

Reimagining outdoor learning spaces

Primary capital, co-design and educational transformation

a Futurelab handbook



Key to themes

Futurelab understands that you may have specific areas of interest and so, in order to help you to determine the relevance of each project or publication to you, we have developed a series of themes (illustrated by icons). These themes are not intended to cover every aspect of innovation and education and, as such, you should not base your decision on whether or not to read this publication on the themes alone. The themes that relate to this publication appear on the front cover, overleaf, but a key to all of the current themes that we are using can be found below:



Digital Inclusion – How the design and use of digital technologies can promote educational equality



Innovative Teaching – Innovative practices and resources that enhance learning and teaching



Learning Spaces – Creating transformed physical and virtual environments



Mobile Learning – Learning on the move, with or without handheld technology



Learner Voice – Listening and acting upon the voices of learners



Games and Learning – Using games for learning, with or without gaming technology



Informal Learning – Learning that occurs when, how and where the learner chooses, supported by digital technologies



Learning in Families – Children, parents and the extended family learning with and from one another

For more information on our themes please go to www.futurelab.org.uk/themes

Acknowledgements

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1. See: publications.becta.org.uk/display.cfm?resID=37346

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1. INTRODUCTION

ABOUT THIS HANDBOOK

The audience

This handbook is aimed primarily at education leaders involved in the redesign of educational learning spaces, through initiatives such as the Primary Capital Programme (PCP) and other learning space design initiatives. It will, however, be of relevance to those involved in other sectors, including those embarking on the Building Schools for the Future (BSF) programme.



Why outdoor spaces?

Capital investment programmes such as BSF and PCP are huge in their scope and scale, and therefore we have chosen to focus specifically on the redesign aspects of **outdoor spaces**, as there is not room to cover the vast and varied elements of redesign within a single handbook. Other than such practical considerations, given that we are at the beginning of the Primary Capital Programme, it seemed timely to produce a handbook as a tool for rethinking the use of outdoor spaces for a broad range of possible learning and play opportunities and purposes aimed primarily at the primary sector. It is easy to overlook the potential of outdoor spaces for the improved well-being, health and welfare of children when the major emphasis is on the design of buildings. However, outdoor space is a vital element contributing to any child's development and educational experiences, and should therefore not be overlooked or undervalued, given the range of other key initiatives aimed at developing more opportunities for play, exercise and learning beyond the classroom.

This publication also attempts to highlight the potential links between capital investment programmes and a range of other initiatives and policies seeking to promote play and outdoor learning for young children. From the 'Learning Outside the Classroom Manifesto'² and subsequent play strategy³, through to the United Nations Convention of the Rights of the Child (Article 31)⁴, and the plethora of policies, organisations and initiatives that support the right for children to play, there is a clear call and need to provide places other than the classroom for learning and play in order to offer children more direct experience with the outside world. This may include learning away from the school, in parks, forests, in local community spaces, which allow a whole set of different relationships and experiences to flourish.

It could mean focusing on providing greater continuity between learning outdoors and what happens indoors and in the curriculum, or it could mean focusing on redeveloping an underutilised and inappropriate space so that it is more stimulating and desirable.

The need to join up policies and initiatives

Furthermore, this handbook also attempts to illustrate the need to approach redesign not as a separate entity, but as a vehicle to drive forward and mobilise some of the broader overarching educational priorities, such as Every Child Matters and the Children's Plan, and aspects of the educational transformation agenda, embedded within concepts such as personalisation. In short, this handbook attempts to give some indications of how capital investment programmes, and the processes they involve, might be used as a vehicle for modelling wider educational change and improvement. The transformational potential of large capital investment programmes will not be achieved unless they are informed by and linked to these wider agendas.

Finally, this handbook identifies the opportunities that are presented for involving children and young people as co-designers in the process of redesign, not only identifying the learning opportunities that are presented but also highlighting that failure to engage them in the process is less likely to produce feeling of ownership of any space and therefore undermining the sustainability of the project.



2. See: DfES (now DCSF) Learning Outside the Classroom Manifesto (publications.teachernet.gov.uk/eOrderingDownload/LOtC.pdf); The Council and Partnership for 'Learning Outside the Classroom' (www.lotc.org.uk)

3. Can be found at: www.dcsf.gov.uk/publications/fairplay/downloads/7567-DCFS-Fair%20Play.pdf

4. Can be found at: www.unicef.org/crc

The aims and outline of this handbook

This handbook is not, however, a 'how to' manual, or an attempt to present a set of rigid guidelines or recommendations. There is a vast array of specific needs, visions, aims and local contexts that will mediate the precise way outdoor play and learning spaces are utilised and configured. Rather it is an attempt to inspire, provoke thinking, offer a range of links, examples and ideas that encourage the reimagining of outdoor learning and play spaces, rather than to merely reproduce newer versions of what has gone before. It urges those involved in redesign to be innovative, radical, pioneering and to rethink the possibilities offered by this once-in-a-generation opportunity to help reshape and improve the broad educational experience for all young people.

Section 2 looks at some of the links between capital investment programmes and broader educational policies and wider initiatives, and suggests they should be better aligned. Section 3 offers some insight as to how and why we should think differently about design. Section 4 looks at the importance of, and opportunities for co-design, and highlights some of the benefits and examples of good practice. Section 5 highlights the importance of play in both policy and children's development and highlights a range of other initiatives and organisations that can offer advice and support. Section 6 offers examples of other outdoor and non-school learning spaces in order to promote more lateral thinking about the approach, relationships and opportunities for developing spaces both within and beyond the formal school boundaries. Section 7 explores the potential of a range of new technologies to enhance outdoor play and learning spaces; and Section 8 looks at the issues surrounding sustainable designs. Each section offers a number of further resources, links and reading materials to give a deeper insight into the specific issues raised.



2. JOINING UP SOME OF THE BIG IDEAS:

BRINGING TOGETHER PERSONALISATION, EVERY CHILD MATTERS AND PRIMARY CAPITAL THROUGH CO-DESIGN

This section attempts to highlight the significant opportunities afforded through capital investment programmes to model and embed within designs some of the wider policies and initiatives that aim to transform and improve education and educational services. In doing so it highlights the importance of involving children as active co-designers in the the process of developing both new spaces and new approaches to learning.



The Primary Capital Programme (PCP)

The Primary Capital Programme challenges local authorities to think long term and strategically about teaching and learning in primary schools in the 21st century and how capital investment can support wider transformation. It commits to renewing at least half of all primary school buildings by 2022-23; creating primary schools that are equipped for 21st century learning, at the heart of their communities, with children's services in reach of every family⁵.

Jim Knight, Minister for Schools and Learners (DCSF)

Primary Capital Programme is about transformation

The massive Government expenditure pledged to major learning space redesign programmes such as BSF and PCP represent a unique opportunity; however it is clear that they should not be viewed only as projects about school buildings. Both of these programmes were also conceived as a means to support a whole set of wider education transformation objectives. The House of Commons Education and Skills Committee, reviewing the early progress of BSF, and identifying the lessons that should be learnt, noted in relation to PCP, that:

“As well as being a project to improve radically the fabric of school buildings... it has been explicitly designed to transform the educational experiences of pupils...”⁶

The Government has similarly stated that PCP (and BSF) “...will support the transformation of education.”⁷ The clear implication, then, is that any new spatial designs for learning should be premised upon the wider need to transform pedagogy, practice and the organisation of education in order to meet the needs of learners in the 21st century. However, whilst the language of transformation pervades the

policy literature surrounding PCP and BSF, there are criticisms that this has not happened in a systematic manner to date, and that any school undergoing redesign should ensure their vision of a learning space of the future is clearly informed by the wider policies and initiatives that promote transformation and change. The remainder of this section outlines some of the key policy drivers that should inform future learning space designs and the parallel calls for transformation, and highlights the opportunity to draw these together and model transformational practices through the practice of co-design with children.

