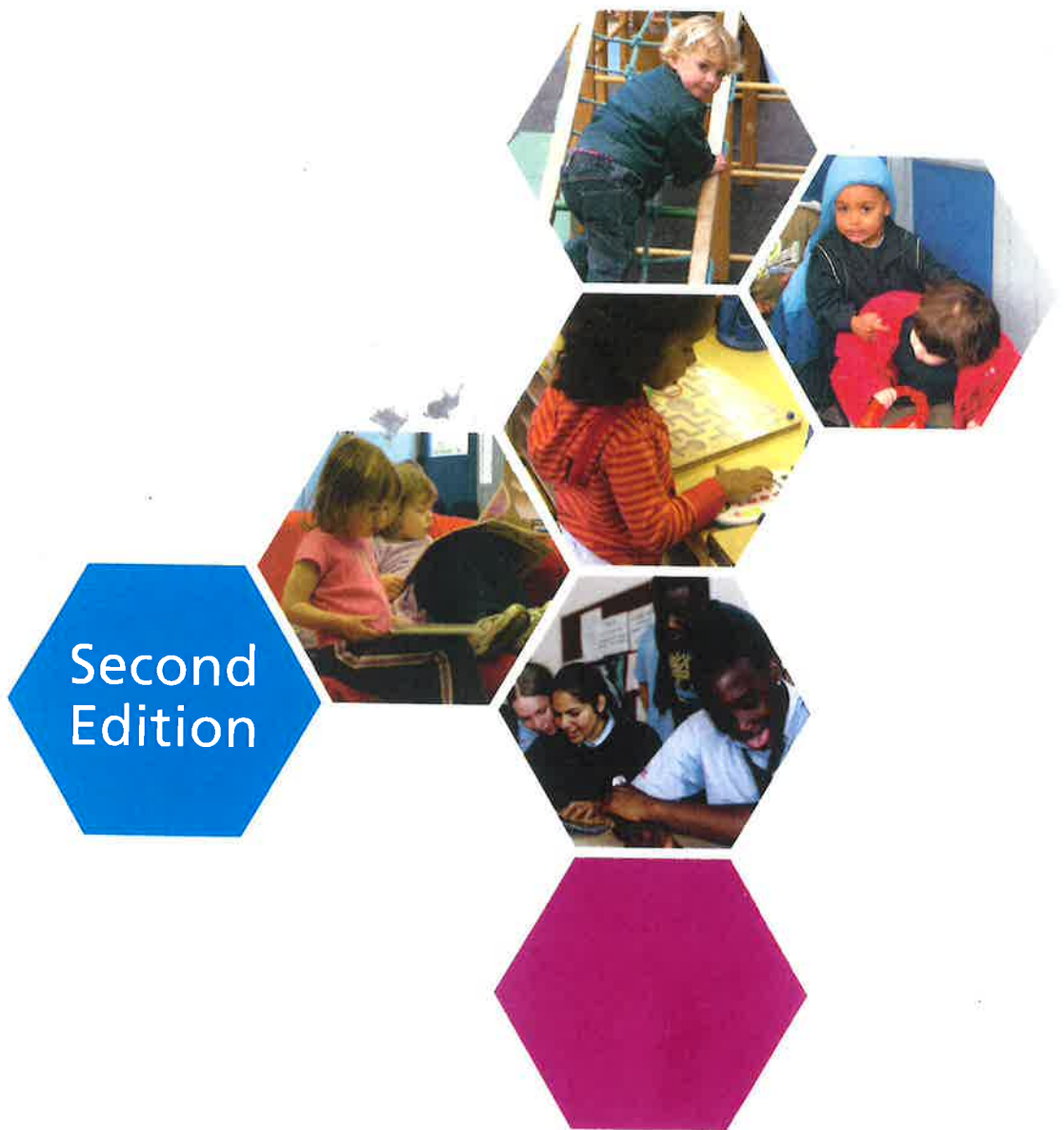


CROSS-CURRICULAR LEARNING

3-14



Second
Edition

Jonathan Barnes



What Does Good Cross-Curricular Practice Look Like?

The variability between us is surely humankind's greatest resource. Individual uniqueness does not apply simply to our DNA, irises or fingerprints, but to the almost infinite range of potential links making up each human's intelligence and personality. There is an immeasurable variety of possible connections between neurons controlling our senses, memory, physical and emotional responses, and those which process our conscious, rational and intellectual responses. Such a wealth of possibilities suggests that we each experience the world around us in subtly (and not so subtly) different ways. I believe that effective cross-curricular approaches mirror and maximize on this valuable diversity, but it would be foolish to give the impression that there could be a single or even a finite range of answers to the question, 'What does good cross-curricular practice look like?' Good practice in curriculum arrangement and approach is likely to be as diverse as any other aspect of human organization.

Aside from the consciousness of our mental diversity, a second wonder is that humans can communicate so effectively. Considering the potential for some of the billions of neural connections to misfire, it seems little short of miraculous that we ever establish shared perception. The teacher's job is to construct such understandings – mutually acceptable views of aspects of our world. Curricula are designed to support teachers in building minds by providing the intellectual and social settings for learning, but they vary in effectiveness and appropriateness.

Any curriculum that energizes, motivates, provokes and sustains high-quality, useful learning is doing a good job, regardless of whether or not it requires children to work across subjects. This book is *not* written to suggest that all teaching and learning should be cross-curricular. I claim rather that cross-curricular methods are a means of promoting learning that are highly motivating for some, even most, children.

The case studies

I have chosen seven case studies to illustrate a range of successful cross-curricular learning opportunities. Each case study has generated evidence of inclusive, creative thinking and deep learning on the part of the children and adults involved. Each sprung from strong and detailed planning, depended upon meaningful and shared experience and followed or resulted from focused subject application, real and relevant activity, and frequent formative assessment. The case studies include examples of multi-disciplinary, inter-disciplinary and opportunistic modes of learning and double-focus approaches to the school curriculum:

- two cross-curricular terms covering the entire curriculum for a 3–11 nursery/primary school (double focus)
- a cross-curricular module with a cross-phase group of Year 6/7 children (inter-disciplinary)
- a primary school following the Royal Society of Arts (RSA) competences curriculum (double focus)
- a two-day project for Year 4 pupils on 'our lane' (multi-disciplinary)
- a child-led term based on walks in the park with nursery children (opportunistic)
- a two-day session for Year 5 children working with an artist in school (inter-disciplinary)
- a combined arts project with adults and Year 7/8 children (opportunistic).

