

CROSS-CURRICULAR LEARNING 3-14

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CHAPTER 2

CROSS-CURRICULAR POLICY AND PRACTICE

Chapter aims

This chapter summarizes the history of cross-curricular approaches and the development of more recent policy and practice in British education. It aims to demonstrate the philosophical and educational background to the ideas presented in this book. It introduces an original and research-based taxonomy of seven different styles and purposes of cross-curricular learning. By the end of this chapter you will have considered:

- some philosophical and psychological influences on cross-curricular practice
- government reports sympathetic to cross-curricular approaches
- the development and demise of cross-curricular approaches in the National Curriculum
- current contributions to the cross-curricular debate, including the Cambridge Primary Review
- the approach to cross-curricular teaching and learning used in this book
- an original and research-based taxonomy of cross-curricular styles.

Cross-curricular approaches to teaching and learning have a long history. Linkages between the language and skills of more than one discipline are implicit in ancient Greek and medieval Chinese views of education. In both traditions drama, music, philosophy and literature, with their distinctive skills, vocabularies and histories, were expected

to be combined. The amalgamation of different subject approaches is often seen in the work of influential teachers and communicators. Polymaths like Aristotle, the Persian astronomer Avicenna, composer/philosopher Hildegard of Bingen, Leonardo Da Vinci or the Indian poet and reformer Tagore, each fused personal expertise in several subjects to make important contributions to global knowledge. On a different scale some cultures unite subjects considered separate domains in Western traditions. For example many societies in south and west Africa call dance and music by the same name (Blacking, 1974). Experiences, understood through the eyes of a number of different subject disciplines, exemplify the educational philosophies and recommendations of seventeenth-, eighteenth- and early nineteenth-century philosopher/educationalists like Comenius, Rousseau, Pestalozzi and Froebel. Thinking and learning across disciplinary traditions is far from a 'progressive' or modern idea.

Twentieth-century cross-curricular thinking

Connecting across a *curriculum* – the educational experiences offered by an institution – may be seen as a twentieth-century contribution. The concept of a 'child-centred' curriculum spread via early twentieth-century educational thinkers like John Dewey (1859–1952) in the USA and Rudolf Steiner (1861–1925) in Europe. Dewey's 'democratic' approach was founded on ideas of freedom and the provisional, negotiated nature of knowledge. He argued that children should be deeply and personally involved in the creation of knowledge through problem solving and experiment, and that community would be enriched by individuals whose personal experience had been enlarged through education. Education in Dewey's eyes was rarely an individualistic activity; in his writing and lectures, he was at pains to stress the importance of the group. In the gendered language of the time he wrote:

I believe that the only true education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself. Through these demands he is stimulated to act as a member of a unity, to emerge from his original narrowness of action and feeling, and to conceive of himself from the standpoint of the welfare of the group to which he belongs. Through the responses which others make to his own activities he comes to know what these mean in social terms. The value which they have is reflected back into them (Dewey, 1897: 77–80).

Steiner's ideas were more spiritual and personal – like Rousseau he believed in the innate wisdom of human beings. In proposals for his 'Waldorf schools', Steiner (1919) gave a detailed outline of a developmentally based curriculum strongly infused with the arts. The Waldorf curriculum is both subject-based and thematic – the overarching theme is the development of selfhood. It is designed to mirror and guide the child's unfolding dexterity, consciousness, creativity and imagination. Its classical aims – to cultivate responsibility for the earth and other people and prepare children for the challenges of the future – are met through a curriculum designed to be personally engaging, spiritually conscious, experience-based and responsive to the physical world of nature. A Steiner curriculum often uses separated subjects, but also provides regular opportunities to put subject learning into cross-subject contexts like plays (that can take up curriculum time in a wide range of subjects for a whole term), building projects, exhibitions, displays, walks in the countryside and seasonal celebrations.

The 1931 Hadow Report took up Dewey's ideas in the UK. Even in its time, its proposals were considered radical. Hadow reflected 'progressive' child-centred philosophies in suggesting that learning, especially in the primary school, should be seen in terms of 'activity and experience rather than knowledge to be acquired and facts to be stored' (UK Board of Education, 1931: para. 75). *Knowing* and *doing* were in some ways seen as synonymous with each other, and purposeful activity suited to the child's specific environment needed to be planned in accordance with the varying nature of children. Unfortunately, as Alexander (2010) reminds us, Hadow's emphasis on activity resulted in the unintended and unhelpful polarization between experience and knowledge which has clouded the debate over cross-curricular learning ever since.

Although the Hadow Report was hailed as a triumph for progressive, constructivist education, in the UK the spirit of its recommendations was not fully advanced until the Plowden Report (DES, 1967). This influential and well-researched report compiled evidence from professional, academic and interest groups to argue that:

Rigid division of the curriculum into subjects tends to interrupt children's trains of thought and of interest and to hinder them from realizing the common elements in problem solving ... some work at least, should cut across subject divisions at all stages of the primary school. (DES, 1967: para. 535, p. 197)

In its chapter on 'Children learning in school' (DES, 1967: para. 202, p. 189), Plowden cited a roll-call of eighteenth-, nineteenth- and twentieth-century

progressives to bolster its case. In addition to the educationalists already mentioned, Maria Montessori, Rachel Macmillan, Susan Isaacs, Jean Piaget and Jerome Bruner – names that still feature in the education debate today – were called upon to defend ‘active learning’ – experience-led, ‘discovery’ approaches in primary education and beyond.

Much of the discovery approach was underpinned by the work of psychologist Jean Piaget (1954), discussed in Chapter 6. Piaget’s influence on US and Western European education, to an extent, fed individualistic interpretations of child development, whereas the (then) newly translated research of a Russian, Lev Vygotsky, highlighted the social aspects of learning. Whilst Piaget’s stages of development envisaged what Bruner called a ‘lone scientist’, Vygotsky was clear that the social context was fundamental to language, concept formation and learning (Vygotsky, 1962). Vygotsky observed that learning occurred in similar playful, genuinely exploratory contexts to those observed by Piaget, but Vygotsky believed concepts were more easily formed and understood and that learning was more permanent when the learner thought, spoke and discovered with others. Much educational thought in the 1960s and 1970s therefore linked group work, mixed ability, even mixed ages with cross-curricular activity. In truth, few schools of the 1960s or 1970s ventured very far down the Plowden path and most primary pedagogy remained steadfastly didactic (Alexander et al., 1992: paras 19 and 20).

Only nine years after Lady Plowden’s recommendations, British Prime Minister James Callaghan made his ‘Ruskin College’ speech (Callaghan, 1976, website) calling for a ‘Great Debate’ on education and expressing the unease felt by parents and employers regarding ‘the new informal methods of teaching, which seem to produce excellent results when they are in well-qualified hands but are much more dubious when they are not’. This was a concern already expressed by Plowden in considering the implications of her recommendations. Callaghan’s speech and rapid progress towards a national curriculum effectively stifled the development of cross-curricular teaching and learning in all but the most confident British schools. Rather than spreading the ‘excellent results’ of those well-qualified teachers, the impact of ‘dubious’ teaching became the focus of education policy.

The 1988 Education Reform Act significantly added to the power of the Secretary of State to legislate some of the fine detail of schooling, and for the first time introduced a legal entitlement to a set of separated subjects taught to a statutory programme called the National Curriculum.

The National Curriculum 1989–2010

The early versions of the English National Curriculum (DES, 1989; DfEE, 1999) subdivided primary children's learning into 10 subjects (11 with Religious Education (RE) and 12 after 2010 when Modern Foreign Language was added). These subjects were divided into a 'core' of English, Mathematics and Science, and 'foundation' (Art, Design/Technology, Geography, History, Information and Communications Technology (ICT), Music, Physical Education plus RE). Sex education, Citizenship and Personal, Social and Health Education (PSHE) were also added by 2009 but remained outside the foundation category and their nature depended upon the children's age and school policy. At all times, the core was to be given privileged status in terms of time, inspection, public reporting, statutory tests and school league tables to report results. Most schools quickly settled into a routine of English and Maths every morning and the other subjects distributed across the week with Science given a little more time than the other subjects.