Personalisation as a tool for imagining educational transformation

Personalisation has been one of the major concepts introduced to highlight the need for systemic change. It has a transformation agenda inextricably associated with it, informed by wider societal changes, such as changes in production and consumption patterns, the networked nature of modern society, consumer-led services provision, and the rise of new technologies enabling user-generated content and preferences.

However, as the House of Commons, Education and Skills Committee⁸ also noted, personalisation has been put forward as being central to education but, as yet, its very nature remains insufficiently defined.

To some degree, this is true. There are varying interpretations, although this in itself is not inherently a bad thing. However, it is when the concept is poorly understood, narrowly interpreted or viewed as ‘yet another initiative to deliver’ that it is in danger of losing its transformational utility. Personalisation is not readily measurable using existing criteria and should not be seen as a one-off ‘deliverable’. Rather it should be viewed as an orientating concept involving an ongoing process to transform education leading to a more diverse, emergent and learner-led set of learning and teaching practices and processes.

5. Can be found at: www.teachernet.gov.uk/_doc/13089/writtenstatement.pdf

6. House of Commons Education and Skills Committee (2007). Sustainable Schools: Are we building schools for the future? Seventh Report of Session 2006–07 Volume I. Accessed 21/10/08

(www.publications.parliament.uk/pa/cm200607/cmselect/cmeduski/140/140.pdf)

7. The Primary Capital Programme. DCSF. Teachernet

(www.teachernet.gov.uk/management/resourcesfinanceandbuilding/Primary_Capital_Programme)

8. *ibid*

The research⁹ tells us that there are at least three broad interpretations of personalisation. Whilst this guidebook is not the place to conduct a detailed analysis of the concept, it is worth noting that these three interpretations broadly suggest that personalisation requires:

- a fundamental change towards a more person-centred approach to education and learning, where the system changes significantly to respond to and develop in light of the needs of learners rather than learners responding to a set of system requirements
- a need to significantly overhaul existing structures of school organisation and practice to be more responsive to learner needs, enabling personalised approaches to occur over time
- a need to harness the networked nature of society in order to rethink how and where learning can take place and how these networks might be better harnessed to support greater diversity for learning in keeping with emerging practices outside school currently and in the future.

Whilst these three interpretations offer different perspectives, they are broad interpretations and are not mutually exclusive. On further examination of the source texts, it is clear they differ in terms of their starting points, approach and means to achieve personalisation but they share two significant points of convergence. Firstly, they call for system-wide transformation, and secondly, they present a picture of an educational future centred on greater and meaningful **choice and voice** for learners.

Meaningful choice and voice for learners is central to personalisation. True co-design is premised upon voice and choice

Choice and voice were the two central tenets of personalisation, as set out by David Miliband¹⁰ in the various publications introducing personalisation into the field of education. It is premised upon an emergent and empowering change process, through which learners gradually gain confidence to shape their own learning, create original content and co-create their own learning pathways with educators.

The conceptual link between the more abstract or theoretical concept of personalisation and learning space redesign has been implied but as yet not thoroughly investigated. A good starting point for any redesign would be to situate redesign, the process as much as the outcome, under the wider transformational umbrella of personalisation. Not only is this a good opportunity to revisit the wider underlying meanings behind the concept but it also provides a 'compass' for decisions that are made in the planning and redesign process further down the line.

Given the language of transformation that also surrounds capital investment programmes, and the emphasis personalisation places on a more student-centred approach to school organisation and offering greater choice through diverse learning pathways, there is surely a need to enable learners to become actively involved in decision-making processes around design, making choices that will affect them, and ensuring their voices heard. In a sense, learning space redesign programmes offer the chance to model and try out more personalised approaches to learning, thus ensuring a strong connection between the two.

Personalisation: informing approaches to school redesign?

Personalisation puts citizens at the heart of public services and enables them to have a say in the design and improvement of the organisations that serve them. In education this can be understood as Personalised Learning - the drive to tailor education to individual need, interest and aptitude so as to fulfil every young person's potential. (DfES 2004)¹¹

Personalised learning stresses deep learning as an active, social process and is explicit about learning skills, processes and strategies...The aim is to enable pupils to understand themselves better as learners and so take greater control of and responsibility for their learning, transferring and applying a widening repertoire of learning approaches in different subjects and contexts. (DfES 2007)¹²

9. Taylor, L, Bracken, K, Atkinson, D, Perrotta, C (forthcoming). Exploring the Personalised Learning Landscape. Literature review for the DCSF for the Space for Personalisation Project. DEG, Futurelab, EdisonLearning, Penoyre & Prasad

10. Miliband, D (2006). Choice and Voice in Personalised Learning. Chapter 1 in Personalising Education. OECD

11. DfES (2004). A National Conversation about Personalised Learning. Can be downloaded at:

www.standards.dfes.gov.uk/personalisedlearning or www.teachernet.gov.uk/publications/PLbooklet

12. DfES (2007). Personalised Learning and the Primary National Strategy. Crown. Can be downloaded at:

www.standards.dfes.gov.uk/local/ePDs/leading_on_intervention/resources/downloads/LTI_personalisedlearning.pdf

In the context of the opportunities arising from PCP (and BSF), there is a huge potential to model more transformative approaches, pedagogies and relationships by putting learners at the very heart of the (re)design process, thus assuring greater choice and voice. From this perspective, BSF and PCP should not be perceived as 'buildings' programmes but rather as a huge learning opportunity for learners and teachers alike. It represent an opportunity to give learners more choice and voice through the process of co-design and address one of the key issues of capital investment programmes to date¹³, namely the lack of active learner (and teacher) participation in the design processes.

Redesign offers a huge learning opportunity that can be mapped to learning skills and competencies

If the PCP and BSF programmes are to live up to their transformational promise, then the principles underlying personalisation and other broad policy directives should inform design briefs. Involving learners as co-developers in their own learning pathways and involving them in the practices and processes that affect their educational experiences, including their participation in learning space redesign, would appear to be essential.

Being involved in co-design offers opportunities for learners to gain an insight into how a range of other professionals operate and the skills they employ. Active involvement in design processes also offers opportunities for the development of a range of skills and competencies such as team working, project management, communication, collaboration, design, creativity, discussion, debating, presenting arguments, decision making and so forth, as well as gaining knowledge of the use of various tools, mechanisms and resources that might be employed throughout the various aspects of design. As will be explored in more detail in Section 4, involving people

in the design of services that affect them can have huge benefits¹⁴, and similarly, engaging children in participatory co-design can have a range of positive outcomes. The British Council for School Environments (BCSE)¹⁵ and Schoolworks¹⁶, for example, promote participatory and co-design approaches in school designs as a means for generating better understanding, delivering broad learning opportunities, and increasing the likelihood of more sustainable and relevant designs.

For many, it may appear that statutory requirements will limit the extent to which young children can be involved in design processes and activities. However, there are a wealth of learning opportunities that present themselves through a process of co-design of learning spaces that can be mapped against both 'formal' and less formal learning requirements, and therefore learners' participation does not have to be seen as an additional activity. As well as the broad range of competencies and skills such as those outlined above, it is possible to map experiences to broad curriculum aims and even enhance them in doing so (on page 55 we have described the QCA's 'Big Picture curriculum' as a tool to help map out how curriculum aims might be mapped to co-design processes around PCP and BSF).