These seven studies are in no way an exhaustive set of examples. *Whenever* teachers and children apply learning in more than one subject to a problem, experience, issue or theme, cross-curricular practice is happening. When deep, transferrable, useful learning occurs as a result, good cross-curricular practice is happening.

In each example, the required cross-curricular and creative thinking did not just 'happen' – it was the result of thought, planning and usually of secure teacher knowledge. Objectives were met because teachers and other adults involved were constantly aware of them during planning and whilst children were working. Many case study schools brought in outside experts to take learning forward. Several teachers noted that their children were able cheerfully to accept pinpointed criticism and stretching targets from non-teacher experts in ways they would not have done from their regular teachers (see also Brice Heath and Wolf, 2005). The case study evidence confirms that partnership with members of the local community is not simply good for citizenship education but has wider learning benefits (Ofsted, 2010). Whether the expert was a carer, the mayor, an imam, nurse, artist, town planner or a great-grandmother, his or her knowledge helped raise standards of achievement, promoted the



Illustration 3.1 Children studying full-sized reproductions of paintings in their school hall

sense of belonging to a living, changing community and provided authoritative, rigorous alternatives to standardized assessments.

Creative curricula

Many schools are experimenting with what they call 'the creative curriculum'. There is no generally accepted definition or guide to such a curriculum, but very often cross-curricular approaches are associated with promoting creativity. Craft (2000) helpfully calls creativity, 'possibility' thinking, and a curriculum designed to help children make connections between different areas of learning in finding possible answers to real questions is likely to be creative. Indeed, in some schools, for example those using the International Primary Curriculum (IPC, 2006, website), they appear to have chosen a curriculum specifically intended to promote it. Arthur Koestler's (1964) insight that creativity is a result of 'bisociation' seems relevant here. Bisociation means the (usually unexpected) meeting of two distinctly different planes of thought. Sternberg (2003) picked up this idea as one of nine types of creativity and calling the bisociative type, 'integration', where creative input integrates two formerly diverse ways of thinking. We may, for example, be analysing in some detail the decorative

markings on a Victorian teapot while carrying out an investigation in history, and something makes us think of the markings as reminiscent of music. This unpredicted link between applied pattern and music may result in an imaginative, original and valued musical composition. The chances of making unusual juxtapositions of ideas, approaches and knowledge are high but appropriately unpredictable, in a curriculum where different viewpoints exist side by side and unexpected links are expected (see Ofsted, 2002).

Case study 1: Two cross-curricular terms covering the entire curriculum for a 3–11 nursery/primary school – an example of double-focus cross-curricular activity

This school works with A New Direction (AND website), an organization dedicated to supporting the development of creativity in schools by promoting links between them, their community and local creative practitioners. Working specifically with schools in disadvantaged communities in London, AND hopes to bring positive, dynamic change to curricula, pedagogies and lives to its partner schools. The school has 300 pupils (3–11) and serves a deprived area of east London with a high percentage of first- and second-generation immigrants. More than 75 per cent of its children receive free school meals, whilst 90 per cent have English as a second language. The AND project in this school was based around a simple question: 'Where do we find the creative us?' This was a question which included both staff and children and its answer was to be found over two terms of curriculum work involving the whole school.

Planning with three creative practitioners, the school decided on a radical approach. Three major whole-school outings in the local area were to become the engine of curriculum and pedagogical change. The three trips and related activities would first be experienced by the teachers and assistants themselves and then a few days later the whole school would make the same trip. They chose three contrasting places to visit over the two terms:

- Canary Wharf
- a nature reserve developed from an abandoned Victorian cemetery
- (a tour of) the streets around the school (a visit to a local gallery of modern art had to be postponed).

The three visits shared a similar format and were built upon eight key principles:

- All should see themselves as learners (parents, lunchtime supervisors, governors were all represented as well as teachers, TAs and children).
- Children should be paired in differing age groups (a nursery child paired with a Year 6 child, reception with Year 5 and so on).
- Groups should be composed of three pairs of children and an adult.

(Continued)

(Continued)

- All focusing activities at the sites were to be sensory (using touch, smell, taste, sight, hearing).
- Adults had to participate alongside children.
- All activities were to be open-ended (having no particular end in mind).
- Adults were to stress the 'present tense' experiential nature of the activities.
- The visits would go ahead whatever the weather.



Illustration 3.2 A wow moment at Canary Wharf

'Wow' experiences and focusing exercises

Creative practitioners and staff agreed on the importance of meaningful experience in generating the desire to become involved in learning. So the whole-school trip was a crucial kick-start to each unit of work. A shared experience became a 'wow' experience, partly because of the locations, the large scale of the exercise and the unusual pairings. The places visited, though very near the school, were unfamiliar to well over half the pupils. The teachers and children had never experienced a whole-school outing before and it was very unusual for the Year 6 class to spend extended time with those in the nursery. The

initial impact of each familiar yet unfamiliar environment was strong, children often expressed this in 'wow's and excited talk, but interest was sustained and deepened by a powerful series of focus exercises.

Focus exercises are sensory activities intended to be fully inclusive and help all learners experience aspects of a place, theme, object or person in fine detail. In each place, focused listening, careful looking, sensitive smelling and accurate seeing were encouraged through these open-ended exercises (see text box below for a sample of these exercises). They were open-ended because there was no initial objective other than to fully experience the sight, sound, smell or view of usually unnoticed features of the place visited. Children in their unfamiliar groupings entered into these exercises with gusto and real involvement. The social and sensory aspects of the learning process were fully exploited through them, but they also generated questions, thoughts and conversations which went well beyond the exercises themselves.

Following up experience

The big and little experiences of each day energized and motivated the children of all ages. Significantly, the experiences also excited the teachers. Back at school in the following weeks, class teachers picked up the excitement of the day and built a wide range of subject-based responses around them. Early years children talked enthusiastically about what they saw, smelt and heard with the aid of a video taken by a Teaching Assistant. They developed their newly extended vocabulary concerning where sounds came from, by doing more listening exercises around the school. Year 4 made a richly illustrated, three-week science project based upon the children's fascination with decay, re-growth and the minute creatures they found in the nature reserve. They also followed up the *spatialization* exercise with a series of group musical compositions based around four contrasting soundscapes found on the same visit. Year 1 also made a musical trail describing their journey from school to Canary Wharf in a series of sound pictures linked by a foot-tramping *Rondo* theme. The emotional maps of the nature trail led to a Year 6 group suggesting 'emotionally mapping' the school and then the neighbourhood. The children of all ages identified as particularly 'gifted and talented' made sculptures and environments based upon abstractions taken from either the made environments of Canary Wharf or the natural environment of the nature reserve. Children in Year 3 changed their smell trail into a 'taste trail', first of all being taught about the science of taste and then using blindfold sampling of stilton, mango, lime, coffee, 'raw' chocolate and other strong tasting foods to consolidate their learning. Later, they constructed a mapped treasure hunt based on taste identification and challenged another class to find their way to the treasure (chocolate of course!). Each of these provide further examples of multi-disciplinary