The first National Curriculum for England and Wales proved cumbersome and difficult to implement. Reviews introduced a slimmer and more open version maintaining the emphasis on Mathematics, English and Science. Cross-curricular links were included in these revisions for Key Stages 1–3 in the mid 1990s, but presented in tiny, grey print in the margins of the pure subject orders. Increased time was given to Mathematics and English after 1997 when the National Literacy Strategy (NLS) and the National Numeracy Strategy (NNS) were introduced into primary schools. Extra time was made available for the strategies to become established, by relaxing legal requirements to report on the 'Foundation Subjects' (Ofsted, 1998). NLS and NNS were not statutory, but league tables and a punitive inspection regime ensured that very few schools dared disregard the detailed interference in pedagogy these strategies represented. Though they were later subsumed in the Primary National Strategy, these strategies had an almost immediate and negative effect upon the teaching of the foundation subjects and Science, in terms of ever-diminishing local authority support, rapidly declining quality of teaching and shortened time for learning in them. (This decline in confidence and standards within the foundation subjects was further consolidated by local authority cutbacks after the economic downturn of 2008.) Cross-curricular teaching almost disappeared in many schools between 1997 and 2003, partly as a result of attempts to help teachers manage a still dense programme of learning.

The Qualifications and Curriculum Agency (QCA, 1998a) seemed to bolster subject divisions through detailed schemes of work for Key Stage 1, 2 and 3 for each of 12 subjects. Intended only as guidance, the QCA schemes became seen as part of the National Curriculum for many English schools between 1997 and 2010. Public and political pressure continued to ensure that, through the UK, Mathematics and English remained dominant in time allocation, status, inspection and training. Only the Curriculum Guidance for the Foundation Stage (CGFS) for 3-5-year-olds retained a cross-curricular rationale (DfEE, 1999).

The word 'enjoyment' entered the official education vocabulary in 2003 in the context of government attempts to free-up a rapidly narrowing curriculum. *Excellence and Enjoyment* (DfES, 2003a) summarized advice to schools on creating a motivating and yet rigorous curricular atmosphere in schools. It reminded schools that rigid subject boundaries were not statutory and that the curriculum could successfully be organized in ways that made connections between subjects and between school learning and authentic experience. Continuing Ofsted and league table focus on the core subjects meant that only the most secure schools tended to follow this advice.

Other countries within the UK were more structurally committed to cross-curricular thinking. In Northern Ireland's Common Curriculum 1991 the themes 'The Environment and Society' and 'Creative and Expressive Studies' were used as contexts within which to apply separate subject learning (Northern Ireland Curriculum, website). Later and as a constructive result of the troubles, 'Cultural Heritage' and 'Education for Mutual Understanding' became required cross-curricular themes for both primary and secondary pupils. Across the UK, broad amalgamations of subjects and experience-led learning remained alive, partly under the influence of Storyline® (Storyline, website) and the Scottish 5-14 curriculum where History, Geography and Modern Studies were combined under the heading of the 'Social Subjects' (SOED, 1993). Each subject shared the same skills descriptors. Cross-curricular approaches occupied an even more central position in Scotland's *Curriculum for Excellence* (Scottish Executive, 2004).

In England, threats to arts education after 1997 prompted a nationally and internationally influential report. The National Advisory Council on Creative and Cultural Education (NACCCE, 1999) responded to the inequality of subject provision in England by recommending parity of *all* subjects in the curriculum. Whilst this report was influential on education-ists and creative and cultural organizations it did not significantly affect the curriculum. Another revised and further slimmed down National Curriculum (DfEE, 1999) included 'cross-curricular thinking skills', but the

NACCCE's recommendation of subject parity was ignored. Indeed, the term 'foundation subjects' was replaced in some official documents by the somewhat demeaning term 'non-core' in 2000. From 1999 onwards, Physical Education (PE) hours were reduced, school fields were sold, field trips, school concerts and plays became less frequent and the arts continued to disappear from school and teacher education curricula (Rogers, 1999, 2003). The 'Standards' for Qualified Teacher Status (QTS) from this period require trainee teachers only to 'have *sufficient* understanding of a *range* of work' *across* History or Geography, Art/Design or Design/Technology and the *performing* arts (Teacher Training Agency (TTA), 2003). This directive surreptitiously replaced music and other individual arts disciplines as a requirement for QTS, and relegated Geography, History and Design/Technology too. As a result, local authority foundation subject in-service training and advice declined, subject advisers lost their jobs or combined subject roles and Advanced Skills Teachers often with heavy class responsibilities, carried out the bulk of subject support. Out-of-school visits, swimming, concerts, school productions and other 'extra curricular' activities dwindled (Barnes, 2001; Bell, 2004; Rogers, 2003). Opportunities for quality cross-curricular work were progressively squeezed out of the English curriculum for lack of time and declining subject training and expertise.

New official roles for schools had the potential to affect the curriculum young children received. As social and political pressures pushed schools to take on functions traditionally met by families, social and health services (HMG, 2004), the curriculum became more complex. Interest in the non-statutory Citizenship and PSHE rose as international comparisons rated the UK low on child happiness, and physical, social and mental health scales (see WHO, 2012, website). Inspections and education authority advice devoted more space to the National Curriculum's cross-curricular thinking skills, like creative thinking (see DfES, 2006a, website). In England, Ofsted required inspection reports and school self-assessments on child well-being for the first time in this period and detailed advice was given to schools on the Social, Emotional Aspects of Learning (DfES, 2005, website; SEAL, 2006, website). Reports and advice from Ofsted often linked child emotional, intellectual and social well-being with creative and cross-curricular approaches to the curriculum (see Ofsted, 2002, 2009a, 2009b, 2010b). Connections between the cross-curriculum and children's sustained engagement were also made by the Department of Health's 'Healthy Schools' campaign (DoH/DfES, 2005) and the Department for Culture, Media and Sport's support for Creative Partnerships (a pre-Coalition government initiative encouraging long-term links between schools and creative practitioners in the community).

Developments in human rights policy affected curricula on an international scale too. The United Nations Convention on the Rights of the Child (UNICEF, 1989, website), of which the UK was an early signatory, has major educational implications. After 1990 academic writing, reports, commissions, surveys and evaluations on schools and schooling, included children's views, sometimes for the first time. A message supporting a more open, flexible experience and child-relevant curriculum was commonly conveyed by such consultations (for example, Burke and Grosvenor, 2003; Layard and Dunn, 2009; Powell and Barnes, 2008). Pupil voice became a feature of school organization and young people's opinions on curriculum and pedagogy is now taken seriously in many schools (Ruddock and MacIntyre, 2007). In almost every consultation, pressures for both curriculum simplification and increased relevance came from both children and their teachers.

The UK Labour government reviewed the secondary and then the primary curriculum (Rose, 2009) in attempts to rationalize and reduce this overcrowded and complex curriculum. Key Stage 3 curricula remained subject-based but teachers were given considerably more flexibility over curriculum content and coverage. For primary schools, Rose tackled perceived overload by suggesting the thematic approach. The Rose Review, though barred from examining assessment and league tables, was set up as a rival to the independent Cambridge Primary Review (CPR). The CPR funded by the Esmée Fairbairn Foundation from 2006 onwards, published its report four years later (Alexander, 2010) and has had significant impacts upon Initial Teacher Education programmes and many school curricula.