Every Child Matters and the Children's Plan at the heart of learning space redesign

As well as personalisation being a concept to influence how learning in the future may differ and therefore how design aspects might account for it, there are other major policy drivers that should have an explicit influence on designs and design processes.

From the outset, the Government has stated that the Children's Plan¹⁷ and Every Child Matters¹⁸ are at the heart of the Primary Capital Programme¹⁹, indicating that the programme is about far more than redesign of school buildings.

13. See for example, House of Commons Education and Skills Committee (2007), *ibid*

14. See for example: Skidmore, P, Bound K and Lownsbrough, H (2006). *Community Participation: Who benefits?* Joseph Rowntree Foundation (www.jrf.org.uk/bookshop/eBooks/1802-community-network-governance.pdf); Sustainability and Schools, University of Nottingham (www.sustainability-and-schools.com)

15. www.bcse.uk.net

16. www.school-works.org

17. DCSF (2007). *The Children's Plan. Building Brighter Futures*. Can be found at:

www.dcsf.gov.uk/publications/childrensplan/downloads/The_Childrens_Plan.pdf

18. DfES (2004). *Every Child Matters: Change for Children*. Can be found at:

www.everychildmatters.gov.uk/_files/F9E3F941DC8D4580539EE4C743E9371D.pdf

19. DfES (2006). *Every Child Matters: Primary Capital Programme: Building Primary Schools at the Heart of the Community*.

Can be found at: www.teachernet.gov.uk/_doc/9606/Primary%20Capital%20Programme%20-%20Final.pdf

The primary capital investment should support a wide range of policies with the Children's Plan at its heart. The investment will support the transformation of education, including raising standards and improving the life chances and well-being of all children, the removal of surplus places, inclusion, Every Child Matters, and the provision of extended services for the local community.

DCSF (2008). Every Child Matters: The Primary Capital Programme 2008-2022²⁰

Every Child Matters is an attempt to address five outcomes that are key to well-being in childhood and later life, namely: being healthy; staying safe; enjoying and achieving; making a positive contribution; and achieving economic well-being. It is recognised that in order to achieve this requires radical change across the whole system of children's services. Again, this should be given serious consideration when faced with an opportunity to design new learning spaces, such as how, or to what extent, various services or professionals might be housed in the same general space, how to enhance or develop extended services, and so forth, but it might also have implications for the design in terms of how to develop a more secure and safe environment that enables children to be healthy, enjoy their environment and experiences of school and make a positive contribution to their community. Furthermore, Every Child Matters clearly states the importance that should be placed on listening to children when assessing and planning service provision. Similarly, the Children's Plan states that:

"services need to be shaped by and responsive to children, young people and families, not designed around professional boundaries."²¹

The recent amendment to the Education and Skills Bill²² also now places a formal duty on governing bodies to invite the views of pupils and consult them on all matters that affect them, from the way they are taught through to the way the school is run. 11 Million²³, the organisation set up by the Children's

Commissioner, also campaign to ensure that adults in charge listen to the voice of children in the design and delivery of provision.

Again we see national policies and initiatives urging us not only to put children at the very heart of education but to also involve them in the design of those services. If the Primary Capital (and BSF) Programme is to deliver a transformed educational future, surely then, children should be central to the design process, actively participating in meaningful co-design.

Joining up the big ideas through co-design

As yet, insufficient thought has been given to the links and interrelationships between learning space (re)design, broader educational transformation agendas and co-design approaches that involve and empower learners. Learning space redesign should not only be seen as an opportunity to create new, dynamic, exciting, creative and innovative spaces offering new learning opportunities, but should also be viewed as a catalyst through which to map and model broader educational transformation and practices. Whilst there is still much confusion over what personalisation might mean in practice, increased educational choice and greater learner voice are givens. The Children's Plan and Every Child Matters agenda also recognise the need to give children more voice and enable them to have an input into the design of services and environments that affect them.

Surely there are few better opportunities for putting these principles into effect than through a programme of learning space redesign that offers children: the opportunity to design new educational experiences; the chance to become co-designers in authentic and real activities; the ability to have a greater say on the services and environments they encounter in their daily lives; the chance to influence the form and function of their learning places; a platform for reimagining learning pathways and possibilities; and the opportunity to learn a whole new range of skills and competencies arising from creative thinking, redesign, planning and realisation of new spaces.

20. Can be found at: www.teachernet.gov.uk/_doc/12293/Primary%20Capital%20Programme%202008-2022.pdf

21. DCSF (2007). The Children's Plan: Building brighter futures, p6

22. Education and Skills Bill. Explanatory notes on amendments. 11th November 2008. (Bill 164). House of Commons, London www.publications.parliament.uk/pa/cm200708/cmbills/164/en/2008164en.pdf

23. www.11million.org.uk



As mentioned earlier, for practical reasons this handbook focuses primarily on the redesign of outdoor play and learning spaces. Such spaces are ideal for involving children in co-design processes, as not only are they spaces in which they play and explore, stay fit and healthy and develop social relationships, they are also spaces over which many may feel a greater ownership, where relationships between children and adults may not, at certain times at least, seem so marked, and where overtly, adult-imposed rules regarding behaviour may not be so fixed.

This publication aims to inspire people to make the links between learning space design and wider policies and initiatives that promote an improved and transformed educational future, and seeks to inspire new ways of thinking and ideas around learning spaces - what they are, who designs them, and for what purpose. The next section offers some ideas and information aimed at helping people to think differently about design.

3. THINKING DIFFERENTLY ABOUT DESIGN

This section offers some thoughts, ideas and links to further resources that may help promote more innovative approaches and design. It is far from extensive, or specific, but does offer some initial general starting points for reimagining play and learning space design.

There is a long history around what a school is, what is taught there, by whom and how, as well as embedded perceptions about the types of buildings and spaces where these practices traditionally occur. However, there is a need to challenge existing assumptions if new learning and play spaces for the future are to be built, and this requires taking a different approach to imagine a whole range of different possibilities.



Initial visioning

One barrier to more innovative learning space design is that examples and ideas of alternative approaches are relatively limited or not readily accessible. This is partly because there is a tendency to look for examples emanating from other schools or other more formal learning institutions. There are, however, a range of examples from outside formal education that can be drawn upon, ideas that can be drawn from our towns and cities and the environment around us, that can all help inspire the way space is designed. These can be literal, for example, learning from the moods 'created' through good landscaping and design; the ambience that can be given to a space through lighting or music; the added stimuli that can be incorporated into a space through the addition of tactile installations and surfaces; the smells from plants and flowers; the dynamism given through carefully positioned active play installations, and so forth.

They can also be less literal, such as taking a theme from nature to inspire the design of space, for example looking at honeycombs and using them as a structural metaphor for designing interlocking spaces, perhaps built by those inhabiting that space.

There is a long history of nature inspiring design and invention, from naturally occurring algorithms being mimicked in building design to provide more efficient or structurally stronger, efficient, or flexible spaces, to cockleburs inspiring the development of Velcro, advances in aircraft inspired by the study of birds in flight, through to nature-inspired fashion design. The list is seemingly endless.

In terms of designing of outside spaces, it may also be a case of learning from and working with natural resources that already exist, or perhaps just picking a theme on which to base a design. This is one area where children can be actively involved in choosing and influencing final designs or design themes, using resources to enable their creative ideas to flourish. It may be a good starting point to set up activities that broadly look at how nature might inspire design and what ideas might develop as a result.