Outside School Focus Exercises

1. 'Key word' photo

Everyone is given a viewfinder with a different *key word* written on it (e.g. red, sad, lonely, awesome, dangerous, etc.). Using your viewfinder to frame it, look around for details (small ones are usually best) which visually illustrate or summarize that key word. Capture your decision in a photo and also include the key word on your viewfinder in the photo. This will remind you of the theme. (Thanks to Catherine Greig)

2. Spatialization

Draw a circle to represent a bird's eye view of your head, put some ears at three o'clock and nine o'clock and a nose at 12.00. Listen carefully for sounds around you. Decide the location of the separate sounds and the direction of movement if the sound is moving (like an aeroplane or a car). Mark the location of each sound in the appropriate area around the diagram of your head. (Thanks to Robert Jarvis)

3. Big picture

On a large sheet of paper (A1 or A2), each of four people draw a big impression of the skyline in front of them. One person should draw the skyline looking north, one east, one south and one west. You should use bold, colourful felt-tip pens. The four team members should then join their drawings to make a continuous collaborative image of 360° of the skyline.

4. Texture rubbing and words

Find a place where two different materials and/or textures meet. Feel the join between them and then talk about the different textures which meet there. Make a rubbing of the join and a little of each material and annotate the rubbing with words describing the two textures. (Thanks to Stirling Clark)

5. Colour match

Use coloured paint swatches to find natural and made matches in the environment. Peel off the double-sided sticky tape and attach as many examples of each colour to its corresponding paint colour as possible.

6. Mapping

Make a map of a little journey you have taken showing significant landmarks (buildings, plants, shadows, furniture and unexpected things which strike you as important). Use your map in one of the following ways:

- (a) **emotional maps:** how do you feel in each place? Mark on your map with words or colours the emotions you feel in different places. For example, which place makes you feel small, lonely, excited, frightened, cold, happy, sad, etc.?
- (b) **sound maps:** what are the dominant sounds in different areas of your map? Draw symbols or write words which capture the locations of different sounds in the environment.
- (c) **smell maps:** what smells can you identify in this place? Mark on the boundaries between different dominating smells. For example, where is there a more natural woody, vegetation smell? How are the smells near the water different? (Thanks to Stephen Scoffham)

Figure 3.1 Some focus exercises to use in the locality of the school

cross-curricular responses – there was no intention to integrate learning in a number of subjects, classes simply responded in different subject ways to the same experience. Whilst subject-based activities related to the visits continued to occupy each class for three or four weeks, the remainder of the curriculum time was devoted to an unrelated programme of learning in the remaining subjects.

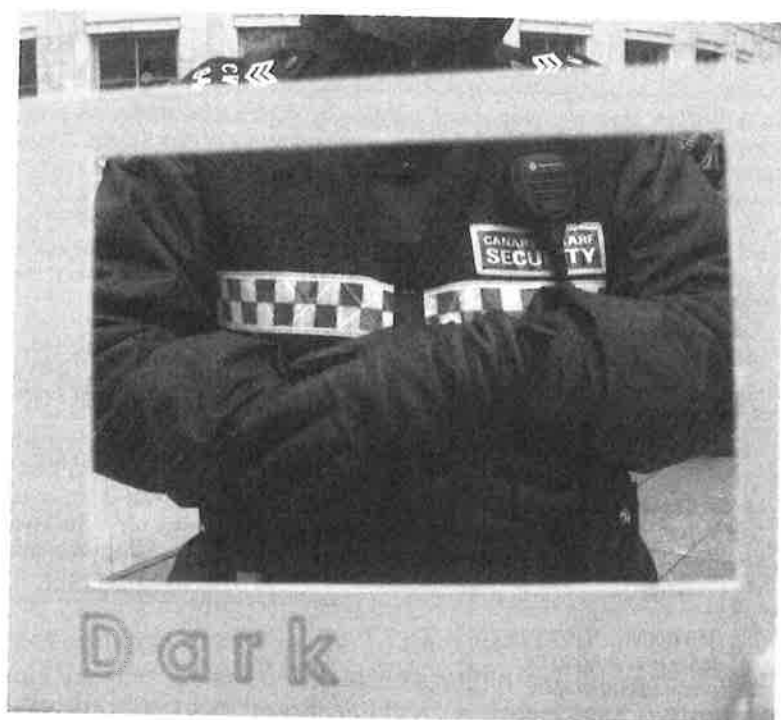


Illustration 3.3 Using word frames

Case study 2: A cross-curricular module with a cross-phase group of Year 6/7 children

The transition between Year 6 and Year 7 is a difficult one for children. Primary education practice and the pedagogies and curricula of secondary are often seen, even by teachers, as very different from each other. Two schools in the same locality wanted to work to break down these barriers and chose a cross-curricular language project to launch their new relationship. Both schools had identified their learning of modern foreign languages (mfl) as a target for improvement, in terms of motivation as well as outcome. Working with a team of music, English and mfl specialists, the schools developed a short inter-disciplinary module intended creatively to combine the three subjects and classes of Year 6 and Year 7 children. Their work was to be shared with and responded to by two parallel schools in France.