Reviews of education and a new National Curriculum 2013

The problem of an overcrowded yet narrowed primary curriculum was a starting point for two major reviews published in 2009/10. Jim Rose represented the views of many when he stated:

The availability of time and its management will continue to pose considerable problems unless a better fit of curriculum content to the capacity of primary schools can be achieved. The National Curriculum ... is overcrowded, leaving teachers with insufficient time to enable children to engage adequately with every subject required by law. (Rose, 2009: para. 2.3)

At the same time, Rose reported the concerns of many of its respondents who saw the primary curriculum as:

narrowed by the Key Stage 2 National Curriculum tests, the focus of Ofsted inspections and the National Strategies ... [and that] as a result of these external pressures the principle of an entitlement to a broad and balanced curriculum is, in effect, denied to many children. (Rose, 2009: para. 2.4)

The following points gathered from wide-ranging consultations directed Rose's decisions on curriculum:

- a reduction in content with greater flexibility and less prescription
- a clear set of culturally derived aims and values
- the securing of high achievement in literacy, numeracy and ICT
- explicit opportunities for children to benefit from subject teaching and cross-curricular studies that cover the principal areas of our history, culture and achievement and the wider world
- explicit opportunities throughout to foster children's personal development and good attitudes to learning. (Rose, 2009: para. 2.12)

The Rose Interim and Final Reports (Rose, 2008, 2009) proposed both increased subject rigour and thematic approaches. These reports suggested that effective learning could occur between subjects and in mixtures of subjects but also that standards in the individual subjects must be improved through being separately taught. At the time Rose's recommendations were in line with Ofsted (2010a), which simultaneously confirmed that raising standards in individual subjects was in no way compromised by good-quality creative and cross-curricular work. In a sample of good and outstanding schools covering four key stages, Ofsted stated that teachers:

felt confident in encouraging pupils to make connections across traditional boundaries, speculate constructively, maintain an open mind while exploring a wide range of options, and reflect critically on ideas and outcomes. This [Ofsted comments] had a perceptible and positive impact on pupils' personal development, and their preparation for life beyond school. (Ofsted, 2010a: 4)

Ofsted confirmed that in successful schools applying cross-curricular initiatives, 'the distinctiveness of individual subjects was not diminished' (Ofsted, 2010a: 11).

Rose proposed that this mix of subject rigour and motivating cross-curricular approaches could be organized under six 'areas of learning':

- understanding the arts
- understanding English, communication and languages
- scientific and technological understanding
- understanding mathematics
- understanding physical development, health and well-being
- historical, geographical and social understanding.

The hastily published, distributed, then abandoned *National Curriculum Primary Handbook*, based on Rose's review (DCSF/QCDA, 2010), picked out 'cross-curricular studies' as a strand in its common format for all programmes of learning. The UK Coalition government of May 2010 rejected Rose's recommendations and returned primary schools to the national curriculum of 1999 awaiting the new Department for Education's (DfE) curriculum revision, to be effective from September 2014 (DfE, 2013a). The Coalition refocused teachers' attention on 'traditional subjects', avoided mention of creativity or cross-curricular approaches. Replacing these 'woolly' approaches with 'relentless focus on the basics', didactic methods, subject-based teaching and a single approach to the teaching of reading – somewhat contradicting its rhetoric of 'flexibility' (Gov.UK, 2010a, website). The work of the Assessment Reform Group was also terminated at this time.

The Coalition government placed flexible and community-based curricula, improved access to the poorest children, and subject or theme-based academies and free schools at the core of their education policy. Having ditched the Rose Review, the Education Department turned to what it called the 'best work' from the Alexander Review (TES, 2010, website), without specifically indicating what the best work was.

A balance of disciplinary skills and cross-curricular themes, however, characterized the more nuanced, widely consultative and research-based Cambridge Primary Review (CPR) chaired by Robin Alexander (Alexander, 2010). The CPR addressed the contradictions evident in Coalition policy by tracing the roots of public policy on curriculum and identifying the main problems facing primary and early secondary schooling today. Considerable emphasis is placed on the aims and values of education and curriculum, the dangers of politicization, loss of professional and local autonomy and the 'pernicious dichotomy' (Alexander, 2010: 243) between a broad and balanced curriculum and high standards in the basics. It combines aims of education and domains of learning to propose a curriculum flexible enough to serve a wide variety of communities and localities.

Alexander's eight domains are not far from Rose's 'areas of learning' or the 'curriculum areas' in Scotland's Curriculum for Excellence. The addition of faith/belief and ethics/citizenship introduces an important values component to the curriculum itself. The omission of computing and personal development emphasizes their cross-curricular nature over the sense that they are 'subjects' in their own right. The cross-curricular tone of Alexander's proposals are clear. Domains like 'place and time' and 'arts and creativity' clearly expect connections between Geography and History and Art, Music and Drama (and significantly, creativity across the range of non-artistic subjects). But equally, the headings, physical/emotional health, language, oracy and literacy, citizenship and ethics and science/technology also imply approaches that cut across traditional subject boundaries – oracy, emotional health and citizenship may be explored in any context and across contexts. All categories involve English language as applying across the whole curriculum.

The CPR stresses that schools and communities should decide upon the interpretation and application of aims and the ways the domains are taught. A 'community curriculum' devoted to locally significant issues should, according to Alexander, take 30% of teaching time. Schools in turn should decide upon the programmes of study they follow in applying the 70% devoted to the National Curriculum.

Aims of education (working towards ...)	Domains of learning
personal well-being	Arts and creativity
personal engagement	Citizenship/ethics
personal empowerment	Faith and belief
personal autonomy	Language, oracy and literacy
respect and reciprocity for others	Mathematics
interdependence and sustainability	Physical/emotional health
local, national and global citizenship	Place and time
participation in culture and community	Science/technology
knowing, understanding, making sense	
fostering skill	
exciting the imagination	
enacting dialogue	

Figure 2.1 Aims and domain of the curriculum according to Alexander, 2010

In stressing what a domain *is not*, Alexander highlights the problems inherent in cross-curricular pedagogies of the past. The domains his report proposes are not:

- a slot in the school's weekly timetable
- an invitation to low-grade topic work in which thematic serendipity counts for more than knowledge and skill. (Alexander, 2010: 265-6)

In stating what domains *are*, Alexander also helps build a case for revisiting (with caution) cross-curricular approaches. Domains are professional, pedagogical, categories that teachers should apply where appropriate to enhance, explain and extend children's experience. The collections of concepts chosen to represent domains have 'an identifiable and essential core of knowledge and skill', the capacity to fulfil one or more educational aims, and can be justified as serving the social, personal, spiritual, moral, physical, intellectual and cultural needs of the child. In the CPR proposals all subjects have equal weight and in recent work with the subject associations this principle has been reiterated (CPR, 2014).

The Tickell Review concentrated on the Early Years Foundation Stage (DfE, 2011, website). It called for more and better training for nursery, playgroup and children's centre staff and reiterated the fundamental importance of play, exploration and activity in the development of young children. It also made significant recommendations regarding creative practice by including play, exploration and activity in the Early Years 'Profile'. The review recommended approaches that should run through all Early Years education, including: 'finding out and exploring', 'being involved and concentrating', 'keeping on trying', 'having their own ideas' and 'choosing ways to do things and finding new ways'. This steer ensured that the UK Coalition government of 2010 retained cross-curricular and creative approaches for the education of children in their early years (0-5 years). In the Statutory Framework for the Early Years Foundation Stage (EYFS) 'areas of learning' include 'understanding the world' and 'expressive arts and design'. Educational programmes must also involve experiences for children in 'communication and language', 'physical development' and 'personal, social and emotional development' (DfE, 2012). The introduction stresses the equality and inter-connectedness of the areas of learning (DfE, 2012: 4) and links with subjects that appear in the National Curriculum followed by those above 5 years. It is a pity that in the National Curriculum the links between subject perspectives, the creative and exploratory approach and the importance of practical activity are not highlighted in the same way.

The Coalition government of 2010–2015 significantly added to the number of powers vested in the Secretary of State for Education. In 1976 the Secretary of State had only the direct power to open and close schools, manage the number of teachers and remove air-raid shelters from school playgrounds. By 2012 some 2000 new powers had been granted, significantly affecting the choices open to schools, parents and teachers (Twigg, 2012). Teacher education has changed for many too. School-centred initial teacher training (SKITT), Teach First, 'Troops to Teachers' and Schools Direct (DfE, 2014c, website) offer significantly more influence to schools and academy chains – often to the detriment of well-thought-out cross-curricular approaches. The push to open academies and free schools has resulted in local authority administered schools being in the minority by 2015. The hasty transfer of many schools from local authority to state-funded independence has not always had the positive effect envisaged by the advocates of free schooling. Regional Schools Commissioners have had to be appointed to deal with complaints and take on many other roles formerly handled on a more local level.