More generally, having a range of stimuli and inspiration to help think about the development of outdoor learning and play spaces is essential. This may require going beyond school-based examples: looking at different types of space and how they are designed; seeking out a range of designs by architects, designers, landscape designers; looking at public gardens and outdoor spaces, exhibitions, displays; drawing on the ways in which social interaction occurs in a range of spaces and places, including virtual and online worlds. Again, the resource and ideas-gathering aspect is another possible route for involving children and others.

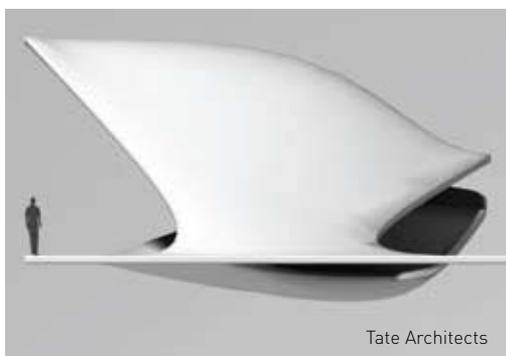
A degree of random input and a range of stimuli to promote initial thinking processes that might inspire design approaches can prove valuable. For example, gathering information about children's favourite things, experiences, places, games and so on, and then discussing the things they like about them. Emerging themes can help to inform discussions around design. Random input has a long tradition in the field of innovation²⁴, such as introducing random words to help think more creatively about a situation. Similarly, taking the perspective of others, including companies and organisations, and thinking how they would approach design, can be a fun starting point for understanding what children like and dislike.

It is also essential to give adequate and open-minded thought to different pedagogical and learning organisation models. There is a long and rich history of different approaches to learning and teaching and the varied methods should be considered. This is not to say that an alternative approach to education should necessarily be aspired to but it is possible that the different assumptions that inform varied

approaches to learning and teaching can give a better insight into how and to what extent the design (or form) might follow function and how different approaches to play and pedagogies might be allowed to flourish in outdoor spaces in a way that may not be perceived as possible inside a classroom.

Abbots Green Community Primary School in Bury St Edmunds designed its school space upon firm pedagogical principles, and took Maslow's Hierarchy of Needs as a guiding design principle to ensure the new building and its landscape cater for the emotional and physical needs of children²⁵.

It might also be worth considering how outdoor space might be designed and utilised as a way of modelling new or different behaviours and approaches to learning and teaching inside the school. For instance, Futurelab's 'What if..?: Reimagining Learning Spaces'²⁶ report sought to ask some of the bigger questions around the educational visions and debates that might need to underpin the design of new learning spaces. It also provided a series of future scenarios to inspire different ways of imagining future designs and presented a set of questions, or 'what ifs..?' in order to help scaffold alternative approaches to thinking about spatial design informed by different pedagogical or organisational approaches. The underlying argument is that we need to rethink our approaches to school design that may be based on outdated models, and that we must challenge the existing institutionalised logic to create spaces that will equip children and young people for the world in which they will live in the future.



24. See for instance: De Bono, E (2007). *How to Have Creative Ideas*: Vermilion, London

25. For more information about the school visit www.abbotsgreen.co.uk. A full case study can be found at: www.21stcenturylearningalliance.com/_RMVirtual/Media/Downloads/Abbots_Green.pdf

26. Can be found at:

www.futurelab.org.uk/resources/publications-reports-articles/opening-education-reports/Opening-Education-Report128



One of the early criticisms levelled at the BSF programme was the limited opportunity for early visioning or pre-engagement, which can have detrimental impacts on the extent to which designs are informed by a far-reaching educational vision that reflect the types of changes in educational approaches desired. The educational visions on which new designs are built will be encapsulated by the bricks, mortar, structures and grounds. Therefore it is vital to move beyond designing for immediate necessities and realise the opportunities to create spaces encapsulating visions of the future, to attempt to design the 'built pedagogy' or landscape of the future. It is essential that as much attention is paid to developing a compelling educational vision as soon as possible, ideally in advance of the start of any project, in order to inform the development of sites to support, encourage and develop learning in the future. In creating an agreed, compelling vision, an enduring artefact is produced that can help guide and keep on track the range of other partners involved in delivering the design, and this reduces the risk of deviation from the initial vision.

We must also remember here, that in terms of outdoor space and play, we are very likely to be already thinking about visions of learning and play that are very different from those more readily associated with formal schooling and curricula. A vision of learning in relation to this context is much more likely to be based around exploration, interaction, learning through play, creativity, imagination, experimentation and so forth. Nonetheless, it should still be clearly thought through, compelling, and debated, discussed and defined so that it can be transmitted to others and provide the basis for further input from other professionals and stakeholders.

Beyond initial visioning

Moving beyond the initial visioning phase, perhaps one of the most useful and interesting publications that helps conceptualise how aspects of pedagogy relate to alternative designs, is DesignShare's 'The Language of School Design'²⁷. The authors, Prakash Nair and Randall Fielding²⁸, present a 'new graphic vocabulary' that links learning research to school planning and design in a practical way to enable a better understanding of the broader educational adequacy of a new space. DesignShare²⁹ also offers a range of other resources to help people think about the interrelationship between learning theory and pedagogically informed designs.

Oblinger (ed, 2006) also offers an interesting collection of papers and case studies that demonstrate how space can have an impact on learning and how learner expectations can also influence the design and use of such spaces. This illustrates the clear need to establish a collective vision, a set of expectations about what such spaces are for, how they are informed pedagogically, and how they might be used. All of these elements should inform the design process.

It may be argued that the majority of educational provision is designed by adults for children and is often based on a model that promotes systemic aims and doesn't pay adequate attention to children's world views, their interpretations and expectations. The counter-argument therefore is that we need to develop more child-friendly communities³⁰ where children are free to learn and explore, and where educational provision is designed **with children for children**. There are fantastic opportunities to do this in relation to designing outdoor play and learning spaces, as many of the perceived barriers to learner participation and learner-led approaches diminish. Perhaps these spaces make the most appropriate areas for initially exploring and developing co-design principles and practices with children.

²⁷. DesignShare (2007) The Language of School Design: Design patterns for 21st century schools. Prakash Nair and Randall Fielding. See www.designshare.com/index.php/language-school-design

²⁸. www.fieldingnair.com/home.aspx

²⁹. www.designshare.com/index.php/home

³⁰. See for example the work of Tim Gill, Rethinking Childhood (www.rethinkingchildhood.com)

Beginning the design process

Beyond the initial phase of visioning and thinking about the development of the built pedagogy, the underpinning educational philosophy and approaches, there are a number of other essential elements and principles to consider during the design process. As might be expected, there are a number of different interpretations, starting points and approaches, some relating directly to policy documents, others to theoretical perspectives, and others detailing practical aspects. Many include similar issues and there is a wealth of guidance from various Government sources and other organisations. Below are a number of examples of issues to consider during the design process that are largely applicable to the design of both indoor and outdoor spaces.

Fielding (2006)³¹ outlines six 'essential elements' that should help define the design of educational spaces, based on evidence from best practice examples. These are that spaces should:

- support teaching and learning
- maximise physical comfort and well-being
- demonstrate environmental responsibility
- serve the community
- establish design principles that make buildings (or spaces) work better, last longer, cost less to renovate and maintain, and inspire and adapt to changing needs
- apply open, transparent and collaborative processes that allow the school and community to assume ownership of planning and design.

Lackney (2003)³² focuses on more detailed practicalities relating to school design to offer 33 principles based on research and practice in the field. Whilst not all are directly applicable to outdoor spaces, they provide a valuable checklist and source of inspiration for thinking differently about design.