Motivation

Time, organization and money did not allow for a large-scale 'wow' experience to set the module going, but a series of focus exercises was chosen to engage

	Canary Wharf	Nature trail	Tour of streets around the school
Nursery			
Reception	Words: labelled photographs: 30 dark things, 20 red things, 45 cold things, 12 scary things, etc.	Collections – made and natural, colours	
Year 1	Musical journey – composition project		Shapes project – graphs of the most common mathematical shapes found in the locality
Year 2		Art gallery project – paintings of the woodland canopy and close-ups of natural detail collected in drawings and digital images	Designing and making 'Snow world' environments and learning about the history of the seventeenth-century winter markets on the Thames
Year 3	Taste trail – science of taste and geography plan-making project		
Year 4		Growth and decay – a science project on the life cycle of the minibeasts collected on the nature trail and the science of decay	
Year 5			Illustrated stories to be read to Reception children, based upon five personally collected items from the streets and gardens around the school
Year 6		Emotional mapping – geography mapping skills and knowledge, direction	
Gifted and talented cross-phase group	A geometric 'made' environment using forms, patterns and textures found in Canary Wharf – applying design/technology skills and mathematical knowledge		

Figure 3.2 A sample of class follow-up sessions for each year group after their three visits in the school locality

School and School Grounds Focus Exercises

7. **Key word viewfinders:** working in groups of four, use four coloured viewfinder frames to find five or six things around the school which express the meaning of each of the words printed on them. After discussing selection and composition, photograph the thing making sure that both the key word is readable and the subject is clear. (Thanks to Catherine Greig)
8. **Fridge magnet poems:** fold a piece of A4 paper into 16 rectangles by folding in half four times. Unfold the paper to reveal the 16 rectangles and then go on a private walk anywhere in the school or school grounds you are allowed. As you walk, write down single words (in English) to capture your feelings, observations, thoughts until you have 16 words. Return to class and gently tear the sheet into 16 separate word rectangles. Arrange your words into a meaningful poem – you can add extra ands, and buts or other short linking words if you like and leave out any words you don't really want to use. (Thanks to Rosanna Raymond)
9. **Spatialization:** as in Figure 3.1.

Figure 3.3 Some focus exercises to use in school grounds and buildings

the classes and give them a reason to want to express themselves in another language. The exercises were intended to help the children find English words to describe the detail and unique qualities of their school environment. These exercises can be done inside or outside school.

The chosen focus exercises are language-based and stimulated a great deal of agitated and enthusiastic talk. The teachers found that setting time limits – 10 minutes for the key words and the poems and 15 minutes for the spatialization helped focus minds more productively. Opportunities to work alone back in the classroom, as in the poem exercise, were particularly valued by some children. Many Year 7 children reported that they felt very motivated by these activities: 'It was great to get out and do real stuff', said one. 'I can't explain it, but when we were doing the exercises I felt really excited and wanted to do much more of it. I 'specially liked it when we were working in pairs on the key words, we kept sparking off new ideas from each other', said another.

Following up

The focus exercises provided motivation and a series of small-scale shared experiences for the children in both classes. When questioned, the vast majority of the class said they felt 'excited', 'energetic', 'happy', 'enthusiastic', 'interested' and 'questioning'. Teachers confirmed pupils' high levels of engagement by applying the Ferre Laevers Leuven Involvement Scale (see Chapter 6). Children's enthusiasm carried through the follow-up sessions which used music or geography skills hierarchically to take learning in French forward.

The pupils in Year 7 were given a degree of freedom in deciding on the relevance of the focus exercises for their learning in French. Several groups repeated the 'key words' idea in French, writing their own French 'emotional vocabulary' provided by the teacher, onto viewfinders. After taking 10 pictures, they used them to make a PowerPoint presentation on the meaning of French words like '*tranquille*'. Other groups used the poem idea and made up French poems from collections of 16 French words from a walk around the school. Motivation to complete and improve the follow-up activities was provided by the teacher introducing the class to a class in Boulogne via a Skype® link up. Some French children introduced themselves and then asked the English children to send them information about their school via email. Richly illustrated French poems and PowerPoints about their school were sent by email by the end of the second day of work.

The Year 6 class used similar focus exercises. Children constructed a series of 'I like' poems about their school. The music specialist then taught the children how to use *Audiomulch*®, a computer programme which transforms recorded sounds digitally, and the children made electronic background music to their poems to illustrate their likes – creatively combining music skills and language skills in one 'product'.

Case study 3: A primary school following the Royal Society of Arts (RSA) competences curriculum

This school serves part of a garrison town and has a highly mobile population, with 60 per cent of its children likely to move into or away from the school in any year. The school describes its reasons for following curriculum guidance from the Royal Society of Arts rather than that of the Qualifications and Curriculum Development Agency as follows:

Our views have been influenced by international, national, local and school based research and monitoring. We know that methods used in The Foundation Stage have been successful and believe that extending this approach and ethos will have a similarly positive effect on children as they progress through the school. We know that our school has unique characteristics, such as high mobility, and these were highlighted by OFSTED. We have responded to what we know about the school by preparing an appropriate model for teaching the curriculum. As part of this, we believe that building the RSA Competences for Learning into our curriculum will help our children to learn more effectively. (School prospectus, 2010)

The school launched one of the earliest primary versions of the RSA's competences-based curriculum called 'Opening Minds'. The RSA curriculum centres around developing five competences:

(Continued)

(Continued)

- learning
- citizenship
- relating to people
- managing situations
- managing information.

Each competence is chosen to cover an essential and generic aspect of modern life. Schools delivering the RSA curriculum decide upon curriculum themes which will generate development of the competences in a variety of experiential, learning and subject contexts. Working towards mastery of the RSA competences would result, they suggest, in internalizing essential and highly transferable life skills which will be meaningful to children whatever changes come about in twenty-first-century society. In the context of children's preoccupations and worries about the future, outlined in Chapter 1, such a curriculum appears potentially both relevant and timely.

The school has made its own detailed and levelled descriptors (levels 1–5) for each of these competences, but with no or little reference to subject content. Staff, parents and children have made many thoughtful and well-discussed decisions about curriculum. Their curriculum policy contains the following aims:

- For children to produce high-quality outcomes across all curriculum subjects – to bring out the best in everyone.
- To have a time-effective, relevant curriculum with real-life and cross-curricular links.
- To educate children and staff in the broadest sense of the word's meaning – 'to lead out'.
- To focus on children and how they learn best as a priority.
- To ensure children have appropriate access to learning activities that promote physical, moral, social, spiritual, cultural, academic and creative development.
- To encourage children's understanding and tolerance of the world in which they live and its peoples.

To achieve these aims, the school divided the curriculum subjects into what they term '*knowledge subjects*' (Geography, History, Science and Religious Education), each of which form the 'lead' subject for a term. The identification of knowledge subjects gives teachers a clear lead to be teaching knowledge and encouraging children to use it in different settings. What the school

What the competences mean

Learning

Children will understand how to learn and manage their own lifelong learning, they will learn systematically to think, to have explored and extended their own talents and have opportunities to develop a love of learning for its own sake. They will achieve high personal standards in literacy, numeracy and spatial understanding and be able to handle ICT with confidence and understanding.

Citizenship

Children will have developed an understanding of ethics and values and have experience of contributing to society. They will understand how the institutions of society work and their relationship to it. They will understand and value the importance of diversity, both nationally and globally, and will consider the global and social implications of technology. They will also learn to manage aspects of their own lives.

