systemic thinking where the understanding of interrelationships becomes more important than the analysis of one part of the system. So, for example, through the outdoors it is possible to appreciate the intricate links in a food web or how land use patterns have emerged through the interplay of geology, vegetation and human activities rather than taking the more usual, 'bookish' linear analysis that looks at the structure of an animal or the chemical composition of a rock. This way of thinking is particularly important to education for sustainable development with its emphasis on connections; how we relate to other species on the planet and how we interact as local, national and global communities.

Outdoor learning, whether through adventurous activities, fieldwork, nature study or conservation work, lends itself to issue-based approaches or philosophical enquiry which help to focus



Learning team work

systemic thinking, allowing us to keep a big picture framework. To take an example, we can pose the question: "What is the future of our uplands in Britain?" or more contentiously, "Should we leave the uplands to re-wild?" These simple questions raise a host of issues and debating points. Do we want our uplands to provide more food or trees for fuel? Or do we want them for conservation and biodiversity? If the latter is the case are we happy for heather moorland to be managed for grouse shooting? Should our uplands be managed as a carbon sink or for renewable energy in the form of wind farms? And what about the wonderful opportunities the mountains and moorlands give us for recreation and outdoor education and the mental and physical benefits that follow? These are simple questions but they lead to complex choices and repercussions. They take us into the realm of considering our society's existing values and determining the values we need to adopt for more sustainable lifestyles.

I believe that our work in outdoor education is about values and that we should look for opportunities to question our beliefs and help young people clarify their own attitudes and values. If we ignore this then we lose sight of the big picture and the potential for outdoor education to contribute to more sustainable living.

Core Values

Values can be considered as underlying beliefs and principles that shape our attitudes and behaviour. The dominant value system in Western countries is based largely on social position as indicated by external appearance and material





Viewing landscapes

possessions.

There are, however, higher 'core' values recognised by many different cultures throughout the world that form the basis for a more peaceful and fulfilling life. The key point is that these same values underpin the concept of sustainability.

Writers from the time of the ancient philosophers have considered the importance of higher values in guiding our lives. Plato, for example, argued that the three deepest values were goodness, truth and beauty and that by adopting these values people can transcend self-interest. In Buddhist teachings nature and people are inseparable, so that a decline in ethics leads to a deterioration in the environment. Other writers suggest that we can learn from direct experience of nature. David Orr (1994), for example, believes that the earth can teach us essential values such as silence, humility, holiness, connectedness, courtesy, celebration, giving, restoration, obligation and wildness. Similarly, in his recent book, "Spirit of Adventure", Colin Mortlock (2009) identifies five pillars of wisdom from nature. He goes on to define a set of virtues and values and presents these as a creed for individuals and organisations to adopt.

Writings such as these provide a valuable structure or guidance for us to explore our own beliefs and principles. They show alternatives to a value system based on consumerism, greed and selfishness. Although some outdoor leaders may enjoy the conformity of an ideology or code of values, others will be more comfortable in providing opportunities for young people to reflect on and clarify their own values.

Contribution of outdoor leaders

Outdoor leaders have several advantages when

working with young people. They often work with small, well-motivated groups in informal situations. Unlike classroom teachers they do not face the constraints of the formal curriculum, exams, timetables or the bell. They have novelty, enthusiasm and work in interesting and challenging environments. As a result their actions can be influential and inspiring.

Outdoor leaders have for many years recognised the value of their work in personal and social development. These skills are fundamental and form the basis of good citizenship. However, there may be an even more important area of work concerned with encouraging young people to explore their own values. This may lead to commitment in changing personal and social behaviour towards more sustainable lifestyles.

It should be possible for leaders to address many core values through their work but clearly some may be easier to explore in outdoor education. I would like to suggest a few examples:

1. Reconnection

The outdoors provides opportunities to experience freedom, happiness and humility through contacts with the natural world. We can respond to the elements – wind, water, rock, sky – and the natural rhythms and begin to appreciate the interdependency of life on the planet. This may help to rebuild our connections with the earth; we can see ourselves *as part* of nature rather than *apart* from it. For some this could be the key to gaining commitment for the environment.

2. Co-operation

Learning in schools is often based on competition. This may be appropriate to train a top class athlete or a university professor but it is totally inadequate for educating for community living in a rapidly changing society. Teamwork and co-operation can be developed in many ways in the outdoors, for example through problem-solving activities, group fieldwork and expeditions. Trust and empathy can result from living and working together in a small group. Such values are transferable and of fundamental importance to sustainable living.

3. Responsibility

Outdoor education often places young people in situations where they have to take responsibility for their own actions.

They may experience real situations where failure to act responsibly will have unfortunate consequences for themselves and others in their group. Peter Higgins (2006) has argued that taking responsibility is a more worthwhile aim for outdoor learning than developing self-esteem. In Western countries, we all need to take more responsibility for our lifestyles if we wish to sustain the earth's resources and distribute them more fairly.

4. Tolerance

Being in the outdoors we confront real issues. For example there may be land use conflicts such as the need to protect an ancient woodland threatened by a new road or the impact of a wind farm on a small community weighed against the benefits of renewable energy. Through investigation, critical thinking and role-play we can begin to explore the complexities of such issues, appreciate the underlying social, economic and political pressures and make our own judgements. Exploring real issues helps to clarify our own values and may lead to more tolerant attitudes to other points of view.

5. Simplicity

In a classic article in 1996, Chris Loynes argued that outdoor adventure is being packaged and commercialised and this process dissociates people from their experience of community and place. There is, however, the opportunity in the outdoors to experience a simpler, healthier and less commercialised existence. Wild or quiet places can provide an antidote to a screen culture that emphasises speed, glamour and glitz. The outdoors allows us to step outside of our everyday existence. There is time to reflect, to put our lives into perspective, to consider our values. Outdoor leaders are in a position to address the differences between needs and wants. They can introduce young people to the idea of 'quality of life' as opposed to the quantity of income and material possessions. This concept may be a key mechanism with which to discuss and challenge values.

6. Reflection

Experiences in the outdoors provide many opportunities for reflection. In a society based on constant noise and action there is a fundamental need to have time and space for reflection. This is vital to our mental and physical health and allows us to develop our sense of values. Reflection is relevant to all aspects of our lives and constant reviewing

© Geoff Cooper



Co-operative tasks

and planning helps us to cope with change.

These are just a few examples of how outdoor leaders can help young people address their own values and encourage appropriate attitudes for sustainability. It should be stressed, that when it comes to influencing others' attitudes and values; our actions as leaders and how we demonstrate our own values may be as important, if not more important than the activities themselves. In a follow-up article I will discuss how existing outdoor learning programmes and projects address this bigger picture by contributing to environmental education, sustainable development and global understanding.

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Geoff Cooper is author of *Outdoors with Young People—A leader's guide to outdoor activities, the environment and sustainability*

Bats and biodiversity

Facts and myths about these flying mammals

Juliette Green

Executive member
NAEE

2011-12 is the international 'Year of the Bat', so we felt it timely to dispel some bat myths and to champion these elusive creatures that play such an important role in our biodiversity.

What is the 'Year of the Bat'?

The 'Year of the Bat' is a two-year global species awareness initiative which promotes conservation, research and education about bats. It is led by the UN's Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the Agreement on the Conservation of Populations of European Bats (EUROBATS), and supported in the UK by the Bat Conservation Trust (BCT). Its main focus is to highlight the ecological benefits that bats provide, such as pest control and seed dispersal, but also to draw attention to the pressures and problems faced by the world's 1100 bat species.