33 principles of educational design (Jeffrey A Lackney)

1. Maximise collaboration in school planning and design
2. Build a proactive facility management program
3. Plan schools as neighbourhood-scaled community learning centres
4. Plan for learning to take place directly in the community
5. Create smaller schools
6. Respect contextual compatibility while providing design diversity
7. Consider home as a template for school
8. Meander circulation while ensuring supervision
9. Design for safe schools
10. Cluster instructional areas
11. Provide space for sharing instructional resources
12. Design for a variety of learning groups and spaces
13. Keep class sizes small
14. Provide resource-rich well-defined activity pockets
15. Integrate early childhood education into the community school
16. Provide a home base for every learner
17. Regard teachers as professionals
18. Provide studios to support project-based learning
19. Encourage administrative leadership by decentralising administrative space
20. Establish a community forum
21. Allow for community conferencing space
22. Create privacy niches
23. Weave together virtual and physical learning space
24. Provide opportunities for job training
25. Provide parent information centres
26. Provide health care service centres
27. Design places with respect for scale and developmental need
28. Maximise natural and full-spectrum lighting
29. Design healthy buildings
30. Design for appropriate acoustics
31. Allow for transitional spaces between indoor and outdoor spaces
32. Establish a variety of outdoor learning environments
33. Separate children and pedestrians from vehicles and service

31. Randall Fielding (2006). Best practice in action: six essential elements that define educational facility design. CEFPi Planner, December 2006. Can be accessed at: www.designshare.com/images/SixEssentialElementsIllustrated.pdf

32. Lackney, JA (2003). 33 Principles of Educational Design. School Design Research Studio (schoolstudio.engr.wisc.edu/33principles.html). Offers a fuller account of the 33 principles

Learning through Landscapes³³, the UK school grounds charity, has coordinated the development of a core set of values specifically related to early years and outdoor play that aim to support the delivery of their vision for high quality outdoor experiences for young people. These values are:

- Young children should be outdoors as much as indoors and need a well-designed, well-organised, integrated indoor-outdoor environment, preferably with indoors and outdoors available simultaneously.
- Play is the most important activity for young children outside.
- Outdoor provision can, and must, offer young children experiences which have a lot of meaning to them and are led by the child.
- Young children need all the adults around them to understand why outdoor play provision is essential for them and adults who are committed and able to make its potential available to them.
- The outdoor space and curriculum must harness the special nature of the outdoors, to offer children what the indoors cannot. This should be the focus for outdoor provision, complementing and extending provision indoors.
- Outdoors should be a dynamic, flexible and versatile place where children can choose, create, change and be in charge of their play environment.
- Young children must have a rich outdoor environment full of irresistible stimuli, contexts for play, exploration and talk, plenty of real experiences and contact with the natural world and with the community.
- Young children should have long periods of time outside. They need to know that they can be outside every day, when they want to and that they can develop their ideas for play over time.
- Young children need challenge and risk within a framework of security and safety. The outdoor environment lends itself to offering challenge, helping children learn how to be safe and to be aware of others.
- Outdoor provision must support inclusion and meet the needs of individuals, offering a diverse range of play-based experiences. Young children should participate in decisions and actions affecting their outdoor play.

The DfES produced a guide, 'Schools for the Future: Designing School Grounds'³⁴, which also supports schools in their thinking about how best to use their grounds in order to cater for the educational, recreational and social needs of their pupils and for the benefit of the wider community. It gives practical case studies of where schools have transformed their environment and brought new learning and excitement for their children, staff and the wider community. Whilst offering core design principles, it also offers guidance, further information and advice around practicalities such as how to access sources of funding.

Between them, the above guides, principles, values and elements provide plenty of stimuli and guidance for thinking about designing outdoor spaces, but there are also many others. Collectively they should provide a basis for more thorough design, however, any design also needs to be underpinned by a compelling vision of learning and of the practice, relationships and activities that will be fostered within that space.

Support during the process

There are also numerous other organisations, tools and resources that can support your design and planning throughout. The section below highlights just a few of many key organisations and sources of advice and support.

The Commission for Architecture and the Built Environment (CABE)³⁵, the Government's advisor for architecture, urban design and space, works on behalf of the public to offer expert and practical advice and guidance on built environment and open space design. Whilst its work spans numerous sectors, it is currently involved providing free support to all local authorities involved in BSF, in partnership with DCSF and Partnerships for Schools (PFS). Many of its publications, information resources and case studies are also relevant to the Primary sector and it is likely to play an increasing role in informing those concerned with design quality in schools. Resources, such as the Spaceshaper³⁶ practical toolkit, which is available to anyone, help measure the quality of a public space before investing time and money. This approach brings together staff and users in a structured way to discuss the space, and identify strengths and weaknesses and how well it fits the needs of stakeholders.

33. Learning through Landscapes. Early Years Vision and Values for outdoor play. The full document can be found at:

www.standards.dfes.gov.uk/eyfs/resources/downloads/vision-and-values-sign-up.pdf

34. DfES. Schools for the Future: Designing School Grounds. Can be accessed at: www.teachers.gov.uk/docbank/index.cfm?id=10554

35. www.cabe.org.uk

36. www.cabe.org.uk/default.aspx?contentitemid=1675

The British Council for School Environments (BCSE)³⁷ is a membership organisation consisting of schools, architects, construction companies and local authorities that acts as a forum for dialogue and advocacy for anyone interested in learning environments. Underpinning its approach is a need to design and deliver spaces that can support new visions for teaching and learning through research and best practice dissemination around all aspects of school design. BCSE and initiatives such as School Works³⁸ offer participatory design processes with schools and local authorities. Drawing on the expertise of experienced School Works facilitators, the participatory process aims to: involve school stakeholders and focus their thinking; make recommendations for school designs that inform the design brief/architect; embed the participatory approach within the LA and school and enable ongoing stakeholder involvement; foster partnership working; foster a sense of community ownership and pride over new schools; and provide a fun and informative insight into school design and sustainability.



Tools and new technologies to support children's participation

The new technologies, tools and resources outlined below are just a few that can be used in aspects of co-design, and which may add another dimension to children's engagement and a route to involvement in the visioning, design and planning processes. Such tools on their own are relatively meaningless without a deeper commitment to comprehensive engagement amongst young people. They do, however, provide a platform on which to base further discussion, negotiation, debate and broader activity.

37. www.bcse.uk.net

38. www.school-works.org

39. www.powerleague.org.uk

40. sketchup.google.com

41. www.archikids.org.uk

42. www.ournewschool.org

43. Developed by the Engine Group (www.enginegroup.co.uk)

44. www.autopano.net



Power League³⁹ is a free web resource developed by Futurelab, for exploring any topic, through sampling group opinions, voting and provoking group discussions. The tool enables you to create your own online leagues – so can easily be used as a tool for engaging young people in discussions. There are existing leagues that are populated with images - including the Climate Change League and the New School League – but it is also possible to create your own leagues, adding your own images.

Google SketchUp⁴⁰ is software that can be used to create, modify and share 3D models. This is an excellent tool to use for designs, especially for incorporating designs from children. There is also SketchUp Go Green and a specific version for education.

Archikids⁴¹ is an interesting site not only offering an interesting gallery and other resources but also providing a series of fun games to stimulate young people's interest in architecture and design in a novel way.