Relationships

Children will understand how to relate to people in a variety of contexts. They will have experience of operating in teams and understand how to help develop other people. They will develop a range of techniques for communicating in different ways and have an understanding of managing themselves and others emotionally. They will know techniques for managing stress and conflict.

Situations

Children will learn to manage time, change, success and disappointment. They will understand what it is to be entrepreneurial and how to take and use initiative. They will learn how to take and manage risks and uncertainties.

Information

Children will develop a range of techniques for assessing and differentiating information and will learn to be analytical. They will understand the importance of reflection and critical judgement and know how, when and where to apply it.

Figure 3.4 The RSA Opening Minds, competences-led curriculum

calls the '*process subjects*' (Maths, English, Design and Technology, Music, MFL, Art and PE) feature throughout the year. Here teachers concentrate more on the teaching of skills and opportunities for children to put those skills into practice in real projects. In consultation with the children, the curriculum designers decided that a literacy and numeracy 'hour' was too long and that the daily sessions should be cut to half an hour. Other English and mathematics and all science was to be subsumed in topic-based work and at other times throughout the week. Science is a term's focus three times a year, and English and mathematics have extra weighting to reflect their 'core' status. Look, for example, at Figure 3.5 to see the way the subjects are shared throughout the week during Key Stage 2.



Illustration 3.4 Children planning their presentation

This double-focus curriculum is divided into topics within which each year group chooses a strong and emotionally engaging shared 'event' as the focus for each of six terms. For every class, the event and 'lead' subject define teaching decisions for a six-week block. So a Year 1 or 2 group, for example, worked from (or towards) the following happenings:

- a trip to the seaside (with a history focus on how we used to live)
- a Christmas nativity play (with a science focus on light)
- an art exhibition (RE)
- an Easter fun day (with a science focus on new life)
- 'a day trip to India' (with a geography focus on a distant locality)
- the opening of a wildlife garden (with a science focus on biodiversity).

In this curriculum, 65–70 per cent of all subject-based work falls within the cross-curricular theme. Teachers are encouraged to use texts and examples in the remaining 30–35 per cent, which also relate to either a main or RE theme. Throughout the school, learning is interrelated and contextualized – the learning makes sense to the learners. Subject leaders support their colleagues by using the National Curriculum Attainment targets (DfEE/QCA, 1999) for their subject to construct progressions of skills, knowledge and attitudes. Teachers then use this levelled description to plan extra challenge or provide added skills.

Key Stage 2 total	23.75 hrs	
Literacy	Hours per week	Percentage of time
Discrete teaching of writing	1	4.2
Cross-curricular writing	1	4.2
Guided reading	1.25	5.3
Handwriting	0.25	1.1
Word and sentence work	2.5	10.5
Reading by/with teacher	1	4.2
Total	7	29.5
Numeracy		
Oral mental work	1	4.2
Number	2.5	10.5
Cross-curricular maths	1.5	6.3
Total	5	21.0
Other subjects		
Science	1.75	7.4
History and/or Geography	2	8.4
Art and/or Design and Technology	2	8.4
Music	1	4.2
Physical Education	2	8.4
Religious Education	1	4.2
Information Communication Technology	0.5	2.1
Personal Education	0.75	3.2
Modern Foreign Language	0.75	3.2
Total	11.75	49.5
Final Total	23.75	100.0

Figure 3.5 Key Stage 2 subject balance in a typical week

Case study 4: A two-day project for Year 4 pupils on 'What is a community?'

A Year 4 teacher wanted to contribute to a two-day unit of work as part of the Engaging Places (2010, website) project. The website, maintained by English Heritage and The Commission for Architecture and the Built Environment (CABE), aims to support schools in using aspects of the built environment as resources for learning. Providing a network of organizations able and willing to work with schools on built environment projects and a wide range of case

(Continued)

Half/Term Curriculum Overview						
National Curriculum Years 1/2						
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE – Christianity/symbols and objects						
HISTORY Special People (Changes in lifestyles) (SCIENCE – OURSELVES 1)	SCIENCE LIGHT	RE Islam (SCIENCE – SOUND)	SCIENCE MATERIALS (CHANGES)	GEOGRAPHY Contrasting locality [UK] (SCIENCE – INVESTIGATION UNIT)	SCIENCE LIVING THINGS IN THEIR ENVIRONMENT	
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE – Christianity/symbols and objects						
GEOGRAPHY Our School and Neighbourhood (SCIENCE – OURSELVES 2)	SCIENCE MATERIALS (GROUPING)	HISTORY Special Events (Changes in lifestyle) (SCIENCE – ELECTRICITY)	SCIENCE FORCES	RE Judaism (SCIENCE – INVESTIGATION UNIT)	SCIENCE GREEN PLANTS	
National Curriculum Years 3/4						
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE – Christianity/religious responses to current issues						
GEOGRAPHY Locality in a Less Economically Developed Country (SCIENCE – HABITATS)	SCIENCE LIGHT	SCIENCE MATERIALS – THERMAL	RE Islam (SCIENCE – SOUND)	HISTORY Tudors (local study) (SCIENCE – INVESTIGATION UNIT)	SCIENCE TEETH & HEALTHY EATING	
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE – Christianity/symbols and objects						
SCIENCE MATERIALS – ROCKS & SOILS	GEOGRAPHY UK Locality (SCIENCE – MICRO ORGANISMS)	SCIENCE FORCES	RE Judaism (SCIENCE – FORCES CONT.)	SCIENCE GREEN PLANTS	HISTORY Victorians or Britain Since 1930 (local study) (SCIENCE – ELECTRICITY)	
National Curriculum Years 5/6						
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE – Christianity/religious responses to current issues						
SCIENCE MATERIALS – CHANGES	GEOGRAPHY UK Locality (SCIENCE – GREEN PLANTS)	RE Sikhism (SCIENCE – LIGHT)	HISTORY Romans, Anglo Saxons and Vikings (local study) (SCIENCE – SOUND)	SCIENCE EARTH, SUN AND MOON	HISTORY World Study – Egyptians (SCIENCE – INVESTIGATION UNIT)	
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
RE Christianity/symbols and objects						
SCIENCE MATERIALS – DISSOLVING	GEOGRAPHY Locality in a Less Economically Developed Country (SCIENCE – ELECTRICITY)	HISTORY European – Greece (SCIENCE – HEART RATE AND KEEPING HEALTHY)	SCIENCE FORCES	RE Hinduism (SCIENCE – INVESTIGATION UNIT)	GEOGRAPHY Changing Environment (SCIENCE – LIVING THINGS IN THEIR ENVIRONMENT)	

Figure 3.6 Yearly topic grid for knowledge subjects



Illustration 3.5 *Intense faces and focussed body language often characterize collaborative projects. Photo: Ian Bottle*

(Continued)

studies, lesson plans and support materials, Engaging Places aims to be a 'one-stop shop' for all wishing to use real places as a focus for learning. The two-day unit of work is an example of multi-disciplinary cross-curricular teaching and learning in the context of a wider and values-based curriculum.