The speed of change has affected teachers' health. The steady increase in external influence on the curriculum between 1976 and 2015 has had many unintended effects, including a significant rise in teacher self-reported stress levels and absences due to stress. Seventy-six per cent of teachers report stress levels that are affecting their health and over 50% say their teaching would be better if they were less stressed (Teacher's Assurance, 2013, website). This is why teacher well-being is such an important consideration in staff development programmes – retention, recruitment, teacher excellence and efficiency are all negatively affected by poor well-being.

The revised and re-issued primary National Curriculum for England (DfE, 2013) makes no mention of cross-curricular approaches. The curriculum for Key Stage 3 (11–14-year-olds) includes the Personal Learning and Thinking Skills (PLTS) which are to be applied across the whole curriculum and does give schools the freedom to make links between subjects and subject programmes. For primary schools the 2014 curriculum deliberately omits guidance on educational approaches in an effort to give schools and teachers more sense of control. We have seen how this omission is *not* made in the Scottish, Northern Irish and Welsh curricula but the abandonment of cross-curricular links also runs counter to curriculum advice elsewhere in the English-speaking world. The Australian curriculum highlights 'cross-curricular priorities' which include: Sustainability, Civics and Citizenship, Health and PE, the Arts and Economics and Business (Australian Curriculum Assessment and Reporting Authority, 2013, website). British Columbia's (BC) New

Curriculum proposes personal and social, thinking and communication competencies, claiming that:

In a world of growing diversity and challenge, schools must do more than help students master the sets of knowledge and skills acquired through the standard subject areas. They must prepare students fully for their lives as individuals and as members of society, with the capacity to achieve their goals, contribute to their communities and continue learning throughout their lives. (British Columbia Ministry of Education, 2013, website)

Cross-curricular subjects like Citizenship and ICT (replaced by 'Computing'), are omitted from the 2014 Primary Curriculum. Cross-curricular approaches, however, continue to be valued by both primary and secondary schools. Cross-curricular methods have been perceived to have motivating, inclusive, sensitizing, enriching and uniting effects (Faultley and Savage, 2012). For their school-based curriculum, many intend to use the 30% available time *outside* the National Curriculum for cross-curricular approaches. Teachers have noticed, however, that there is not just one type of cross-curricular learning. There are many styles and types and each may have a different purpose. As schools plan to implement the new educational freedoms offered by the new National Curriculum, they are asking for guidance on how to organize an integrated curriculum that is effective, challenging and supports relevant, deep learning. The subject associations and expert teams have provided this but there remains little advice that crosses the whole curriculum. This book offers such advice in the light of experience and the research and recommendations of a range of educationalists and practitioners.

What is good cross-curricular teaching and learning?

Cross-curricular learning occurs when the skills, knowledge and attitudes of a number of different disciplines are applied to a single theme, problem, idea or experience. The term cross-curricular applied to both teaching and learning suggests considering education at a macro level, with the *curriculum* as the focus, but cross-curricular approaches may also have micro implications involving the style of pedagogy, classroom organization, environment and individual interactions. Cross-curricular methods can be effective in teaching and reaching ethical solutions, building individual and group motivation,

sustaining interest and raising standards – this I see as good practice. Cross-curricular approaches can equally be made ineffective by trivializing, confusing, misleading, constructing new misconceptions and also by failing to provide a moral context for learning – this I would call poor practice.

As well as detailed discussion of values, Alexander recommends 'ethics' to be part of the curriculum, calling education 'a fundamentally moral affair' (Alexander, 2010: 16). Aims, values and purposes may differ between communities served by a curriculum, but the curriculum must stand on agreed, clear, values-based foundations if it is to be considered 'good' in a moral sense. It must also be good in a professional sense.

A base of separate subject knowledge is vitally important. If teachers want, in the words of the CPR, to 'excite the imagination, provoke dialogue, foster skills and encourage the child to explore, understand and make sense' (2010: 257–8), they must value subject knowledge. This does not mean that teachers should know everything about each of the traditional subjects – rather, that they should be familiar with the distinctive lens each subject provides on the same reality. The detail of the unique and specialized language, skill set, disposition and core knowledge of each subject should be well understood by at least one staff member in every school. Teachers must expect to be comfortable with regularly sharing that knowledge with their colleagues.

Good cross-curricular pedagogy should also be relevant. Relevance involves the teachers' increasing interaction with the world of their children. This knowledge of children's 'here and now' can be built into every lesson to motivate participation and engagement and involvement. The local community, its concerns and environments are another source of relevant issues and contexts. Schools should incorporate local visits, partnerships and community groups in their programmes of personal and professional development. Curriculum decisions must also be professionally relevant – conscious of research, subject priorities and in line with the aims of education. In short, teachers should 'be able to give a coherent justification citing evidence, pedagogical principle [and] educational aim for all their choices in school' (Alexander, 2010: 308).

Detailed advice on how to be a good cross-curricular teacher comes from Andrew Pollard (2010). Effective practice requires excellence in the science, art and craft of teaching. Cross-curricular approaches must also be research-informed, which is why Chapters 4, 5, 6 and 7 in this book are devoted to the evidence from psychological, social scientific, neuroscientific and pedagogical enquiry. Working between and across subject boundaries also requires what Pollard (2010: 5) sees as a 'responsive,

creative, and intuitive' approach able to maximize on the unexpected reactions of children encountering real problems and using the skills and knowledge of several subjects to solve them. All teaching requires the 'mastery of a full repertoire of pedagogical skills and practices' (p. 5), but cross-curricular teaching specifically requires high levels of ability to work with Pollard's skills list A:

Pedagogical skills list A

- Construct or use scenarios that require the perspectives of several subjects
- Value and use diversity of response and insight
- Follow children's lead
- Find entry points to learning to match the individual
- Link ideas from different subject areas
- Be a co-learner

Well used, the pedagogical skills in list A will generate motivation, creative thinking and sustain interest, but may not on their own raise standards in individual subjects. To create the challenge necessary to build new knowledge and skills, the good cross-curricular teacher also needs to use several of the skills in skills list B:

Pedagogical skills list B

- Direct children's enthusiasm towards the acquisition of pre-planned, *whole-class subject goals* in two or more subjects
- Direct children's enthusiasm towards *individual subject progression goals* in two or more subjects
- Plan shared meaningful multi-sensory experiences to generate *focused* enquiry and challenge
- Teach *specific* skills and knowledge across a range of subjects as required by children
- Teach *specific* skills and knowledge across a range of subjects
- Empower children to use newly learned skills and knowledge to solve problems, address issues or understand cross-curricular themes
- Plan integral assessment opportunities within each unit of work

List B is a demanding skill set that usually requires more than one mind, so the final pedagogical skills in list C involve interactions with others:

Pedagogical skills list C

- Work in teams with other teachers to promote progression in children's learning
- Work with practitioners from the community outside school to promote progression in children's learning
- Work with children to generate plans, ideas and solutions

Poor cross-curricular teaching results in fragile, temporary, untransferable and difficult-to-articulate learning. If our aim is to generate both enjoyment *and* excellence in terms that can be assessed and, to a degree, measured, then combinations of skills from each of lists A, B and C are needed. Too much cross-curricular teaching in the past concentrated only on list A. List B is of equal importance – the teacher should *teach* as well as promote learning in all cross-curricular contexts. Practically speaking and because learning for both teachers and children is a social affair, list C reminds us that schools should be collegiate institutions working with the widest community.

Cross-curricular learning varies in its aims and pedagogies. I have identified through observation and research a number of contrasting cross-curricular contexts that may be useful in planning and assessing classroom activity that connects several subjects.