According to the BCT, "despite intensified conservation efforts, over half of all bat species [worldwide] are now classified ... as threatened or near threatened. Habitat loss and destruction, human disturbance at hibernation sites, increasing urbanisation and epidemics ... are putting bats increasingly in danger. Bat species throughout the world need continued protection."

Why bother with bats?

Many people are unaware of the vital role that bats play in ecosystems around the world. For example, many bats feed on nocturnal insects, and this includes disease-carrying insects such as mosquitoes and insects that cause damage to crops. In many parts of the world, bats are important in terms of seed dispersal and pollination. This not only impacts on natural plant species, such as helping to sustain tropical rainforests, but it can also have an effect on human food production (e.g. fruit agriculture).

There are 17 breeding species of bat in the UK, including the Common Pipistrelle (our commonest species), the Noctule (the largest British bat, although it would still fit into the palm of your

hand!), Daubenton's (which scoops insects off the surface of water with their feet or tail), Bechstein's (one of our rarest bats) and the Alcahoie bat, which was only identified as a new species in 2010. These bats are important indicators of both biodiversity and environmental quality, particularly as they are nocturnal and therefore differ from other indicator species such as butterflies and birds.

According to the BCT: "They can tell us a lot about the state of the environment, as they are top predators of common nocturnal insects and are sensitive to changes in land use practices. The pressures they face—such as landscape change, agricultural intensification, development, and habitat fragmentation—are also relevant to many other wildlife species, making them excellent indicators for the wider health of the UK's wildlife."

What can you do to help bats?

As natural habitats become more scarce, gardens and school grounds can play an important role in the conservation of our native bat species, which use them as a source of food, water and shelter. Suggestions for encouraging bats include: planting night-scented flowers, building a pond and allowing areas to grow wild (all of which help to attract nocturnal insects); putting up bat boxes to replace their disappearing natural roost sites such as old trees or caves; and cultivating linear features such as hedgerows or tree-lines to link the bats' feeding places and roosts.

There are many opportunities for children to become involved, for example growing suitable plants, helping to choose the best places to locate bat boxes (e.g. in a sheltered spot, out of the reach of predators such as cats), and even making bat boxes of their own!

Whilst they are unlikely to be able to observe bats during school time, children may observe them in the early evening as bats are crepuscular: they mainly hunt at dawn and dusk when flying insects are the most active. Perhaps by organising a family bat evening or joining a walk run by your local bat group (a list of these can be found on the BCT website). Bat detectors are also useful in helping to locate and study bats. These are devices which convert the ultrasonic calls of bats into sounds that we can hear (again, information can be found on the BCT website).

If there are bats known to roost in your school grounds or local area, the children could even



A Brown Long-Eared Bat

examine their droppings to find out what they eat! Obviously they would need to wear gloves and it would be best to enlist the help of a bat expert.

The best places to encounter flying bats are: outside roost sites (counting the bats as they leave and re-enter), over bodies of water (where night-flying insects are abundant), or in sheltered places such as woodlands or hedgerows. Remember that bats hibernate during the winter months because of the lack of insects for them to feed on. Also remember that all species of UK bat are protected by law, so you should not enter roost sites without permission or disturb the bats.

For more information about bats, how to study them and how to create bat-friendly habitats, visit the following websites:

-  The Bat Conservation Trust (BCT) www.bats.org.uk, has a wealth of information on all things batty!
-  The official 'Year of the Bat' website www.yearofthebat.org.
-  www.bbc.co.uk/nature/life/Bat
-  www.wildlifetrusts.org/species/
-  www.rspb.org.uk/wildlife/wildlifegarden
-  www.wildaboutgardens.org/wildlife
-  www.cheshirewildlifetrust.co.uk/documents/advice_bats.pdf
-  Search online for local bat groups, such as the Warwickshire Bat Group: www.warksbats.co.uk

Totally batty!

Dispelling some of the myths

Bats are flying rats

Bats are not rats; they're not even related to them (apart from the fact that both are mammals, but so are we!). Rats belong to the Order Rodentia, while bats are part of the Chiroptera order.

Bats feed on blood and are vicious towards humans

Most bats don't feed on blood: they eat fruit or small insects that they hunt at night. The only bats that do feed on blood, Vampire bats, prefer the blood of cattle, horses or birds. Bats are not normally aggressive animals, but like any other wild animal, they may bite if they are handled, they get injured or they are scared.

Bats are blind

It's true that most bats have poor eyesight, but they are not actually blind. They can see in black and white and their vision is best at night. They do rely more on their sense of echolocation, a form of sonar, to find their way around and hunt for prey.

As old as the trees: Experimenting with the Arts

Philippa Toulson

Education and Training Coordinator
Folk South West

Over the past three years, a new dawn has broken in the field of Scottish education. Whilst the term 'Environmental Education' has largely been cast aside in favour of a more unified approach to learning outside, the principles and practices of environmental education are gaining fresh ground in different ways.

Whilst I was on teaching practice in a Croydon primary school many moons ago, the headteacher took me to one side at the end of my first week and, in what I think he hoped was a very kindly way, said, "Please don't keep taking your class outside, it is much too distracting."

I explained that it was part of a science topic on leaves and that really we needed to go outside, but he was unconvinced.

"No!" he said, "the other classes see your class having a nice time outside and then they're grumpy because they're stuck indoors, and, more to the point, your class will give you a hard time when you have to come back indoors and you will have all sorts of problems and fail your teaching practice. Furthermore, and most important of all, poor Miss Blunt has to take her class back in a few weeks and she won't want to keep going outside!"

I knew it was not the moment to argue but I wasn't convinced then and the following numerous years' experience have only served to harden my resolve!

The rise of forest school, Richard Louv's seminal book *Last Child in the Woods*, and *Natural Childhood*, Stephen Moss' recent report for the National Trust, amongst many other things, have served to raise the issue in public and educational awareness; and if I were having the conversation with the same headteacher today I would have plenty of ammunition at my disposal, as well as the



KS2 pupils examine and compare oak leaves at different stages of decomposition

confidence and experience to use it!

Folk South West is an arts organisation based in Dorset. We work mainly across the South West of England with occasional excursions further afield.

We work with traditional song, music, dance and crafts and our work in schools most frequently involves ways that these arts can support all areas of the curriculum. We have our own forest school site, called Pogles Wood, where environmental education is mixed with creativity to have fun, to make things memorable and to create special celebrations of various sorts.

So—back to the leaves!

I still find foliage of all sorts an endless source of inspiration and learning for all ages. At one of our late summer 'Woodland Wednesday' parent and toddler sessions we gathered leaves, covered them in shoe-polish of various colours and printed them onto triangles of calico to be made (along with the hand prints we made earlier in the year) into bunting for our midsummer tea-party. We then started a whole variety of sorting activities and organised the leaves in lines or gathered them together in circles made of rope. The children sorted them by colour (original and then with shoe

Photo: Eddie Upton / Folk South West

polish added!), shape, size and edge type. We talked about why leaves fall, why some had fallen sooner than others and why some, the holly for example, wouldn't fall all at once in the autumn. Most of the discussion and organisational activity was from their observations and experience and built on our forest school ethos that everything is a bit of an experiment, be it building a den, collecting and arranging leaves, or writing a song.