The wider aim of the school is to help all children feel they belong to the local community. This was in the teacher's mind when she decided that the question that would bind their cross-curricular work, would be: 'how is our street a community?' The class teacher set about helping the children answer this question in an oblique way: she asked a town planner, a geographer, a musician and a scientist to come in for the two days to work with her children. She asked these adults how their subject expertise would help them answer the class's question and then to lead the children towards finding answers along scientific, design, musical and geographical lines. The class was divided into four groups of seven and each worked with one of the adults:

- The music group took a 'sound walk' with the musician who wanted to show that musical compositions could construct a 'sonic sense of place'.
- The design/technology group talked with the town planner about the traffic dangers of their street at school opening and closing times. He wanted to help the children discover that they could do something as citizens to influence local government decisions.

(Continued)

(Continued)

- The scientists worked with the scientific advisor to a big company to find out if they could 'live lives any greener'.
- The geography option concerned discovering the uniqueness of their place, by taking a walk from top to bottom of the lane in which their school stood, and mapping together what was special about it.



Illustration 3.6 Six-year-olds showing thoughts about the possible changes in the view from a classroom window in 50 years time. (Left hand side, present; right hand side future)

The town planner (a friend of the teacher) showed the children how to use copies of a small-scale map to plan changes to a built environment. Children pooled and discussed the changes they felt would be needed to make the school lane safer. They arrived at four practical proposals: speed bumps, a one-way system, a safe crossing point and parking restrictions on a particularly dangerous stretch of the lane. A fifth suggestion, a school bus, was taken up by the scientist's group as they made detailed proposals for a 'green (electric) bus', supported by the scientist who told them about electric engines and their design implications. The scientist also had to help them with the practicalities of a calming fish tank the children wanted for the bus passengers.

The town planning group built a scale model of their proposals on to a base map of the school lane, carefully photographed each aspect and with the planner's help, composed a letter of proposals to the local district council. This decision supported the development of important PSHE targets for the class (for more details, see Engaging Places, 2010, website).

Case study 5: A child-led term based on walks in the park with nursery children

A speech therapist and a nursery leader in Liverpool decided to work together to address the communication barriers they had both observed through delayed development in many children. Emulating practice they had seen in Scandinavia, they planned a series of walks from the nursery to a Victorian park near the school with the aim of stimulating conversation and questions. Each walk took a path through a wood and out the other side to a meadow with a strange locked tower at one end and views across to a set of ornate mansions. With minimal adult leading, the children began to make up stories about the tower and the large decorated houses. The leaders eventually persuaded the local museum to open up the tower and on the fourth walk, the children were able to enter it and add to their stories about what it might have been used for. A museum curator brought a stuffed owl to show them one of the many creatures that currently occupied the tower.

The simple action of six walks in different directions through the park was enough to transform the atmosphere and the learning of the whole group. The walks, which happened rain or shine, took the whole morning and involved collections, woodland sculptures, den building, bird watching, tree, flower and butterfly identification, games and songs. The teachers, parents and helpers noted however that the chief benefit of these open-ended walks was the vast amount of talk they generated: real questions, imaginative solutions, genuine interactions and opportunities to help extend each child's language world at every turn.

The nursery school decided to timetable such walks weekly throughout the year and base much of the activity in the rest of the week on ideas, things and stories the children had brought back with them.

Case study 6: Two afternoon sessions for Year 5 children working with an artist

Case study 6 took place in a primary school in an economically deprived and ethnically mixed part of London; more than 60 per cent of its children had English as their second or third language and about 75 per cent were eligible for free school meals. External inspection and internal personal/professional development had identified two main aims for curriculum progress:

(Continued)

(Continued)

- to improve the standard of English literacy
- to improve the sense of community within the school.

Courageously, the school decided to take an unconventional route towards these two objectives – with a grant from Creative Partnerships, they employed an artist and a curriculum designer to work with children and staff on rethinking the curriculum. This case study records what happened in two sessions in a Year 5 class of 25 children representing 19 different languages. Many could not speak any English when they arrived at school. Analysis of these lessons formed the starting point for staff discussions and decisions about their curriculum for the coming year.

The observed class and their teacher worked with a Maori/Samoan artist for two afternoons. Coming from a culture outside all of theirs, the artist introduced herself by describing her *Tatau* (the Samoan word from which we get 'tattoo'). She described how personal and culturally important each image was to her and the meaning of some of the marks on her hands, arms and legs. After responding to many questions about her country, she suggested that the children might like to draw round their hands and design their own meaningful *tatau* which would symbolically show what was really, really important to them. Children were immediately keen to do this and the artist reminded children that the symbols should not be random but be attached to some kind of story to do with important things in their lives. After some 20 minutes of eager drawing, she said that if children wanted to they could write the story which linked their symbols, in poem form or as a story. After an hour, she called all 25 children into a circle, sat down with them and asked them to share what they had done. All children listened respectfully and attentively to the often moving and very heartfelt stories of the others. One boy who had drawn a flag and a heart and mountains and four dots said this when his turn came round:

You will not know this flag, it is the flag of my country Kurdistan, this is where I and my mother and father and sisters come from, they are the dots, there are lots of mountains there, I have drawn the heart because I have love for my enemies as well as my friends.

Another, streetwise and mature nine-year-old Romanian, stood up and recited:

*I love my mum and I love my dad
I love my grandma too*

*I like my cat when she's not scratching
I like coca cola but its not matching
I like my chicken but its not hatching*

*I love my mum and I love my dad
I love my mum and I love my dad.*

(Continued)

(Continued)

All were deeply engaged by this simple exercise in celebrating both personal identity and the building of a respectful and diverse community.