OurNewSchool⁴² – The Game⁴³ is a prototype 'game' that provides a structure to workshops that help staff, pupils and other stakeholders to create a mind map and explore design challenges together. This approach brings together a whole variety of people to learn, share thoughts, discover opportunities and come up with new ideas to improve people's experiences of school.

Autopano Pro⁴⁴ is one of a number of software packages that enable automated 'picture stitching'. The software can detect pictures that belong to a panoramic photo and stitch them together in sequence.

OTHER USEFUL RESOURCES

Partnerships for Schools (Pfs) works with DCSF and CABE to ensure that local authorities and schools are given the best guidance to ensure design quality. It offers and links to a range of key resources, guidance and publications relevant to the design of schools within the BSF programme and resources relevant to design more generally, including building bulletins, Government policy documents and design standards guidance.
www.partnershipsforschools.org.uk

Teachernet provides an invaluable resource of documents and links related to the design of school buildings and grounds, including:

- Primary Ideas: Projects to Enhance Primary School Environments, DfES 2006
- Schools for the Future: exemplar designs, concepts and ideas
- Building Bulletin 99: Briefing Framework for Primary School Projects, DfES 2005
- Building Bulletin 77: Designing for Pupils with Special Educational Needs and Disabilities in Schools

www.teachernet.gov.uk

CABE has a wealth of resources relating to architecture and design and has a clear role in the BSF programme offering support, guidance and regulatory information. Key publications include:

- 21st Century Schools: Learning environments of the future
- Being Involved in School Design, CABE 2004

CABE's site has useful insights and resources around best practice, including PFI. Its publication, 'Building Schools for the Future: The role of a design champion' highlights the organisation's role, perspective and approach in supporting good design of spaces and places with schools.

www.cabe.org.uk

DesignShare offers a range of resources, articles, tools and case studies that help illuminate how educational design can have an impact on learning processes and the necessity of incorporating learning theories into the design process. A good source for ideas and resources about best practices and innovation in schools from early childhood through to university level.

www.designshare.com

Learning Spaces. Oblinger, DG (ed) (2006). Washington DC: EDUCAUSE

This excellent edited collection of chapters, examples, case studies and debates illustrates the ways in which we can rethink learning spaces. A must for anyone about to embark on redesigning spaces. Also contains many examples of how new technologies can enhance and mediate learning spaces.
www.educause.edu/LearningSpaces/10569

33 Principles of Educational Design. School Design Research Studio. Lackney, JA (2003).

Interesting article outlining 33 principles of educational design. Also has a number of useful links, research papers, articles and resources related to each principle.
schoolstudio.engr.wisc.edu/33principles.html

The Royal Institute of British Architects

(RIBA) is the UK body for architecture and the architectural profession. As well as providing support for its members in the form of training, technical services, publications, events and setting the standards for the education of architects, it offers a library of drawings and photographs from which to draw inspiration and ideas.

www.architecture.com

Open House aims to foster an appreciation and understanding of the value of architectural excellence and showcase outstanding design, particularly for young people. It seeks to support better understanding of how architecture and design can have an impact on our lives. Working in partnership with education bodies it aims to devise programmes that can inform students and give them skills they can apply in their everyday lives. Has a range of examples and resources.

www.londonopenhouse.org

Learning Through Landscapes offer techniques for co-design and co-evaluation, and practical ideas both for designing and using school grounds in their Measuring Success publication. Through Schoolgrounds-UK and Early Years Outdoors membership services, they offer an advice line to support schools who want to make more of their grounds.

www.ltl.org.uk

Design and redesign projects potentially offer rich and diverse learning experiences for children to develop a range of competencies and skills, and the opportunity to learn from, with and inform experts in the fields of education, design, project management, technology, landscaping and so on. Placing learners at the centre of learning space design, through a process of co-design, offers a unique chance to promote real participation and engagement and to support the development of proactive and responsible learners exposed to a broader and more diverse range of real learning experiences. Educational theorist and writers have long argued the importance of involving students in meaningful ways as active agents participating in real learning opportunities alongside and collaborating with others⁴⁶.

It is clear, then, that there is a solid foundation for empowering pupils through increased participation and co-design practices. However, it is worth giving these terms a little more consideration⁴⁷.

There are numerous examples of projects claiming to promote learner participation, which instead tend toward consultation. Consultation is often more passive involvement that encourages decision making around a closed or pre-defined and limited set of alternatives, into which learners have had little or no input. Moreover, consultation can often occur around agendas and issues about which learners have little or no interest or first-hand experience, rendering any decisions taken in their name relatively meaningless. In short, engaging children in participatory projects is more than ticking boxes or offering limited consultation, it is about facilitating their contributions in every aspect of a project in meaningful ways. If a project is to be truly empowering, and support the sort of engagement, skills, competencies and ways of working required to develop a sense of ownership, responsibility and greater involvement amongst young people, then they have to be actively involved in the whole process; have opportunities to set agendas; have appropriate mechanisms to raise their views, opinions, debate and negotiate; and have appropriate support and mechanisms to turn their views into action and tangible outcomes.

It also may mean rethinking approaches and ways of doing things. The methods, techniques and media that support adult participation may not necessarily be the right or best approach for young people.

From the development of initial conceptual ideas, creative thinking and problem solving, through to the planning, design and delivery stages, children need to be a fundamental part of the process. These types of approaches are far more likely to foster engagement, a sense of ownership and responsibility, and help develop self esteem⁴⁸.

However, this is not an easy task. It can take extra time and resources, but the broad benefits and outcomes can outweigh the added time and resource costs. In enabling young people to actively participate, and by association the network of significant others involved in young people's lives, the pool of potential ideas, skills and knowledge which inform design decisions increases⁴⁹. Moreover, there is also evidence to suggest that adults gain a far better understanding of children's capabilities and interests and that adults are often surprised by the skills, aptitudes and resourcefulness of children involved in co-design projects. They can gain a better insight into learner's interests and abilities that they may not normally be exposed to, and which helps them address their learning needs more generally.

There are clearly numerous factors such as time, costs, organisational and logistical aspects that will mediate the extent to which all learners can be involved in the multitude of decisions and issues. It is, however, still possible to involve children in the whole design and delivery process by identifying different 'leaders' for various tasks or aspects, and ensuring there is opportunity for the whole cohort to be involved and have their say on each of those areas through suitable mechanisms. Involving children in the design process is more likely to lead to a more useful end result that is in keeping with the needs of the 'end user', rather than a design based on an adult's perspective alone.

⁴⁵. See for example: Kirby, P, Lanyon, C, Cronin, K and Sinclair, R (2003). Building a Culture of Participation. Can be found at: www.everychildmatters.gov.uk/_files/BFD4A0EB73C4A69EA0E6E717F0E9E745.pdf

⁴⁶. See for example: Diana Laurillard (2008). Digital technologies and their role in achieving our educational ambitions. Inaugural lecture, Institute of Education

⁴⁷. For a fuller discussion of these terms and overviews of the issues relating to participation see: Futurelab (2006). Learner Voice: A Handbook (www.futurelab.org.uk/handbooks)

⁴⁸. See: Hart, R (1992). Children's participation: from tokenism to citizenship. Innocenti Essays No 4. New York: UNICEF

⁴⁹. Johnson, L, Lewis, B et al (2001). A Guide to Engaging Youth in Leadership and Decision Making in Service Learning Programs. Washington: Points of Light Foundation (www.ysa.org/pdffiles/YV_Guide.pdf)

Example

The Sorrell Foundation⁵⁰ has worked with around 10,000 pupils through the [joinedupdesignforschools](#) process, which can be utilised for any type of school design or smaller intervention. It is intended to be started at the beginning of the design process as part of the vision and brief development stage, prior to decisions being made. Throughout, children are engaged in genuine dialogue with architects, designers and so forth. Client teams of pupils follow creative processes, getting involved in research, meetings and discussions to create a brief for a design project alongside a designer or architect appointed to work for them.