We recently worked with a Somerset primary school where Reception and KS1 have a weekly 'Welly Walk'. We helped the children make willow structures which would gradually be decorated during the term with things that they have found on their walks, and for the older ones with the addition of cards with key words and thoughts written on them. At the end of term each child had a visual and artistic structure which had visual reminders of all their walks during the term and contained items which prompted memories of things they had learnt and experienced during the previous weeks. This became the focus for learning in many curriculum areas and an important part of investigation, sharing ideas and reporting their language development. Not entirely insignificant is the fact that the final creations looked wonderful at the end-of-term assembly and gave parents lots of talking points to share with their children.

Exactly the same sort of activities can be undertaken with older children, but of course the sorting activities become more specific and the scientific knowledge and understanding greater.

In exactly the same way that materials can be gathered, so can sounds. We are lucky in some respects that we have a site that is well away from just about everything and so there are a lot of sounds to be listened to. There is a huge spectrum of natural sounds—birds, insects, wind, leaves, creaking branches—but there is also a degree of man-made sound: tractors, aircraft, cars,



Reception and Y1 garlands made from withies (willow) which is plentiful in Somerset. Hanging up ready for the new autumn term's additions

chainsaws, strimmers and, occasionally, people. In every playground sounds can be heard and, though the balance may alter depending on where you are, all the above will be in the mix at some time. Once the listening exercise is complete and sounds have been discussed and identified the children can set about trying to match or recreate the sounds; and gradually these can be put into a 'soundscape' score which reflects what has been heard in that place on that day. This can be recorded in a variety of ways, as a sound recording or as a visual score with as much decoration as needed or desired. The soundscape can be recreated anywhere at any time to recreate the sounds, and further experiments to match different sounds can be carried out back at school where a whole selection of other 'instruments' is available.

We frequently use songwriting as an activity with children. It helps embed their learning, encourages them to focus on key words and knowledge, links with literacy and music, and is memorable and fun. You do not have to be a wonderful musician to help children create songs. We can draw on the resources we all have in our heads; but that is probably an article in itself!

If we look back through history we can see the fabulous Green Man myths and legends which show the importance of the natural environment to generations before us, who explored their early experiences of the natural world through art, design, song and story. There is nothing new about what we are doing: it is as old as the trees!

More information—

Philippa can be contacted at Folk South West, Church Farm, Leigh, Sherbourne, Dorset DT9 6HL. Tel: 01935 873889, e-mail: philippa@folksw.org.uk www.folksw.org.uk



Discs made of withies and tissue paper covered in watered down PVA are used by Reception and Y1 pupils to create faces and display their finds. The discs harden when dry and can be written on. Leaves can be trapped between layers of tissue paper to create nature mobiles

Scotland, Early Years and the changing guise of Environmental Education

Juliet Robertson

Education Consultant
Creative Star Learning

Over the past three years, a new dawn has broken in the field of Scottish education. Whilst the term 'Environmental Education' has largely been cast aside in favour of a more unified approach to learning outside, the principles and practices of environmental education are gaining fresh ground in different ways.

Since the introduction of Curriculum for Excellence, Environmental Studies no longer exists. However, Sustainable Development Education and Outdoor Learning are recognised as approaches to learning and teaching which should be embedded across all curriculum areas. In particular, teachers and practitioners are expected to consider the impact of the physical context or place where learning happens¹.

Nowhere is this more apparent than in the Early Years sector. Outdoor play has always been valued and its status has rocketed owing to the Early Years Framework advocating "innovative approaches such as nature kindergartens" as a medium term priority².

There are currently five outdoor nurseries

operating in Scotland where children spend more than 90% of their time outside all year round. None of these is local authority run. Research³ from Scandinavia which focused upon children playing in natural spaces rather than artificial outdoor spaces concluded, "Nature affords possibilities and challenges for the children to explore their own abilities. The children feel more comfortable being in the natural environment and their knowledge about nature increases." In 2011, Mindstretchers Auchlone Nature Kindergarten demonstrated that their outdoor, sustainable approach is highly effective. After a lengthy and rigorous inspection which involved a fleet of Early Years HMIE Inspectors, the nursery was awarded an unprecedented "Excellent" rating in all areas; the first time this has happened in a pre-school nursery under the latest inspection scheme.

Unlike in other parts of the UK, the Forest School movement has had patchy success although this has been boosted by recent Scottish Government Funding. Instead, alternative approaches to exploring nearby greenspaces have been remarkably successful. For example, Fife Council has 80% of its local authority nurseries visiting woods and beaches on a weekly or fortnightly basis all year round⁴. This was achieved through a three-day training programme in 2007 and the nurseries have embedded this approach as part of their routines.

Earlier this year, the Forestry Commission Scotland and North Lanarkshire Council ran a pilot training project to continue this approach which included looking at concerns and issues from a rights-based approach using the Scottish Outdoor Access Code as a focus to bring a more positive perspective on health and safety issues.

The Care Inspectorate and school HMIE Inspection teams now expect to see outdoor play offered daily in pre-school settings. In combination with the increased focus on getting children off-site, expectations are increasing about what can be done and why. Gardening projects are becoming



Opportunity for reflection

more widespread. In 2010, Angus Council provided training to all its nurseries along with tyres, compost, seeds, plants and sequencing books so that every child had the experience of growing potatoes, peas and strawberries; all traditional farming crops in this part of Scotland.

In 2012, Education Scotland has launched a project through local outdoor learning officers. The aim is that each local authority will work with partner organisations to develop ten outdoor projects which explore local areas; not just greenspace but the urban areas and community facilities. This will create a national bank of ideas which all schools can draw upon in a range of curriculum areas. Naturally pre-schools are part of this initiative.

Another exciting development is the Grounds for Learning Natural Play Project⁵. The Scottish Government has awarded £1 million to further extend the original work that involves developing natural features and play materials for children to use within their school grounds. Whilst providing valuable informal learning opportunities which encourage imaginative and creative play, most of the schools involved in the project have significantly increased the amount of time learning outside in the schools' grounds.

All in all the Early Years sector in Scotland is at an interesting point of growth and development in terms of environmental education in spite of current funding cuts to education in general and changes in terminology. Long may this continue so that our youngest children grow up and become Scottish citizens who value and appreciate this remarkable planet and the need to ensure we live lightly upon it.

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Searching for environmental education in the curriculum?

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Juliet Robertson is an education consultant who specialises in learning outdoors. She lives just north of Aberdeen and works at a national level writing documents, training and supporting the implementation of Curriculum for Excellence through Outdoor Learning. For more information, visit her website www.creativestarlarning.co.uk

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Environmental education and outdoor learning in Scotland

Robbie Nicol and Peter Higgins
School of Education
University of Edinburgh

There are significant developments currently taking place in Scotland that augur well for the future of environmental education. These developments have built upon a traditional Scottish empathy with the outdoors as a meaningful context for environmental education and a growing post-devolution policy interest. Furthermore, there has been a broadening of the term 'outdoor education' towards 'outdoor learning' and its synonyms. The emphasis on 'outdoor learning' has stimulated scholars to rethink adventure as a concept. Traditionally adventurous experiences have been closely associated with physical outdoor activities. The emerging concept of outdoor learning accepts that most teachers do not have access to the training, venues or equipment to provide such opportunities. The types of adventure that teachers are increasingly devising are essentially person-centred where the outdoors provides opportunities for learner discovery, creativity,



Looking through soil samples

curiosity, imagination and wonder to inspire learning. Consequently, a local urban environment can be as valuable as remote or wild areas.