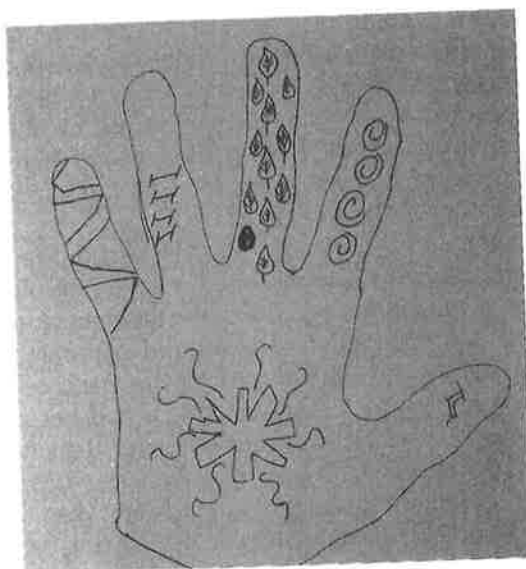


Illustration 3.7 A tatau-ed hand

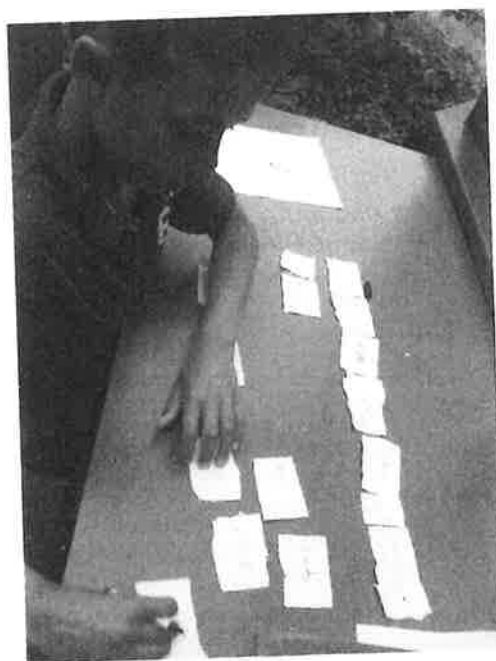


Illustration 3.8 Arranging found words in a poem

(Continued)

(Continued)

The following day, the artist collected the symbols the children had designed and copied them onto the whiteboard. They discussed how these aspects of life that were so important to them might somehow be brought together and nurtured – under the influence of the previous day's session on Samoa, someone suggested an ideal Pacific Island where everyone lived peacefully together. One group thought the island could be turned into music and at that the whole class became energized. Under the artist's and class teacher's gentle guidance, groups began to compose a spiral-shaped score of Pacific Island music which used their symbols as graphic notation. Thus, the class creatively fused major progression in music learning (composing for the first time from a non-musical starting point, and using a spiral form as a musical structure), geography (detailed understanding of key features of a coral and volcanic island environment) and significantly developed their speaking and listening skills. This was inter-disciplinary in that creative fusion was both the aim and the outcome of these lessons, but also assessable subject progress was made in three subjects.

Case study 7: The Higher Education Arts and Schools (HEARTS) project (a Year 7/8 and ITE cross-arts project)

This project formed part of a teacher education programme, and exemplifies many of the personal and learning benefits for both teacher and pupil when they are involved in activities which seem to be mutually relevant.

The HEARTS project (Barnes, 2005b, 2006; Barnes and Shirley, 2007; NFER, 2007, website) was designed to investigate the power of the arts to enhance the learning of university tutors, trainee teachers and school children. It consisted of a series of practical encounters where cross-arts activities were used to answer profound questions and detailed investigations about environments. The project consisted of three discrete but linked experiences.

Experience 1: A mystery journey in a tiny steam train

Students and pupils were crammed into a half-gauge railway train with carriages just big enough to take four children and two students. Each group of six was given a sealed envelope to be opened as the train started its 50-minute journey. The letter in the sealed envelope simply gave an instruction:

Write a rap based upon the rhythms you can hear on the train and the sights you can see from it. Be ready to perform it on the station when you arrive.

Neither the university students nor pupils were expecting this task and none were music specialists. In almost every one of the 15 groups of six, the school children took the lead. Students reported that the pupils '... just seemed more confident with open-ended challenges'. The pupils noticed the *tid-dly, tid-dly, tid-dly, taa, tid-dly, tid-dly, tid-dly, taa*, often interrupted by other rhythms as

(Continued)

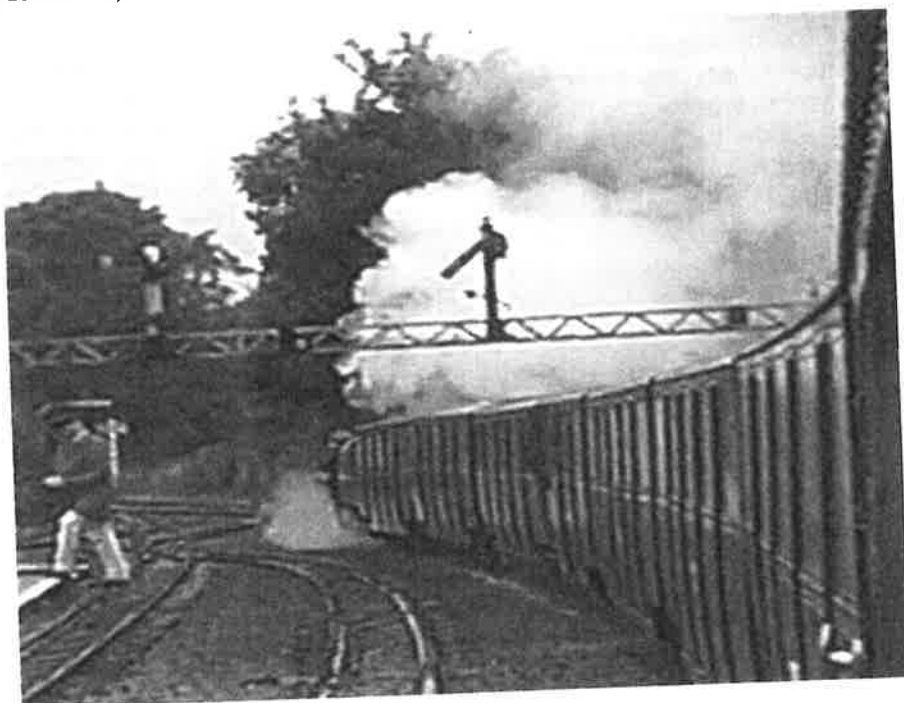
(Continued)

Illustration 3.9 Children and student teachers were placed together in the tiny carriages of a half-gauge railway to construct 'raps' about the journey

wheels moved across points and crossings. They also noted the interruptions of whistles and frequent loud puffs of steam from the engine. As they looked from the carriage windows, the pupils recorded the things they saw: 'rub-bishy gardens', 'miles of wires', 'traffic waiting', 'pylons, pylons, pylons', wrote one group. By half-way, the students had begun to catch up with the pupils and were making their own contributions. Students and pupils together started to make up their raps and write them down, some had repeated choruses which would hold them together, and some groups had discussed in detail how their raps were going to be presented to the audience of fellow travellers. One group punctuated their pithy take on what they saw as a spoiled landscape viewed from the train, with this repeated refrain:

*This is my time
This is my place
This is my en-vir-on-ment
This is my rhyme*

Experience 2: a beach on a drizzly November day

The 90 learners arrived at a forlorn and empty beach in light rain and strong winds. Aside from health and safety warnings, the student teachers had only

(Continued)

(Continued)

been given two instructions for their day: avoid using the words 'you' or 'I', and allow the children to take control of activities as soon as possible. Each group of six students and pupils were simply left with a set of focusing tasks and asked to 'capture the essence' of their place for a short presentation to their peers when they returned to school the next day.