A cross-curricular taxonomy

The best cross-curricular projects combine the promotion of creative thinking with the maintenance of disciplinary rigour and challenge. It needs to be stressed from the outset that whilst 12 different subject disciplines *may* be applied to a single theme, research suggests that subject progression and integrity is best ensured by limiting the subjects involved in cross-curricular work to two or three (Barnes and Shirley, 2007; Jacobs, 2004; Roth, 2000). In offering a classification of cross-curricular approaches, I recognize a range of differing aims and purposes. I use data from a series of recorded lesson observations made over five years and my own continuing teaching experience, and from this analysis I have identified eight distinct types of cross-curricular teaching and learning. The types often overlap and sometimes projects involve several styles, but the types of cross-curricular learning can be described as:

- tokenistic
- hierarchical
- single transferable subject
- theme-based
- multi-disciplinary
- inter-disciplinary
- opportunistic
- double-focus.

Each contrasting mode of cross-curricular learning can be applied within thematic, project or topic-based approaches to the curriculum, but may also arise from planned whole class experiences or events.

Tokenistic cross-curricular approaches

Tokenistic cross-curricular approaches are only cross-curricular in name. It may look like there are two or more subjects involved in an activity but genuine connections are not made between subjects; there is no particular aim for the second subject and learning is only increased in the main subject. For example, a song, perhaps *Greensleeves*, might be used to introduce a history topic, but if the song is already known, nothing is made of it or added to it and little is done to enhance music learning, the only extra aim is to bring some extra interest to a history theme.

Hierarchical cross-curricular teaching and learning

Hierarchical cross-curricular methods aim at achieving progress in one discipline by also teaching aspects of another. This is probably the most common context in which cross-curricular thinking and learning takes place. Again a teacher may be planning to use *Greensleeves* to introduce the Tudors, but this time the children are to learn to play the tune on the recorder and improvise a simple metallophone and tambour accompaniment as part of a session on Tudor court life. Equally, a lesson on the detailed painting of a portrait might be conducted in French, extending Modern Languages vocabulary and grammar. A six-figure grid reference lesson in Geography might be used to help children understand and apply the idea of coordinates in Mathematics. In each case, learning a skill in one subject is used to support learning in another, perhaps higher-status subject. Effective and lasting learning in one subject is often provoked by calling upon another, as many of us who learned times

tables by chanting or rapping remember. However, in hierarchical cross-curricular teaching and learning, knowledge, skills and understanding in the 'inferior' may be only slightly improved. The danger is that in thematic curricula some disciplines like Music, Art, Dance, Geography, Design/Technology and drama may become cast forever in this subservient, serendipitous and submissive role.

Arts subjects are often used in hierarchical contexts. Traditionally, the arts involve participation on emotional and physical as well as intellectual levels and are often argued to generate a sense of belonging, motivation and satisfaction (see Evans and Philpott, 2009; Roberts, 2006). Used in hierarchically weaker contexts, new arts skills, knowledge and attitudes may not be learned, though wider elements like communication, emotional literacy, motivation and enjoyment may actually be enhanced.

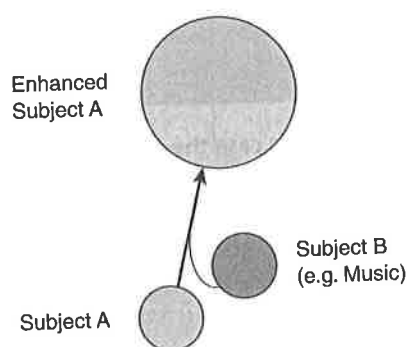


Figure 2.2 Hierarchical cross-curricular learning. Learning in the 'superior' subject (Subject A, for example English) is enhanced with help from an 'inferior' subject (in this case Music), which is not necessarily developed by its combination

Many would argue that using a subject as an inferior partner in a learning hierarchy is the easiest way to make sure it appears *at all* in an overcrowded curriculum. Those who feel insecure in their ability to teach the fundamental modes of thought of a particular discipline may find it less threatening to place their 'weaker' subjects in this position, but hierarchical methods can also be highly motivating and extend learning to more pupils. If Music, Art, PE or Geography is used as the 'way in' to language, Mathematics, Science or ICT for a particular group of children, then hierarchical approaches may be seen as more inclusive and motivating than 'straight' subject teaching. Similarly, the application of new 'core subject' knowledge in the context of a foundation subject project can make literacy or numeracy more meaningful and relevant to children. Often, however, little progress is made in the 'inferior' subject.



Illustration 2.1 Technology (in this case the use of class digital cameras) used to enhance skills in language



Case study 1 'Head, shoulders, knees and toes'

Three British student teachers visiting a class in a rural school in India used the song 'Heads, Shoulders, Knees and Toes' to teach Tamil children the English terms for parts of the body. The children then translated the song into Tamil. The lesson ended with the three students singing 'Heads, Shoulders ...' to the class in Tamil.

Single transferable subject learning across the curriculum

Single transferable subject approaches aim to improve learning in a single subject (especially: English, Mathematics, Citizenship (Key Stage 3) or PSHE) by deliberately applying its perspective to a range of other curriculum areas. In single transferable subject approaches, the focus is on the subject itself and not on a motivating experience. This happens to English automatically because speaking, listening and usually writing is involved in learning across all other subjects. In subject-specific weeks or 'discovery days' a teacher might plan to apply a mathematical, PSHE or citizenship

understanding to a wide range of other curriculum areas. But any subject could share the stage across the standard curriculum to enrich another. There are musical or scientific ways of interpreting and deepening the study of Art, Citizenship, Design/Technology English, History, Geography, Mathematics, Modern Languages, PE, PSHE, Science, RE, just as there are English ways. As with other modes of cross-curricular learning, teachers' planning should clarify the specific new learning aims for the transferable subject as well as those for its partner subject. This approach to cross-curricular learning may provoke particularly original insights and new perspectives because of the unexpected juxtaposition of subjects.

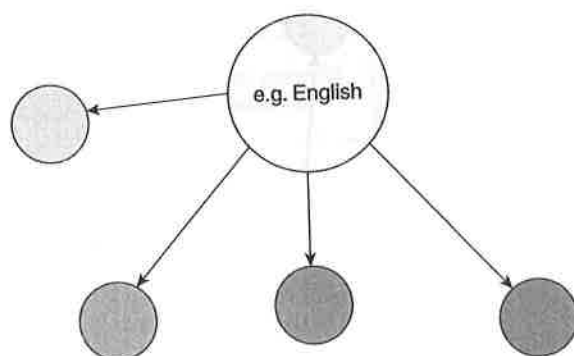


Figure 2.3 Single transferable subject learning across the curriculum

Theme-based cross-curricular approaches

Theme-based approaches use a theme to generate exploration through the eyes of several different subjects. The topics and projects of the 1960s to 1980s attempted to use themes to unify teaching and learning across the curriculum. When these themes were in the hands of confident and knowledgeable teachers they worked well to inform and motivate children. Often, however, tenuous links and unclear aims limited the learning. The failures of the past do not necessarily mean that the thematic methods are intrinsically wrong. Teachers must however consider their themes carefully. Choose themes that are:

- authentic (i.e. are generated by a genuinely shared interest)
- related in some way to the rich resources of the community
- capable of being sustained and resourced throughout a term or allotted period
- well-planned (i.e. have specific and valued subject targets, outcomes and purposes)

- well-assessed (i.e. assessments link with the targets and promote further learning)
- serviced only by subjects that genuinely add to understanding.

A relevant and authentic theme may be used to generate learning in a wide variety of subjects – far more than the two or three generally recommended in cross-curricular work – but no subject should be included unless it is essential to deepening understanding of the theme and unless itself it can be better understood through application to the theme.