In terms of location, a concentric-circles model describes five zones of outdoor learning, with the school in the centre, where outdoor learning opportunities are available in the immediate vicinity of the school grounds (Higgins and Nicol, 2002). As Beames, Higgins and Nicol (2012, pp. 5-6) describe "beyond the school grounds is the local neighbourhood, which can be explored on foot or by using public transport." Day excursions (field trips) often take place a little further away and usually require some kind of group transport. Residential outdoor centres, cultural visits, and expeditions that involve being away from home overnight comprise the fourth 'zone'...'. The fifth zone is 'Planet Earth' which indicates the growing understanding attached to the importance of outdoor experiences in health, well-being and sustainability.

Curricular reform is generating greater potential for more teachers to cross the classroom threshold to take their classes outdoors and for local journeys that do not incur high costs (and sometimes none). In this manner outdoor learning need not be seen as a demand on curricular time but



Learning can at first seem unfamiliar

more an issue of the teacher choosing the most appropriate location (Learning & Teaching Scotland, 2010). Beames et al (2012) make the point that some things are better taught indoors and some outdoors, and it is for the teacher to choose locations based on what they are trying to achieve.

Recent policy interest has been stimulated by reports suggesting children are increasingly separated from the natural environment; they have poor skills in risk-management and exercise minimally (Sustainable Development Commission, 2008; Gill, 2010). Outdoor learning can provide such learning opportunities, and policy support for outdoor education is growing in Scotland.

Since the Scottish Parliament launched *Curriculum for Excellence* (CfE) in 2004 less emphasis has been placed on a subject-oriented curriculum; instead the development of personal skills and attitudes of young people has been emphasised. This has stimulated a number of key developments in both sustainable development education and outdoor learning, and this has been given extra impetus by Scotland's response to the UN Decade of Education for Sustainable Development. One of the most significant and recent is the establishment of a 'One Planet Schools' Ministerial Advisory Group. Whilst the 'One Planet' initiative has an overt focus on "whole school approaches to sustainability in schools" its focus is also on "raising attainment, improving behaviour, inclusion and health and wellbeing". Alongside sustainability, global citizenship and outdoor learning have an equal emphasis and this is significant as it recognises the interdisciplinary nature and broad relevance of outdoor learning (www.scotland.gov.uk/Topics/Education/Schools/curriculum/ACE/ScottishStudies).

The greatest educational challenge of our time is to provide responses to a contemporary world characterised by a changing atmosphere, degraded landscapes, reduced biodiversity, and yet infinite beauty. We need to be outdoors more in order to understand the way our planet works and to know nature better through direct experience. With curricular reform already under way there are clearly great opportunities for teachers of environmental education in Scotland to reclaim the outdoors as a legitimate context for their work.

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UK Brownies develop international links for whale and dolphin conservation

Jess Feghali-Brown

Education Coordinator

Whale and Dolphin Conservation Society

In 2007, and extended into 2008, the world helped celebrate the International Year of the Dolphin (YoD), so declared by the United Nations, UNEP (United Nations Environment Programme) and UNESCO (United Nations Educational, Scientific and Cultural Organization).

YoD was part of the United Nations' Decade of Education for Sustainable Development and, as such, the main focus of the campaign was on educational activities and awareness-raising.

As a committed campaign partner, WDCS, the Whale and Dolphin Conservation Society, developed its Dolphin Diploma, an award-based education pack aimed at encouraging children to learn about dolphins and to actively take part in cetacean (whale and dolphin) conservation.

The Diploma was, and continues to be, highly successful, with thousands of children all over the world having been awarded their diploma certificates. During YoD children as far afield as the UK, Germany, USA, Australia, Philippines, India and Colombia took part.

Thanks largely to the efforts of Sarita Kendall and the Natutama education group (whom WDCS help to fund) a river dolphin version of WDCS's Dolphin Diploma has now been inserted in the Amazon curriculum for 5th grade school children (around 11 years of age), and is also being used in Bogota.

In 2010 the Dolphin Diploma, now joined by a Whale Diploma, were accepted as accredited teaching modules by the City of Birmingham's Children University.

More recently we were contemplating how we might raise the awareness, and thus make better use, of this free educational resource. We considered the age group that it was originally intended for—approximately 8- to 12-year-olds—and, as our junior database is largely made up of girls, naturally fell upon the Brownies.



The 7th Clevedon Brownies made awareness posters and origami dolphins for the anti-captivity campaign and raised funds by making a 'spare-change' dolphin for their diploma

Through this organisation, its members are encouraged to learn about and get involved in many aspects of their community and the wider world, from crime prevention, to fire safety, to exploring the environment and its wildlife. They are also encouraged to become a 'Friend to Animals' through one their many badges and it is through this badge that WDCS has forged a link with our Dolphin Diploma. By completing the activities for the Dolphin Diploma, Brownies are also able to complete the elements required for them to earn their 'Friend to Animals' badge. The two things complement each other beautifully; Brownies benefit from a fun and informative free educational resource, and dolphins benefit from an increased awareness of their species and the threats they face.

Wild dolphins are intrinsically tied to our cultural history and awareness. Inhabiting the world's oceans and rivers, these nomads are a living treasure of our blue planet. However, their survival is becoming increasingly difficult and imperilled. To survive the 21st century, wild dolphins need clean and quiet oceans, protected marine areas and people who care. WDCS's Dolphin Diploma aims to start that process of caring.

More information—

www.wdcs.org



The Kiwi Conservation Club is the junior section of the Royal Forest and Bird Protection Society, New Zealand's largest and oldest conservation organisation.

The Kiwi Conservation Club, or KCC for short, aims to encourage children to enjoy, understand and empathise with nature so they will become the conservationists of the future. KCC members may be individuals, families, schools or school classes and each of the 15,000 children receives a copy of the magazine five times a year. The magazine is called *Wild Things* and presents science in an entertaining way, combined with

activities and contributions from the members.

Around the country, local KCC clubs led by volunteers take KCC kids and their families on adventures to the forest and beaches. Sometimes they engage in conservation activities but always they try to influence and engage the children by sharing a love and sense of responsibility towards nature.

Now KCC members, from its beginning two decades ago, are returning as club leaders and conservationist activists. This gives us hope that the seeds of conservation awareness planted in the children will bear fruit in adult life.

www.kcc.org.nz

Jenny Lynch

Officer

Kiwi Conservation Club

Chelsea Robinson bubbles with enthusiasm as she describes her experiences in Copenhagen at the United Nations Climate Change Conference. The 18-year-old from Waitakere—now based in

Wellington studying geography and environmental studies—came from an environmentally aware family and at 15 was stirred into action.

Chelsea credits a speech by Kiwi environmentalist Carl Chenery for inspiring her. "Carl explained that my generation has the opportunity to rewrite the rules in the name of the environment and I realised that I might have something to offer," says Chelsea. She was hooked and changed her career dream from dentist to environmentalist.