Case study

Partnership Council Children's Forum, Nottingham

The Partnership Council's Children's Forum was set up to support children of primary school age in inner-city Nottingham to have a voice and a positive impact on their local community, through projects they identified themselves. The Forum brings children and service providers together to develop and agree plans to implement change.

The Forum does not simply consult with children but seeks to meaningfully involve them in creating lasting and ongoing change. The Forum recognises that by involving local children in the decision-making process, children are not only able to voice their concerns but they can work with others to find lasting solutions to local issues⁵¹.

There are numerous resources, examples and research (a selection of which are listed at the end of this section) that explore these issues further and illustrate the benefits that arise from active participatory approaches with children and young people.

Through the process of participatory co-design of learning spaces, young people can be exposed to a set of valuable experiences and broad learning opportunities. These include exposure

to, and an understanding of design, landscaping, planning, project management, graphic design, sustainability, ecology, environmental issues, resourcing, financing, educational approaches and so forth. They are likely to encounter opportunities to develop their listening, thinking, debating, negotiation, analysis, oral, written, visual, graphic and media communication skills. Co-design can also provide opportunities to develop mentoring, moderation and mediation skills, foster an appreciation of the views of others, and a chance to reflect on and celebrate their actions. If carried out effectively, participation can raise self esteem, a sense of belonging, community connectedness, increase aspirations and a belief that they can bring about change and influence outcomes as they experience 'lived citizenship'. These are in addition to the rewards that might emanate from the completion of a project, such as improved play and learning spaces and experiences and the potential to share their skills and knowledge with others, their involvement in the ongoing stewardship, maintenance, reconfiguration and evolution of any such space. Whilst this may seem like a wish-list of desired outcomes, and remembering that not all children will benefit in the same ways, it creates a compelling case for giving serious consideration to participatory co-design.

Fountaineers⁵²

Fountaineers is a partnership project between Futurelab, Stakeholder Design and Luckwell Primary School. The aim was to use the design and construction of an interactive, programmable, 'intelligent' water fountain as a vehicle to explore issues around participation, learner voice and alternative approaches to teaching and learning. The project also championed new locations for learning beyond the classroom and indoor space.

The entire school cohort was involved in the design of the fountain, acting as researchers, co-designers, advisors and engineers, working alongside external designers and fountain experts. The design process enabled experimentation with different methods for making decisions, working across ages, and between children and staff, enabling greater communication and understanding.

50. www.thesorrellfoundation.com

51. This case study appears in more detail, along with others on the Academy for Sustainable Communities website: showcase.ascskills.org.uk

52. The case study is a result of findings from two research phases. The first Fountaineers research report can be found at www.futurelab.org.uk/projects/fountaineers. The second phase research report, by Peter Humphries, is forthcoming.

Promoting more learner voice, participation and control amongst learners required staff to adopt a different perspective about children and their capabilities, and their own relationships with them. The project has inspired a more general change in practice and relationships towards more co-created, facilitatory and supportive approaches.

Teachers have been consistently impressed by the work, commitment, ideas and abilities of children. Students' abilities to work in teams, to debate, compromise, collaborate and make negotiated decisions have continued to improve and surpass initial teacher expectations. The creative and problem-solving aspects of the project have enabled certain individuals to demonstrate their abilities in ways they have not previously been able to. Both staff and children have shown they have a great deal to contribute as co-learners and co-researchers in other contexts and situations, and learning tools, approaches and strategies have expanded, with learning appearing to be more authentic, deep and relevant. Children in particular have shown they are capable of stepping up to the challenge of greater participation, and are both willing and able to explore possibilities for more responsibility and self-management, seemingly resulting in increased engagement and motivation and improved learning.



Clearly the participatory techniques and tools for younger children can be very different from those used to engage older pupils and youth groups. Professionals adopt a range of strategies to elicit children's responses in the classroom in relation to materials, content and stimuli. It is essential to adopt appropriate approaches that can elicit the views of children. Adults have to adopt strategies that allow young people to present their unique views, allowing children great freedom in developing content and ideas, whilst simultaneously providing

adequate structure for the process of achieving this. Below are a few suggestions that may help in promoting suitable participatory experiences.

- Provide a wide range of resources, media and contexts through which children can convey their thoughts, ideas and opinions.
- Provide compelling and engaging tasks. Give clear instructions on the process tasks but little input into the detailed content, allowing children adequate space for their own exploration of ideas.
- Provide templates and guides to activities – these should be clear and in appropriate language. Guidance materials over the course of a project, or an aspect of it, should be designed to convey instructions through a range of communication modes or media where possible, and similarly should encourage responses in a variety of ways.
- Offer a range of different contexts and opportunities for children's input to cater for different preferences and styles.
- Ensure a range of activities for children to work alone, in pairs, small groups and whole-class and whole-school activities.
- Thoroughly 'read' children's responses – it is more than just what they say or present, it also includes considering the way they convey it, and when children convey preferences for things such as shape, colour, sound, textures, smells and so forth, they are expressing aesthetic preferences about the artefact or design as much as they are about the more obvious and literal representations.
- Give children meaningful activities (although the methods and approaches can be fun and less structured) that have a tangible impact.
- Communicate to children that their views, ideas and thoughts are central and valued.
- Demonstrate how children's participation impacts upon design decisions and celebrate this.
- Engage children in reflective processes about the learning, problems and issues and value what has been learnt.
- Celebrate achievements and communicate and promote these as much as possible.



Helle Nebelong

Children can gradually move from regulation by others to self-regulation if appropriate frameworks and strategies for eliciting and acting upon their views are put in place. It is important to offer structured scaffolding when concepts and views are first being introduced. Techniques such as storyboarding, role play, performance and interpretation of their ideas are effective ways of helping learners convey their thoughts and ideas. Likewise providing a range of broad and varied stimuli and key, but not specific, questions to promote thinking are useful.

Another key challenge, particularly for educators, is that thinking about learning spaces is structured and regulated to some degree by both prior experience and the context and space in which decisions are made. Institutionalised and often subconscious views about what learning and play spaces are, what happens in them, what relationships exist there, and their purpose, can limit the realms of creative possibilities and care must

be taken not to influence or reject imaginative or alternative ideas that children may have. Indeed, opportunities should be found to actively encourage them, especially in the earliest stages of visioning and planning. The design process requires creative thinking, innovation and new perspectives. Designing a learning and/or play space for the future requires people to think differently and challenge prior assumptions, rather than merely updating what has gone before.

It has been argued that all language and thought is 'dialogic' or relational, that is to say that what we say and think is in response to things that have happened or been said previously, and which are regulated by an anticipation of what we expect the likely response will be to that thought or comment⁵³. This highlights the structured nature of conversations and thought. Whilst this helps us make sense of the world, it can also stifle creative thinking and innovation. It is therefore important to create a culture and ethos around design that accepts and promotes new ideas from everyone involved and a willingness to enter the realms of uncertainty at times. Utilising 'what if..?' scenarios or questions, placing yourself in the position of another individual or organisation, using random input techniques, viewing all ideas as good ideas, using less literal interpretations and promoting abstractions from unrelated ideas or concepts, are just some of the techniques and approaches that are worth employing in order to stimulate greater creative thought and innovative ideas amongst both children and adults.