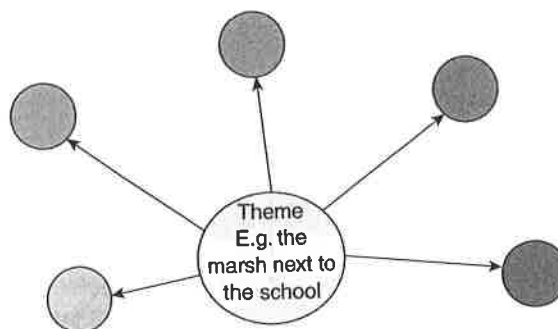


Figure 2.4 Theme-based learning across the curriculum

Multi-disciplinary cross-curricular teaching and learning

Multi-disciplinary cross-curricular approaches aim at using a single experience or theme to develop higher levels of understanding and performance in two or more disciplines. The most effective multi-disciplinary projects arise from powerful and emotionally significant experiences that are shared by both children and teachers (Barnes and Hancox, 2004; Barnes and Shirley, 2005, 2007; Scoffham, 2013). In multi-disciplinary approaches, two or maybe three subjects are applied to a single shared experience. The disciplines are introduced and developed separately to throw light on a happening, event, issue, problem or question. Whilst the single meaningful experience and subsequent subject learning may be shared, in multi-disciplinary teaching and learning the teacher will have no intention of combining them. Student teachers find linking separate subject learning to events in this way (more fully developed in the Scottish Curriculum for Excellence – see website) is manageable for them and enjoyable for their children. Multi-disciplinary approaches can also treat all disciplines as equal. However, the most effective multi-disciplinary work in schools

depends upon high degrees of planning, confidence and teacher knowledge (see Ofsted, 2010a; Roth, 2000). This approach is seen by many as the most appropriate cross-curricular approach for novice teachers since it does not involve the planning of complex interrelationships between the disciplines. It is also easier to assess and ensure progression.

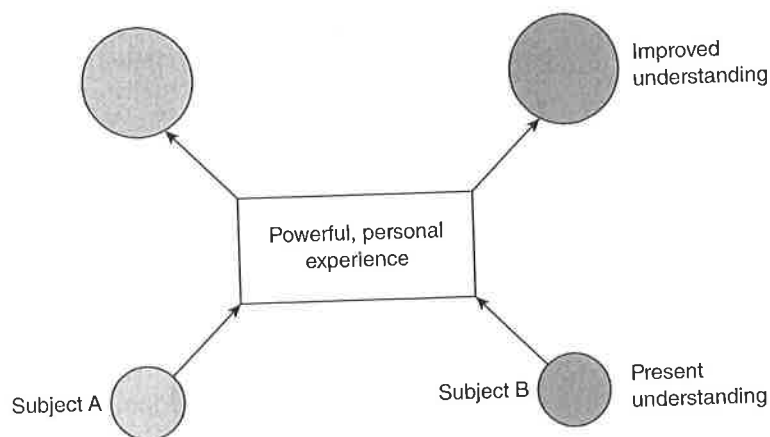


Figure 2.5 Multi-disciplinary cross-curricular learning. Discrete learning in two or three subjects is enhanced by arising from a shared meaningful experience



Case study 2 A journey in dance

In an east London primary school, Year 4 pupils took a short journey through a nature reserve with a 'journey stick' (a 15cm strip of card with a band of double-sided sticky tape attached). Children were directed to collect six tiny objects that caught their eye on their journey. Returning to class, each child made a sketch map of their journey, using recently taught geographical skills in map-making. They used keys and symbols to represent where they found each of their objects. Their maps were discussed and displayed in the classroom.

Separately, the children were given a PE challenge. In groups of five, they gathered ideas for a shape to represent each of six different places. On site, each group was asked to construct those shapes with their bodies and record them using the class camera. Back at school, the groups used printouts of their photographs to discuss and refine their shapes and eventually reconstruct them for the rest of the class. The teacher advised on stability, contrast and safety. Pairs of groups were

(Continued)

(Continued)

then asked to copy each other's shapes and work out ways of morphing one shape into the next. The teacher then taught a range of simple linking movements so that the groups could transform one shape into the next. Finally, the six groups were placed around the school field and the class performed the progress of their journey in the medium of dance.

Children's geographical learning was founded upon previously taught skills of map-making and their dance learning on structure and transformation was part of an ongoing programme of PE. Teachers reported that the experience took children to higher standards than expected in both subjects.

(www.engagingplaces.org.uk/teaching%20resources/art69235)



Illustration 2.2 Physical and social skills at the beach

Inter-disciplinary cross-curricular teaching and learning

Inter-disciplinary cross-curricular methods aim at progression in two or more subjects, and the promotion of creative thinking and connection-making

between the subjects involved. The prefix 'inter-' indicates joining, sharing or combining. Inter-disciplinary learning occurs when disciplines are combined to explain, understand or express a particular experience or idea or to solve a problem. Different disciplines offer differing interpretations of the same event or problem just as each individual brings their own individual insights to them. Inter-disciplinary approaches often result in some kind of collaborative response – a presentation, or group solution, performance or product. Student teachers report that this method of cross-curricular teaching generates particularly creative responses among children and encourages imaginative approaches to teaching.

The fusion of knowledge and skills between disciplines is common in the arts and advertising. New music, for example, pervades popular culture – TV, film, video games, promotional or advertising videos, websites and DVDs. Though music may provide background, it is composed in highly sophisticated ways, fully exploiting the established skills and knowledge of the discipline, so as to satisfy, stimulate or influence the intended listener. But film music composers need to know a great deal about human responses to images. They use musical structures and clichés to enhance the emotional power of pictures and words crafted by experts. The music is less comprehensible without the image and the images less affecting without the music; both have equal and complementary status. In schools examples of such combinations of disciplines grew with the work of Creative Partnerships (CP) (2002–2011) (Creativity, Culture and Education, 2012, website).

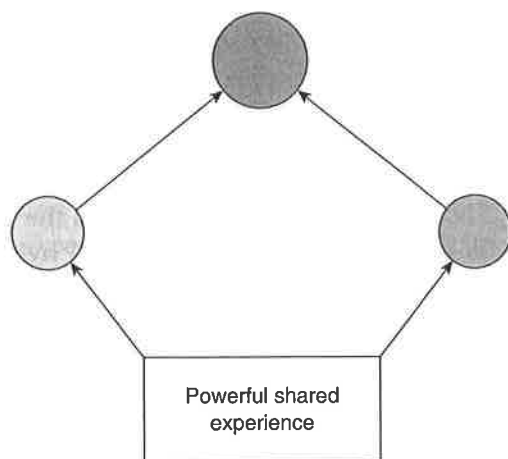


Figure 2.6 Inter-disciplinary learning. Learning in two subjects is taken forward as a result of a shared learning experience and then creatively connected in a presentation using the skills and knowledge of both subjects more-or-less equally



Illustration 2.3 Teachers perform their haiku on a staff development day combining drama and music skills and knowledge

Combining subjects in an inter-disciplinary mode can be more challenging than multi-disciplinary teaching. This approach requires not only confidence in both disciplines used but also a speculative, flexible, highly inclusive and bold teaching style, very much like the 'signature pedagogies' identified by Pat Thomson and her team who studied the CP archive (Thomson et al., 2012). In a successful project, the combination of several sets of disciplinary skills builds upon an initial meaningful experience and constructs something entirely new. Thus, an exhibition, a museum collection, event, procession, game, play, dance, composition, map, poster, debate or film might result from the fusion of two perspectives. Ideally, knowledge and understanding in the separate subjects increases as a result of the new insights generated by the combination. We know from research that this is not always the case. Studies (Barnes and Shirley, 2005, 2007; Roth, 2000; Willingham, 2013) have shown that applying two, three or four subjects to the same experience can produce a 'bland broth' of half-understood ideas and fresh misconceptions. Inter-disciplinary teaching and learning can easily result in less clarity about what a subject entails, therefore the cross-curricular teacher needs to be confident in subject knowledge, clear about learning intentions and plan genuine challenges for each subject to be successful in taking learning forward. As Ofsted observed in its survey of creative schools:

Occasionally, teachers failed to grasp that creative learning was not simply a question of allowing pupils to follow their interests; careful planning was needed for enquiry, debate, speculation, experimentation, review and presentation to be productive ... Lack of confidence ... sometimes growing from insecure subject knowledge, led to a more didactic approach ... which then encouraged greater dependency from pupils. (Ofsted, 2010a: 26)



Case study 3 Movement haikus

Each student in a Year 7/8 group in Canterbury, Kent, wrote their own haiku [a Japanese poetry form consisting at its simplest of three lines: five syllables, seven syllables and five syllables] arising from a trip to the cathedral. In groups of five or six, they shared their haikus and chose one which they agreed could best be transformed into a series of tableaux. The group then used their bodies to construct three still scenes, each expressing a line in the chosen haiku. They then worked on improvising movement links between the three freeze-frames. They performed their haikus in silence as the rest of the class observed and wrote peer evaluations.