Her passion for sharing her ideas and her role as leader of Rutherford College's 150-strong environmental group led her to become one of 12 New Zealand youth delegates at the Climate Change Conference in Denmark last December. The New Zealand youth delegation set out to make young Kiwis' voices heard loud and clear at Copenhagen. Chelsea and the other delegates had the challenges of translating complicated climate change policy jargon and unravelling what was being discussed at the conference for people back home. They also fitted in daily meetings with Environment Minister Nick Smith and International Climate Change Negotiations Minister Tim Groser.

"It was fast paced, exciting, tiring and hugely inspirational all at once," says Chelsea. "Being among so many people who were incredibly



Chelsea Robinson, far right, protesting against mining national parks

passionate was encouraging, despite New Zealand managing to get a fossil award on more than one occasion after being seen to be obstructing progress in the talks, which was disappointing."

The delegates carried a giant 'Team New Zealand' spinnaker to Copenhagen. It was covered with messages to the world leaders from individuals, schools and organisations around New Zealand.

The outcome at Copenhagen wasn't the strong stance on climate change Chelsea was hoping for but it made her realise the importance of changing behaviours and making information more accessible to people. It's now central to Chelsea's vision for the future "I want to make environmental issues more mainstream by talking less to the people already involved and aware of the issues and focusing more on changing values sets among people who don't see environmental issues as affecting them."

This interview originally appeared in *Forest & Bird* magazine 2010

www.forestandbird.org.nz

Students plant a forest in Inner Mongolia



The ecology action team at the site of their third 1000-tree forest

Rebeca Cipollitti and Jennifer Van
Students
Yew Chung International School, Shanghai

Thanks to the kind support of the Yew Chung International School community, the environment club at YCIS Shanghai (Gubie campus) has raised enough money to plant 1,000 trees to help hold back the growing Gobi Desert.

In April 2012 four representatives from the club travelled to Inner Mongolia to help prevent desertification. We went with the Roots and Shoots organisation after a year of fundraising for their Million-Tree Project. Finally, all our fundraising efforts would be put into environmental action.

Along with about 70 other volunteers, we managed to plant 667 trees in one day! It was tiring work and each of us was sweating from exhaustion by the end of the afternoon. However, we know that the citizens of Inner Mongolia were very grateful for all of the hard work that we put into this project. We also learnt how to prune and take care of the Poplar trees and saw that it took a

lot of work to manage the newly-planted forest.

The next day, we were able to see the spreading desert with our own eyes. We walked past abandoned farms until we reached the windswept desert. Although it was a breathtaking sight, we finally saw what we were fighting against. Desertification is turning once fertile land into desert, depriving the land of its resources and forcing the people from their land. A truly valuable experience, no one of us will ever forget it.

On the last day of the trip, we had the chance to teach children from rural China lessons about the environment. It truly was a one-of-a-kind opportunity, because we were able to see firsthand the typical lifestyle of a Chinese student in Inner Mongolia. The conditions and education were decent and the children were a bundle of joy: their appreciation was apparent.

We were sad when the day came for us to depart back to Shanghai. The lovely food, lovely people, lovely environment and lovely memories will truly be missed! The mountains of sand we found in our shoes at the end of every day were worth the experience given to us.

More information—
www.mtpchina.org

Cloud study programme

Beaconhouse School-Faisalabad

Muhammad Raza Khan,
Nature Club of Pakistan,
 and **Alona Sheridan,** NAEE

Nature Club of Pakistan is actively working to motivate youth to study nature. We strongly believe that all the knowledge we have is derived from nature. We encourage young people to observe the physical world and what is happening around them and draw conclusions from their observations.

We teach them how to record their observations. They are encouraged through our programmes to present their findings. We believe we are successful as shown in the way that students express their experiences and their interest to continue their research.

Objectives

One of the most important objectives of this Cloud Study Programme is to introduce the role/effect of clouds on our environment and weather.

Another is to encourage team work and confidence building with an element of competition.

Students were shown how to predict weather using wind direction and cloud cover and through tasks such as constructing of wind vane to encourage innovation and creativity.

Students worked in groups, shared their findings and presented their work.

Methodology

Nature Club of Pakistan provided basic information about clouds, their formation, types and effect on the environment. They explained how we can predict short term weather conditions with the help of wind direction.

We provided the students with cloud identification charts, cloud wheels to enable cloud



identification in the sky at different times and booklets to record their observations and findings. With these tools they were able to draw conclusions by considering the dual effect of cloud cover and wind direction.

Conclusion

This practical project involved observations of the sky, clouds and wind direction. Through their research, students developed a greater understanding of how to predict short-term weather conditions.

They are able to observe nature and understand how what makes it thrive.

Through studying natural phenomena and human behaviour impacts on the natural world, young people will become more aware of appropriate choices in environmental decision making.

Outline of activity

Subject: Geography (Nature Club)
 Activity about: Wind Direction reading
 Conducted by: Teachers Gohar and Farzana

Guandu: Nature's place in a big town

A former wasteland turned bird sanctuary in Taiwan's capital, has also become a key location for city children to interact with nature. NAEE Co-Chair *Henricus Peters* was a guest for the day

Wetland and the city meet

Guandu Nature Park is situated in Taipei at the junction of Danshui and Jilong Rivers. The landscape consists of a mosaic of freshwater and brackish ponds, mudflats, marsh, with recent additions of rice paddies and woodland. Guandu is a major stopover site for migrating birds, especially waterfowl and shorebirds, as well as an important wintering and breeding ground for many species. Some 229 species of birds have been recorded at Guandu, qualifying this wetland as an Important Bird Area (IBA) recognized by BirdLife International.

In 1983, the government created the Guandu

Waterbird Refuge, and the Tourism Bureau classified Guandu as a major tourist attraction. The nature park covers 57 hectares divided into the Main Area, Core Reserve Area, Outdoor Observational Areas, and Sustainable Management Area. Facilities comprise boardwalks, birdwatching hides, and interpretive systems.