Focusing exercises

9. **A sense of touch:** each member of the group is to go into their own space and sit or stand alone. Feel walls, pebbles, plants, fence, etc. nearest you. Jot down fragments of sentences which describe the fine detail of the physical sensations in the fingers as you feel the immediate environment.
10. **Haiku:** each person in the group is to write a three-line haiku (five syllables, then seven, then five syllables only) that captures the essence of a tiny detail of the place they are in. A haiku often starts with a sensitive description in the first two lines and in the last-five syllable line, the thoughts 'flip' to a 'higher' or more profound association.
11. **Snapshot view:** divide into pairs. In each pair, one of the partners closes their eyes and is led very carefully by their open-eyed partner. When the open-eyed partner sees an unusual or interesting image, they position their friend in the optimum viewing position and then squeeze the hand of their partner. The partner then opens their eyes for the length of the hand squeeze. Do this five times and then swap roles.
12. **One shot only:** each member of the group is allowed one still photograph only (so it has to be a good one). Discuss shots with the whole group but each individual must take a photograph.
13. **A dramatic happening:** plan a dramatic modern (or future) event which could only have happened in your place. Act it out. Summarize the story in three freeze-frame montages. Discuss and draw/plan/note what you would absolutely *have* to construct on your school stage if you wanted to act the scene out back at school. For example, would the light need to be coming from a certain side? Would there have to be a step here, an arch there? Would the arch have to be low/pointed/stone/crumbly? Etc.
14. **Say it in one:** each group has to produce five 'one-shot movies' lasting one minute. Each person will have the opportunity to make a movie. It should be a planned and continuous shot taken by one member but the shot should be discussed by the whole group.

(With thanks to Robert Jarvis for many of these ideas)

Figure 3.7 Exercises to widen and develop sensory and emotional engagement at the beginning of a project

Experience 3: adults and children working together

After a day together, students and children brought their collected data and impressions back to school. They worked on creative ways of bringing several aspects together and presenting them, and finally performed them to the rest of the year cohort. The 15 presentations could not have been more

(Continued)

(Continued)



Illustration 3.10 Dungeness power station from the beach

varied – they included two dramas, an art exhibition, a musical composition accompanying a silent film, a puppet show with characters made from pebbles, a dance where nature battled with humankind, a dramatically presented ghost story with music, a sculpture garden and a seven-minute documentary.

Students made detailed records of their impressions and observations, and wrote them up as part of an assignment. Several themes of general interest to those thinking of cross-arts work in schools emerged. Students noted many common outcomes from their three experiences. In each case, students remarked on the impact of placing control in the children's hands for significant periods. All remarked on the effective use of the arts to interpret and communicate the essence of a place. The following themes were commonly highlighted in student's assignments:

- Children's imagination was consistently recorded as being beyond that of the students themselves.
- The focus activities generated a great deal of genuine questioning.
- Children seemed so highly engaged that behaviour never became an issue.
- The atmosphere seemed very relaxed.
- The children displayed facial expressions of happiness and contentedness.
- The cooperation and friendliness of the children involved in the project were frequently remarked upon.
- The sense of pupil control significantly enhanced engagement.

(Continued)

- Children responded well to the open-ended nature of the project.
- The normal barriers between teacher and pupil were significantly broken down.
- Both children and students reported that they had learned significant arts and ICT skills and lots of unexpected place and science knowledge.
- A number of students commented that this activity had been the most enjoyable aspect of their whole course.

In a context where such positive outcomes are so evident, there remain serious pitfalls. University tutors assessing the students' work noted the following:

- Having stepped out of the role of teacher, many students forgot to step back in. Students were happy to see well-motivated, well-behaved, active and link-making children working on the project, but did not use the opportunity to help the children 'raise their game'. They did not step in to offer new challenges, teach new and relevant skills at a higher level or question pupils about ways they could improve their products.
- Having attended a crash course on creative teaching and learning, some students left with the idea that it was going to be easy to generate creativity in their classrooms. Some failed to understand that creativity does not 'just happen' when children are left to their own devices, but it needs serious preparation and discussion amongst teachers, and probably a clear framework to develop within.

Summary

- Each study illustrates different forms of local and child-centred relevance.
- There is no optimum timescale for good cross-curricular practice; a day, a week, a term, two terms and a whole-school curriculum are each represented.
- The fewer the curriculum subjects represented within a single theme, the more teachers are able to help raise subject standards and ensure curriculum progression and coverage.
- Each study relied upon and promoted maximum physical and emotional involvement in an authentic setting.
- Each study generated creative links across the curriculum.
- Each study integrated working adults as experts from the wider community.
- Activities and themes held equal fascination for both the adults and children involved.
- Each activity required and was founded upon detailed and lengthy planning in order to ensure progression and curriculum coverage.

- Every study was reported by teachers to have generated a high degree of focus, motivation and exemplary behaviour on the part of the children (and adults).

Key questions for discussion

- Can you identify the difference between interdisciplinary and multi-disciplinary cross-curricular activities?
- What kind of teacher do you think would be most at home with opportunistic methods of cross-curricular teaching?
- Are the kind of activities outlined in the case studies and focus exercises feasible for novice teachers? Give your reasons.

Further reading

- Brice Heath, S. and Wolf, S. (2004) *Visual Learning in the Community School*. London: Arts Council.
- Csikszentmihalyi, M. (2003) *Good Business*. New York: Hodder and Stoughton.
- Wilson, A. (ed.) (2005) *Creativity in the Primary Classroom*. Exeter: Learning Matters.
- Wyse, D. and Rowson, P. (2008) *The Really Useful Creativity Book*. London: Routledge.