Planned learning intentions linked to and extending previous learning in both English and PE were clearly understood by all children. The authentic challenge of non-verbally expressing their experience in the cathedral led them to achieve at levels well above their own and their teacher's expectations.

Opportunistic cross-curricular teaching

Opportunistic cross-curricular teaching allows children to dictate the depth and direction of learning in subject categories arising from a shared theme or experience. The world beyond the classroom is cross-curricular. Every made object is the product of connections between subjects like Mathematics, Science, History, English, MFL and Geography. All environments, situations, ideas and concepts can be looked at from numerous points of view. Learning can therefore arise from any open and enquiring interaction with the world. The experienced and creative early years specialist is relaxed about building upon chance happenings in class and generating deep and transferable learning in any subject (see Austin, 2007; Cremin et al., 2009). Opportunistic approaches to promoting cross-curricular learning are child-led. They cannot easily be planned,

they are unpredictable and include an element of risk. This does not mean that the teacher is a mere facilitator or observer – direct teaching often underpins the best opportunistic learning.

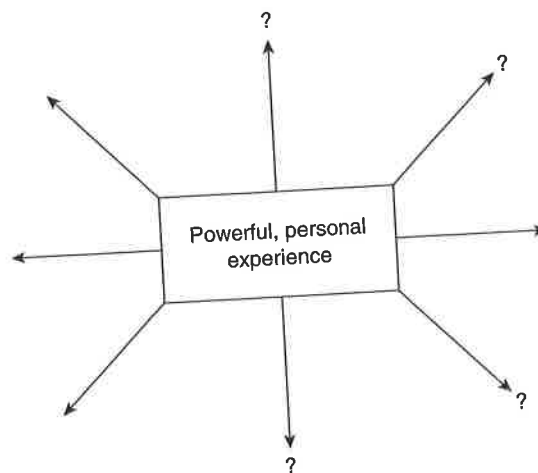


Figure 2.7 Opportunistic cross-curricular teaching. The teacher exploits unpredictable and child-led learning opportunities arising from a powerful and shared experience

Children's genuine responses come unplanned and unexpected. Confident teachers capture these moments and build them into opportunities to develop understanding. On the other hand, the teacher may carefully design a series of 'focusing exercises' – small-scale activities that support the child or children in having a 'present tense' and sensory interaction with a place, object or person(s) – and watch to see how children respond and what questions arise. Teachers clearly require good subject knowledge to be able to exploit the unexpected in this way. They must also feel empowered to follow the lead given by children, knowing that they have the support of colleagues and school leaders. In the current 'high accountability' structures, it may not be easy for teachers to feel this degree of professional trust.

Opportunistic cross-curricular learning, however, was a successful feature of many projects sponsored by CP (see Creativity, Culture and Education, 2010; House of Commons Education and Skills Committee, 2007; Roberts, 2006), and continues in some of the projects run by the independent arts education agencies that succeeded Creative Partnerships. Partly as a result of the United Nations Convention on the Rights of

the Child (UNICEF, 1989, website), the child's voice has become more prominent in planning the curriculum – opportunistic methods are thus discussed more often (see Bragg, 2010). But whilst the pupil voice movement gathers pace, restrictive and over-assessed curricula appear even more dominant (see Alexander, 2010). In the UK, non-specialist primary teachers are trained in specific approaches to the teaching of reading and mathematics but their preparation for the teaching of other subjects is patchy (Rogers, 2003). In Teaching Schools and Schools Direct, where much professional learning happens *in situ*, the lack of good foundation subject expertise has implications for both teacher education and opportunistic methods of teaching. Novice teachers need opportunities to play with ideas in the disciplines themselves before generating genuine and personally relevant questions within the disciplines. Only through personally experiencing the framing of core questions and answering real questions within a discipline can a teacher successfully plan progression in a child's learning in that subject. This argues for a broad and balanced education for both primary and secondary teachers, where they can develop confidence in a range of subjects in order to be able to build upon children's responses to real experience.



Illustration 2.4 Nursery children visit the local park (see case study 5, Chapter 3)

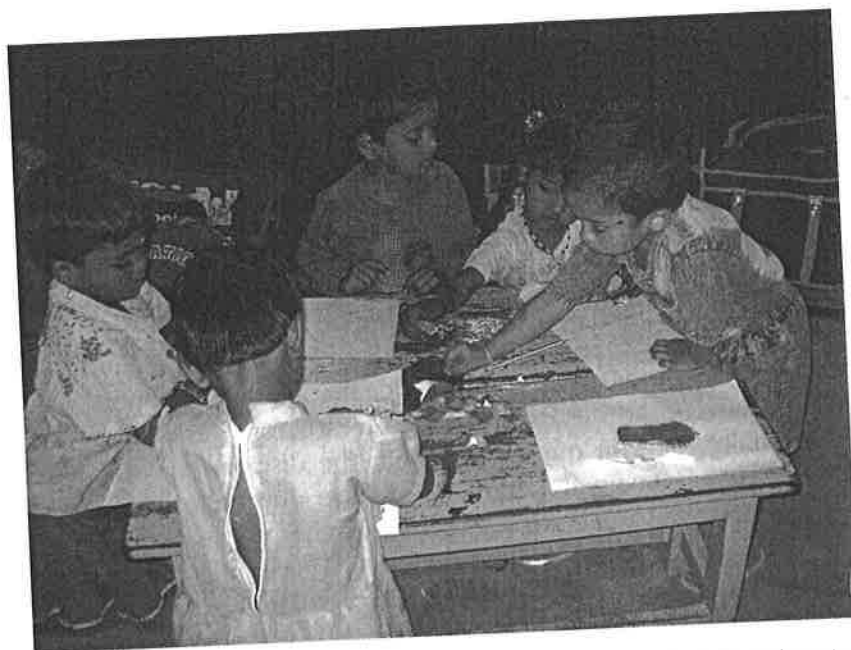


Illustration 2.5 Nursery children in south India play with materials and pattern



Case study 4 Engaging Places

A whole primary school community was taken to a modern financial centre in London. After a series of focus exercises where they were helped to become sensorially aware of the place through smell, touch, sight, sound and feelings, they were left in groups to collect ideas about the place to present to the rest of the school. Groups decided on a wide range of inventive and unusual presentations that were shared with the school in following weeks. Presentations included huge cane and paper sculptures, recorded sound trails, 'smell maps', an art exhibition, a taste lesson – none of which were planned but all of which were supported by teachers and assistants.
(www.engagingplaces.org.uk/network/art66179)

Double-focus cross-curricular teaching

Double-focus cross-curricular teaching attempts to promote a balance between experience-based and disciplinary opportunities for learning. A curriculum consisting of both separate subject teaching and regular

opportunities to put that subject teaching into combined action needs two pedagogical foci. This mode of curriculum organization centres equally upon teaching and learner and involves the total curriculum of a school.

In my definition of double-focus teaching, each discipline is of equal importance. Where a curriculum offers all disciplines equally, the chances of every child finding a route into learning that suits them increases dramatically. Traditionally, we have valued some subjects so highly that failure in them signifies failure in education generally. In the USA and Europe, children might be first-class musicians, map readers, sportspeople, naturalists, peacemakers, artists or aesthetes, but if they find serious difficulties in the national language and mathematics they are said to have Special Educational Needs. In the UK, all too often such children lose their precious music, geography, PE, science or art lessons to English or maths booster classes. A double-focus approach suggests the belief that improvements in the core subjects are better secured when the child feels a sense of achievement and progress in any subject that can be developed into a personal strength or passion (see Robinson and Aronica, 2010). The good teacher works to ensure progression at the appropriate level in each subject for each child, but curriculum planning also provides regular chances for the creative application of newly learned subject skills.