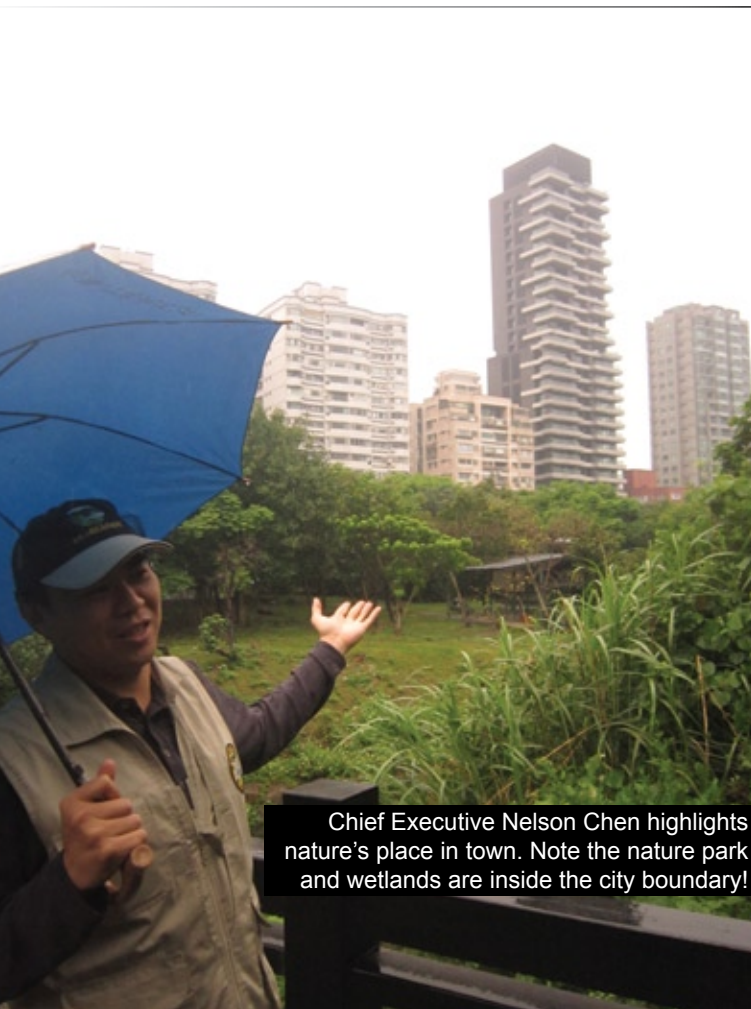
Working together for the environment

On December 1, 2001, administration of Guandu Nature Park was handed over to the Wild Bird Society of Taipei, a Non-Governmental Organization (NGO) with thirty years of experience in conservation and environmental education. Guandu Nature Park thus became the first protected area in Taiwan to be managed by an NGO. As a non-profit organization, the Wild Bird Society of Taipei channels 100% of the income generated by Guandu Nature Park back into the management of the park. With this unprecedented action, the Wild Bird Society of Taipei (WBS) aims to combine the resources and energy of both governmental and public interests and recreate a healthy wetland ecosystem for the purposes of both conservation and environmental education.

A multi-purpose site

The variety of habitats, and the resulting range of species attracted, provide a rich store of wildlife and natural ecosystems to investigate. In the field, students can undertake a wide range of learn-and-do activities; from planting and maintaining a typical rice field, to seeing how a water filtration system works, to identifying species of birds and their ecological 'niches', including how some interact with the resident water buffalo!

Back at the Guandu Park's centre, excellent interpretation facilities focus on a range of topics. An excellent audio-visual explores the history and ecology of the Guandu wetlands, the problems they face and what WBS is doing to resolve these. It



Chief Executive Nelson Chen highlights nature's place in town. Note the nature park and wetlands are inside the city boundary!



Henricus alongside one of the community-maintained rice fields.

puts the area into context as an important habitat area, and its growing importance in educational terms, for Taiwan. The centre's displays highlight particular aspects of the wetlands and the nature park, with case studies on bird migration, the local ecological web, and human impacts including pollution. School groups, including those from less

economically well-off parts of town, benefited from a variety of programmes. A large army of WBS volunteers meet once a month to support the work of 30-plus staff, undertaking surveys, helping with some of the education programmes and generally keeping the nature park running.

A positive view to the future

As I was shown Guandu, by CEO Nelson Chen and EE Specialist Gene Chiang, the towering city skyline reflected in the wetland waters seemed not so severe, almost poetic. Nature was being given the chance to breathe and city-based children, without previous outdoors experiences, were learning and benefiting from nature, first-hand.



Group of children at Guandu Nature park education centre

More information—

Guandu Nature Park
www.gd-park.org.tw/en/e1.htm
 BirdLife International
www.birdlife.org
 Henricus Peters' blog
<http://learnfromnature.net>

New ways to reach the world with water education

Nicole Rosenleaf Ritter

Education and Training Coordinator
Project Wet

With water expected to be a defining issue of the 21st Century, the importance of educating children about this most precious natural resource has never been greater. Today's youth are tomorrow's water stewards, and they will be called upon to deal with the many pressing issues that exist around water.




At the Project WET Foundation ("WET" stands for "Water Education for Teachers"), our mission has always been to reach children, parents, educators and communities of the world with water education. Since our founding in 1984, we have done this by training educators—not only school teachers but also scouting leaders, park rangers, museum and zoo interpretive staff and other informal educators—to use the interactive, science-based activities that we create to teach youth of all ages about water. In the process, we have developed the largest set of original water education materials in the world, and an active network around the world committed to water education.

For much of our 28-year history, Project WET reached educators through group workshops, following a 'train-the-trainer' model. Educators who wanted to receive the Project WET Curriculum and Activity Guide—a comprehensive collection of interactive water education activities covering everything from water and chemistry to water and culture—took part in a six-hour workshop facilitated by one of Project WET's state-level host institutions. Using this model, Project WET has trained millions of educators to bring fun, participatory water education into their classrooms or informal settings, and the programme has spread to all 50 U.S. states and more than 63 countries around the world.





Games inform understanding of water issues

While remaining committed to hands-on, face-to-face training, Project WET has recognised that in an era of increasing digital opportunities—and decreasing budgets—the path to effective learning for children and educators has to have multiple tracks. To that end, we have been developing new and varied ways to reach people around the world, including:

-  **DiscoverWater.org:** A free, Internet-based, interactive water education experience for children that covers eight topics around water in a fun and intuitive way.
-  **The Project WET Portal:** An Internet destination for educators to discuss lessons, share best practices and collaborate to improve water education.
-  **Online Training Webinars:** Educators around the world soon will be able to take a Project WET workshop online and receive the Project WET Curriculum and Activity Guide.



Learning to use computers for illustration in Malawi

-  ActionEducation™: Integrated suggestions for including action projects that impact local water issues in a meaningful way.
-  Digital downloads: Creating and adapting existing and new Project WET materials into a digital format for easy electronic use. (Project WET's water, sanitation and hygiene materials are available as free digital downloads in multiple languages, for example.)

Response to these initiatives—as discovered through surveys and field testing among educators and children—has been overwhelmingly positive. With that in mind, we will be continuing to lead in offering water education in new ways, while continuing to offer the face-to-face options that have helped us reach so many educators and youth throughout our three decades of work.

More information—

For more information about the Project WET Foundation, please visit www.projectwet.org. To find out where in the world Project WET is, click "Where We Are."



Coming full circle

Reflections on the NZAEE Bi-annual conference
Hamilton, New Zealand, January 2012

David Fellows

Hon. Treasurer
NAEE

Over 30 years ago I was on a Saturday afternoon visit organised by our Cumbrian branch of NAEE to Hay Bridge Nature Reserve, a local gem that was increasingly popular with local schools. It wasn't the usual 'look and see' tour; instead we were introduced to a series of games that could be played on-site. These included; a mirror walk where we gained a new perspective on the woodland canopy, 'nature's palette' where we sought out the range of colours naturally at our feet as we walked along, and the 'non-nature trail' where we went slowly along a specific route looking carefully for objects that weren't part of the natural world, and discovered that we needed to look in all directions not just in front of us. There were also times for being still, listening out for natural sounds such as the wind in the trees, and bird songs, and for reflection of our own feelings. There was too a time for pond-dipping complete with charts to help us look closer at what we had in our trays. However, one activity stood out above all those: the blindfold game where our partner guided us to a specific tree, helped us to use our other senses to identify it, took us back to base, removed the blindfold and challenged us to discover 'our tree'. Yes! We had become 'tree huggers'! It's a term sometimes used in abuse or derision as well as a useful shorthand for many similar activities.

Steve van Matre, the proponent of such activities, had named this approach 'Acclimatization' in his first book several years previously and now his work was taking off in the UK. Some years later I was to introduce him at an annual NAEE conference hosted by the Cumbrian Association and held at Lancaster University. By then he had achieved a guru-like status and a long beard to go with it. His programmes were well defined, copyrighted and were soon to be re-branded under the more academic name of 'Earth Education' The schools I taught at became regular users of Hay Bridge and I also took on the challenge of a higher degree researching how far Earth Education had been adopted as part of primary schools' core curriculum and approach to learning. I never completed this challenge, for the tide was turning. EE had long



Joseph Cornell advocating a 'nature games' approach

lost its place as the new kid on the block to the rapidly developing IT revolution and.....the new National Curriculum had arrived and the testing and accountability era was on its way too. EE was in its sunset years with only the growing interest in sustainability as a useful outlet for our approach to learning.

There was another well known advocate of the 'nature games' approach, Joseph Cornell, who, like Van Matre, had developed his practices through work in the American Scout Association. I understood that there was quite a degree of professional rivalry between the two but my own feeling was that the ideas made such good common sense that like some of our greatest inventions it was probably a case of great minds coming to similar conclusions. Cornell's title of his original book *Sharing Nature with Children* was more straightforward and has stood the test of time better. Half a million copies have been sold and it's still in print in several languages. So it was that I had chance to meet him in person whilst I was back in New Zealand. Conferences are a little like religious evangelistic gatherings where you come to be in the company of like-minded people, to be inspired, learn something new and leave with your batteries recharged. Joseph Cornell was probably the biggest draw amongst a total of four inspirational speakers. Most fascinating to me was that he radiated the same youthful enthusiasm for his work/ideas/games/approaches to the natural world as when I first bought and read his book so many years ago. His follow-up workshop out 'in the field' was well over-subscribed and it was great to see a new generation of educators so impressed. He had a new book on sale, his own children's edition of the life of John Muir, another figure, or perhaps I should say, *the* founding figure, of 'sharing nature' with us all. The role is more urgent than ever for, as we know, it is through a deepening appreciation of the world around us that we are motivated to care for and sustain it.

Poetry in Motion

Roger Butts with Juliette Green

ISBN 978-1905827978

LCP (www.lcp.co.uk/poetry-in-motion)

CD-ROM, £29.95

Poetry in Motion is a stew of delicious ideas designed to stimulate children into creating quality poetry. Children are encouraged to look for specific details in their outdoor environment and to use descriptive language to convey their ideas and emotions. Being outdoors fuels all of the children's senses and allows them to draw on real, first-hand experiences.

Stimulating environments meet creative writing skills in this well-thought-out resource and teaching guide. The CD is packed full of exciting ways to teach poetry with numerous poetic styles to suit any teacher's curriculum at all levels. The ideas and exercises that the authors suggest are simple but extremely effective. I particularly liked the 'walking stick memories' and the 'artist palette': very motivating for the children.

The contents map is easily navigated and information can be found without difficulty. For every activity suggested there are real examples of children's work, which provide practical examples for use within the teaching sequences.

Poetry in Motion definitely filled me with enthusiasm about teaching, creating and writing poetry and I highly recommend it to any teacher wanting to inject inspiration into their poetry teaching!

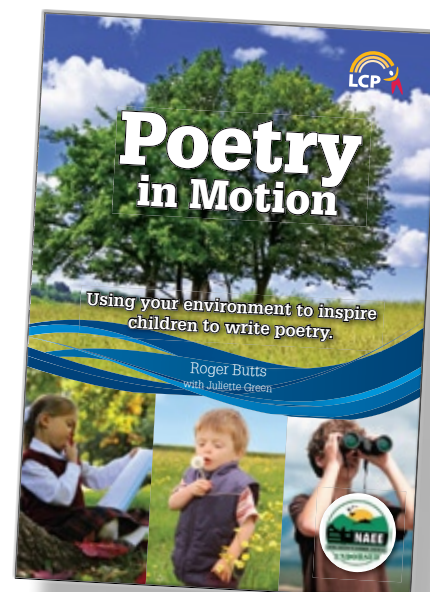
Katie Wood, Primary School Teacher

Just as poetry does not spring straight from the mind, our children cannot be awoken to it whilst sat in quiet rows with only a ticking clock and white page for company. Many of the writers we ask them to admire hated these very same conditions. From Coleridge to Woolf, they sought to stimulate their senses to breathe life into their works. If Keats, Blake and Byron were sitting GCSE English today, it would not be surprising to find them drawing on tables and texting their mates at the back of the class. Just as the greats needed to feel real sensation to wake up their creativity, so do our children.

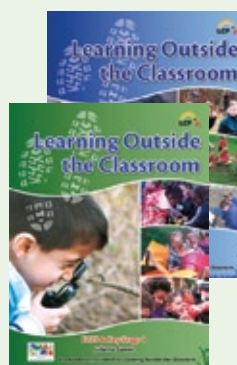
The PDF guides in this resource span the mechanics and presentation of poetry in a way that informs the children's work, without causing them to obsess over details. The CD also provides a plethora of ideas for getting out and about to create poetry, both near the school (School Grounds, Rivers and Water Ways) and far (The Seaside, Historical Places).

There are ideas for inspiring the more and less able, and even thoughts on managing the logistics of such trips in a special 'Keeping Safe' section: "involve [the children] in your 'risk assessment'...this is far more effective than simply telling [them] how to behave". With all this information, the resource nevertheless remains open to the creativity of teachers, making for an informative and thorough yet not prescriptive set of guides.

Chris Pryke, NAEE member



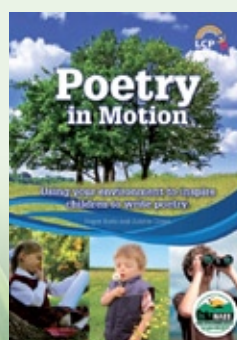
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Learning Outside the Classroom

A complete set of resources to support outdoor learning in primary schools. There are two books available: Book 1 for EYFS/KS2 and book 2 for KS2. Both books have been authored by Juliette Green, endorsed by the NAEE and have a foreword written by the Council for Learning Outside the Classroom.

Each book is £49.95
plus p&p



Poetry in Motion

A new poetry resource endorsed by the NAEE and written by Roger Butts and Juliette Green. This CD-based resource provides a range of resources to help primary school teachers use the environment to inspire their pupils to write poetry.

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plus p&p and VAT

Telephone **01926 886 914**
www.LCP.co.uk/primary/outdoor-learning

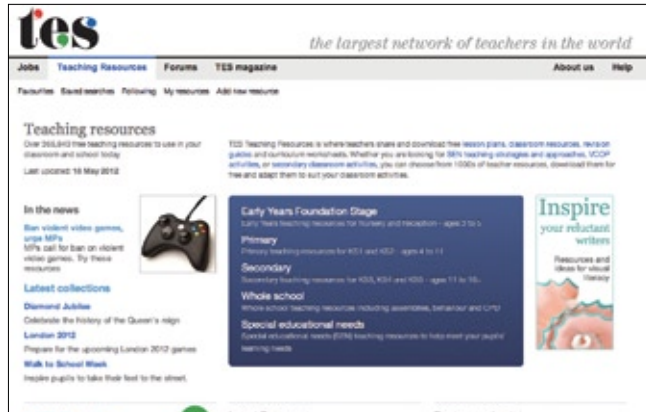


WEB WATCH 20

Compiled by **Henricus Peters**, NAEE Co-Chair

TES teaching resources

www.tes.co.uk/teaching-resources



Tagged as 'the largest network of teachers in the world' this portal has over 300,000-plus free teaching resources.