The second focus in a double-focus curriculum is on a regular series of cross-curricular events. Each year-group shares at least six meaningful experiences each year. These events are intended to provide short,

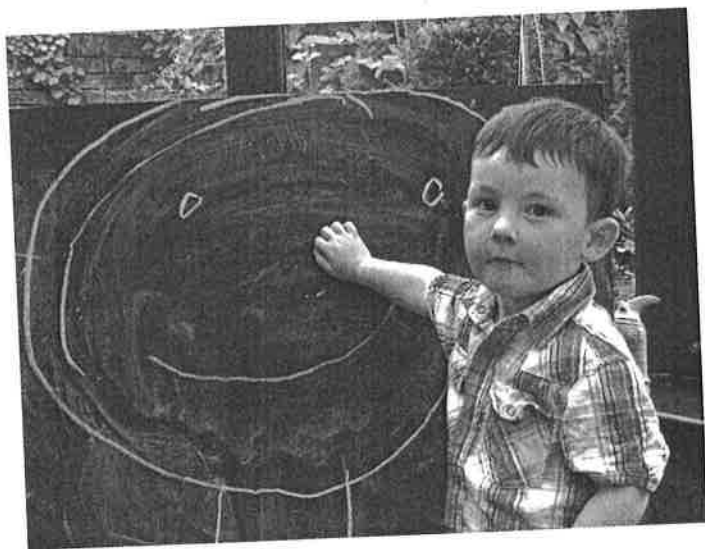


Illustration 2.6 Creativity generates a sense of achievement

planned opportunities to put learning in two or three subjects into action in an authentic and challenging situation. Children may learn through hierarchical, multi-disciplinary, inter-disciplinary or opportunistic methods of teaching. The events or challenges are followed up with focused subject teaching related to the experience but also to give opportunities for assessment.

When children apply new learning to new situations, they expose the degree of their understanding. In applying learning and planning solutions using the skills in computing, geography, languages, D/T, PE, RE, languages, history, art, music, maths, PSHE and citizenship or science, children inevitably and richly use language. Cross-curricular working generates persuasive and technical language, the shaping of language into reports, plays, poems, stories or labels and the extension of language in arguments, debates, presentations and supporting others. Equally, the ease with which children use modern technology means that, given the resources, cross-curricular presentations will imaginatively use cameras, websites, synthesized and recorded sound and a range of visual presentation packages. English and Computing are well served by all cross-curricular approaches.

Cross-curricular approaches are not confined to planned themes, events or activities. Cross-curricular, experimental and creative references can be and often are made during the normal course of separate subject teaching.



Case study 5 Room 13

A primary school linked to a Room 13 (see website) project in Eastbourne, Sussex, visited a retirement home near the school. A group of children drew portraits of some of the residents whilst the older people draw their portraits. Many stories arose from the conversations stimulated by this activity. Brian Stent's story was one of them that linked to the children's local history study and so the children asked to make their own video of the story. Combining skills in acting, animation, film-making and historical enquiry the children from Year 5 made a beautiful film of their findings (West Rise Junior School, YouTube 2010, website). The experience, the story and the filming led children to research much more deeply into the history of World War II in their town and in Europe.

In this school the standard curriculum continues throughout the year and uses exciting and principled methods to teach it. When children finish their work or can persuade their teacher, they are given a ticket to go to 'Room 13'. Here a professional film-maker and artist helps the

children (in groups and singly) to follow various interests they have developed. Typical experiences outside the classroom include building, exploring, visiting, sailing and looking after a farm and farm animals and these provoke a wide variety of responses. In Room 13, children are encouraged to think philosophically about these powerful experiences and then apply new or developing skills and ideas to authentic communal artwork, films and animations.

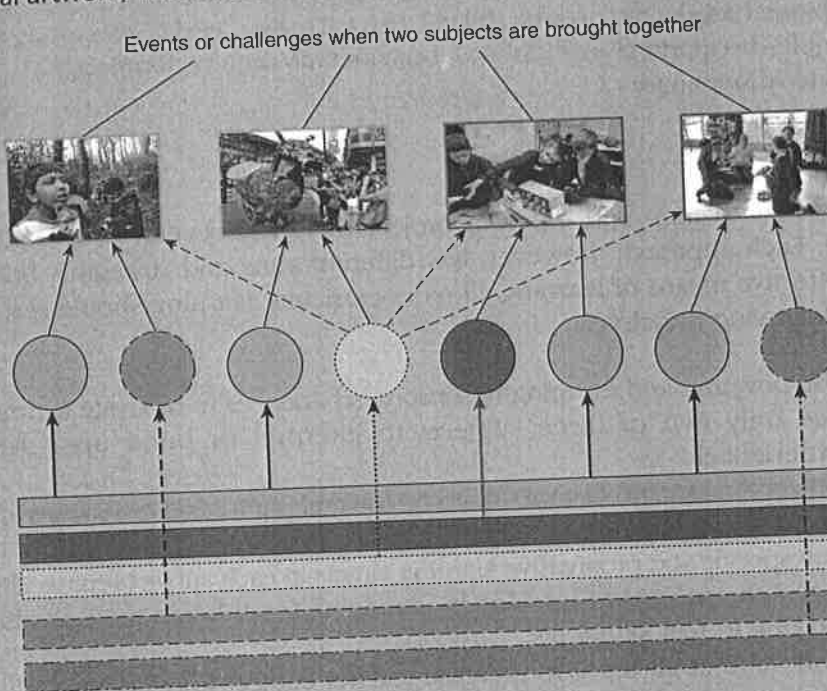


Figure 2.8 Double-focus cross-curricular learning. Learning in each curriculum subject continues separately throughout the year but is regularly joined with one or two others and applied to a shared experience

Summary

Cross-curricular approaches have been part of education for millennia. In recent centuries, they have become associated with progressive education, perhaps because of the protective attitudes of those who police the individual subject disciplines, perhaps in England because of a puritan sense that having fun whilst learning is somewhat suspect. As we face a future of exponential and unpredictable change, we need cross-curricular methods that encourage group solutions, collaborative learning, creative combinations

and the development of independent learners. The generation of confident, imaginative and adaptable children may be the best route towards the happy population and flexible workforce that analysts suggest we need.

Apart from tokenistic approaches, there are at least seven different ways of organizing cross-curricular teaching and learning:

- hierarchical
- single transferable subject
- theme-based
- multi-disciplinary
- inter-disciplinary
- opportunistic
- double-focus.

They may overlap and different projects may use several of them at a time. Each approach, however, has different aims and strengths, but to be effective means of learning all cross-curricular learning should rest on the following principles:

1. Use powerful and meaningful sensory experiences to motivate learning.
2. Use only two or three subjects to interpret or build upon such experiences.
3. Expect English and Computing to be integral parts of all cross-curricular teaching and learning.
4. Plan specific and progressive learning targets in each subject represented.
5. Assess the success of learning by arranging for children to apply their learning to real situations.
6. Work hard at all times to increase teacher subject knowledge.

Key questions for discussion

- What topics have you seen operating successfully in a cross-curricular way?
- What kind of cross-curricular teaching and learning have you observed in schools? Give examples.
- How can we adequately assess two or three subjects within a cross-curricular module?
- What are the advantages of cross-curricular learning?
- Should subjects like Music be justified in the curriculum only because they have 'a hugely positive effect on numeracy and language skills'? (Gov.UK, 2010b, website)

Further reading



- Alexander, R. (2010) *Children, Their World, Their Education: The Report of the Cambridge Primary Review*. London: Routledge.
- Robinson, K. and Aronica, L. (2010) *The Element: How Finding Your Passion Changes Everything*. Harmondsworth: Penguin.
- Savage, J. (2012–14) *Cross-Curricular Teaching and Learning in the Secondary School*, series (The Arts, English, Foreign Languages, Humanities, Computing and Mathematics). London: Routledge.