Registration is required, but it's free. Amongst a huge range, 'Primary Resources' include: 'Earth Day' for Year 1, receiving a letter from Rosy the Tree about carbon dioxide and being asked to write back. 'Secondary Resources' include 'Explore' thinking cards, looking at the 'pros' and 'cons' of felling rainforests. TES online portal also highlights and links to other excellent resources websites

FACEONLINE (Farming and Country Education)

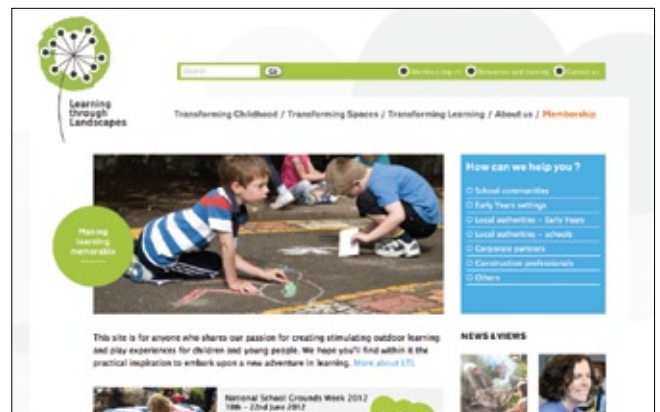
www.face-online.org.uk



Environmental Arts pack investigates 'Observation', including outdoor poetry, 'Imagination', including charcoal and mud drawing.

Learning Through Landscapes

www.ltl.org.uk/index.php



Helps schools make the most of their grounds and outdoor areas, includes extensive resources, for which a search is required but gives good results. One example is: 'Pirates' uses the 'people, past societies and societies' concept to re-live experiences using the playground.

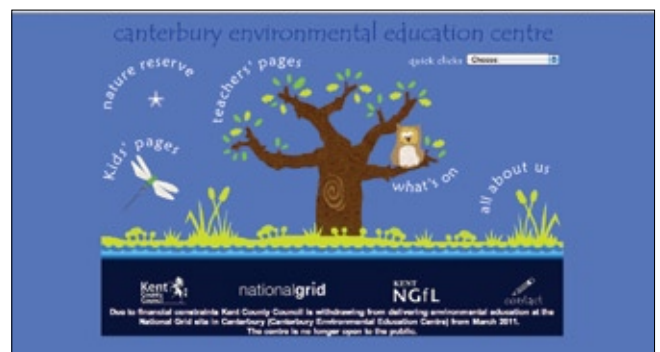
Planet Science

www.planet-science.com

Designed to stimulate children's imagination about science and technology, it's another online information portal with an effective 'search' function. Check out 'Environment' for global issues and 'Natural World'.

The Canterbury Environment Education Centre

www.naturegrid.org.uk



Due to government cuts, this centre in Canterbury is now closed to the public. Their very good website is still available, for the time being. Some of the links go nowhere, presumably because funding has been withdrawn, so you need to dig around. 'Teachers'

In this special edition, we bring you some of our favourite 'Environmental Education' websites for both adults and children



leads to many resources including 'Curriculum Links' which lists most resources.

'Literacy' has resources for Sebastian Swan books including resources to make your own online big books for Early Years/Foundation Stage readers. 'Biodiversity' has good information about plants, fungi, amphibians, reptiles, fish, invertebrates, then to arthropods, then to research and map. 'Research', however, referred to research only on this website, nothing beyond it. 'Map' is only of the Naturegrid Nature Reserve. Eco Explorer has reducing, re-using and recycling information which can be used for an instant powerpoint presentation. Also a good glossary of terms.

Nature Detectives

www.naturedetectives.org.uk



This site from the Woodland Trust has an array of free activity sheet downloads for seasons, both inside and outdoors. You can also join up for a fee and get specific materials.

BBC Wildlife Finder

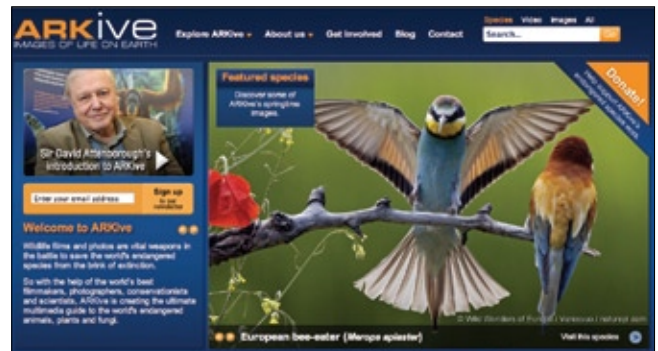
www.bbc.co.uk/nature/wildlife



Very good, though BBC-focused, site includes information about British plants and animals, and how/when to see them in the field.

Arkive

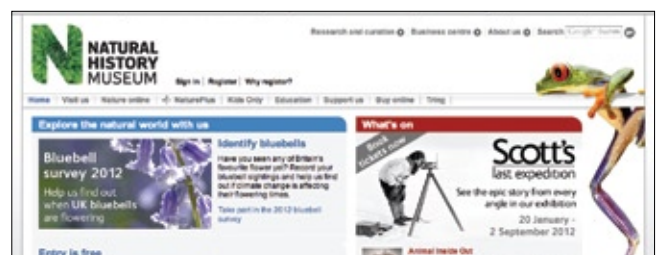
www.arkive.org



An exceptional site, with a huge amount of plants and animals information, with fact sheets, pictures, videos, blogs. 'Explore Arkive' contains a very wide range of user-friendly downloads for all ages and stages, with especially good items about endangered species: the full range of species groups a very wide range of plants and animals.

Natural History Museum (London)

nhm.ac.uk/index.html

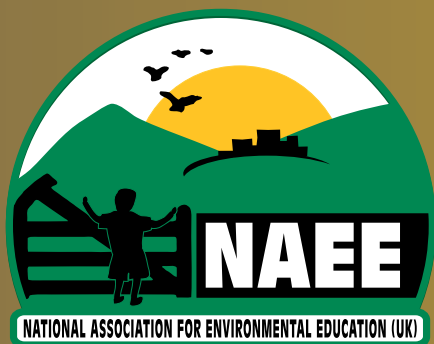


Shows off the extensive collections from these famous galleries. Check out the visually attractive Kids Only dinosaurs, 'fun and games', find out about scientists' jobs and build a volcano. Also has good links to external sites.

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henricus.peters@gmail.com
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National Association for Environmental Education (UK)

University of Wolverhampton, Walsall Campus, Gorway Road, Walsall, WS1 3BD
Tel/Fax: 01922 631200 • e-mail: info@naee.org.uk • Website: www.naee.org.uk



100

"I want my child to be happy in school"

—Peter Smith, President of NAFSO, National Association of Field Studies Officers, page 16

"It is well known that it was a disaster, in 1996, that teaching and learning about the environment was removed from the curriculum, where it had been delivered as a cross-curricular theme"

—Mrs Anne Kenrick,
Kenrick Trust, page 7

"In the wonderful new world of professionalism it should be government's requirement that every teacher joins a serious and accredited association dedicated to improving pupil experiences in a subject or area of the curriculum."

—NAEE Vice-President Mick Waters, page 22

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