The list below identifies further resources that can help stimulate creative ideas, as well as suggesting approaches for engaging young people in participatory approaches, and identifying other organisations that support and promote children's participation and rights.

⁵³. See for example: Bakhtin, MM [1930s] (1981) *The Dialogic Imagination: Four Essays*. Ed Michael Holquist. Trans Caryl Emerson and Michael Holquist. Austin and London: University of Texas Press
Vygotsky, LS (1987). *Thinking and speech*. In LS Vygotsky, *Collected works* (vol 1, pp39-285) [R Rieber & A Carton, eds; N Minick, Trans]. New York: Plenum

OTHER USEFUL RESOURCES

Children as Change Agents: Guidelines for child participation in periodic reporting on the Convention on the Rights of the Child.

Miller, J (2007). World Vision

This publication offers an international and children's rights perspective on participation, offering insights into practice and policy for fostering participation with young people.

The references provide other potential sources those interested in this area. Can be found at:

www.crin.org/docs/Guidelines_for_Child_Participation_in_CRC_Reporting.pdf

Spice it Up! Practical tools for engaging children and young people in planning and consultations

(Dynamix Ltd, Save the Children). Shephard, C and Treseder, P (2002). Save the Children

Manual providing more than 40 tried-and-tested activities and games to get children and young people involved in the decision-making process in fun and engaging ways.

Participation Works is a consortium of six leading children and young people's organisations, made up of: British Youth Council, Children's Rights Alliance for England, National Children's Bureau, National Council for Voluntary Youth Services, National Youth Agency and Save the Children – England. It provides expert advice to those wanting to give a voice to children and young people.

www.participationworks.org.uk

The Children Now Participation Charter sets out a vision for giving children and young people a say in the decisions that affect them.

www.childrennow.co.uk/charter

Enquire has produced a guide to involving children and young people in decisions about their education, which includes information about planning and tips for being inclusive. It also has a summary of the law and an extensive resources section.

www.enquire.org.uk/pcp/pub/proguides.php

Enquiring Minds: A guide.

John Morgan, Ben Williamson, Tash Lee and Keri Facer (2007). Bristol: Futurelab.

Enquiring Minds is a distinctive approach to teaching and learning that takes seriously the knowledge, ideas, interests and skills that students bring into school. The guide provides practical guidance and key ideas on implementing a student-led enquiry approach to education.

www.enquiringminds.org.uk/guide

Consulting Pupils - website with information for schools interested in students as researchers work.
www.consultingpupils.co.uk

The Children's Environments Research Group (CERG)

makes the link between university scholarship and the development of policies, environments and programs that fulfil children's rights and improve the quality of their lives.

web.gc.cuny.edu/che/cerg/about_cerg/index.htm

The Sorrell Foundation does significant work in this area, including the development of the 'What's Next for Schools?' exhibition and the Sorrell Foundation Young Design Centre, which opened in 2007 and acts as a base to help explain the benefits of engaging young people in the design process and offering a source of inspiration and ideas. It is currently also working on the development of a unique archive and research centre to explore pupil voice.

What if...? Re-imagining Learning Spaces.

Futurelab (2006)

Report aimed at inspiring different perspectives and thinking around the design of learning spaces. A number of questions and scenarios aimed at promoting alternative approaches and designs are presented.

www.futurelab.org.uk/whatif

Futurelab has also collected a number of other tools and techniques that can be applied to provide new approaches and opportunities for learning and teaching. Many of these support visioning, alternative approaches to problem identification and solving, and practical ways to involve others in creative processes. See Futurelab's bank of collected tools and resources at:

www.futurelab.org.uk/projects/why_dont_you

Edward de Bono is one of a number of renowned thinkers suggesting a wide array of techniques and materials for stimulating innovative approaches and creative ideas.

www.edwdebono.com

www.debono.org/main.html

For concise overviews of alternative approaches to education, see:

Carnie, F (2002) *Alternative Approaches to Education: A guide for parents and teachers.* Routledge Falmer.

Schome also provides a useful overview to alternative educational approaches. Visit:

schome.open.ac.uk/wikiworks/index.php/Educational_approaches

5. LEARNING AND PLAYING OUTDOORS

Beginning the process of designing or redesigning an outdoor play or learning space can be a daunting one. However, there are a range of organisations that specialise in this area, and a number of resources are listed below that may help your endeavour, as well as other materials to inspire creative and innovative thinking.



The importance of play and outdoor learning

There is a wealth of evidence of the wide and varied benefits arising from outdoor learning and play⁵⁴ and a range of organisations and policy documents that promote young children's engagement, enjoyment and learning outdoors. In 2006, the DfES published its Learning Outside the Classroom Manifesto⁵⁵ focusing on the "use of places other than the classroom for teaching and learning" and stressing the need to provide more meaningful learning through direct experience with the world outside the classroom. It also recognises this can and should happen within the school day, before and after school, during holidays and in a range of different contexts and situations. The manifesto outlines that learning is more than merely the acquisition of certain knowledge and information; and that learning outside the classroom is one vehicle to support the development of young people in both formal and informal ways in school grounds, the local environment, local community spaces, places further afield, residential spaces and so forth. The manifesto pledges state the Government's intent to:

- provide all young people with a wide range of experiences outside the classroom, throughout their education
- make the case for learning outside the classroom, so that there is widespread understanding and acceptance of the unique contribution these experiences make to young people's lives
- offer learning experiences of agreed high quality
- improve the quality and availability of training and professional development for schools and the wider workforce
- support schools, early years settings and local authorities to enable them to manage visits safely and efficiently
- provide schools, early years settings, local authorities and the wider workforce with easy access to information, guidance and resources
- identify ways of engaging parents, carers and the wider community in outside-the-classroom activities.

This document outlines the importance of developing engaging and stimulating play and learning spaces to support the emotional, physical and social well-being of young people within their schools and communities.

Play is a crucial element in supporting children's health, development and well-being and a means through which they experiment, develop their abilities, get creative and explore the world around them. Effective play enables children to explore and create rules and understandings; develop resilience; be active; be creative and imaginative; practice new skills; learn about risks; stimulate their senses and build friendships and relationships. Play can contribute immensely to children's enjoyment of childhood, offering a place of sanctuary and also providing a therapeutic function by helping them to deal with emotional circumstances and issues that can occur in their lives.

Children's right to play is ratified within the United Nations Convention on the Rights of the Child (UNCRC), with Article 31 stating:

- Parties recognise the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts.
- Parties shall respect and promote the right of the child to participate fully in cultural and artistic life and shall encourage the provision of appropriate and equal opportunities for cultural artistic, recreational and leisure activity.

A range of Government policies and initiatives promote the importance of play and they have highlighted its centrality in delivering the Every Child Matters agenda. 'Fair Play: A consultation on the play strategy'⁵⁶ sets out the value Government places on play, whether in schools, public spaces, or through community provision, highlighting the need for play to be an embedded, sustainable activity within society.

54. See for example: Rickson, M, Dillon, J, Teamey, K, Morris, M, Choi, M, Sanders, D and Benefield, P (2004). A Review of Research on Outdoor Learning. Field Studies Council. NFER and Kings College London

55. DfES (2006). Learning Outside the Classroom Manifesto. London. Crown

56. Can be found at: www.dcsf.gov.uk/publications/fairplay/downloads/7567-DCFS-Fair%20Play.pdf

Fields in Trust (FIT) (formerly the National Playing Fields Association)⁵⁷, a charity that helps safeguard and improve outdoor play spaces, produced the 'Best Play' guide⁵⁸ in partnership with PLAYLINK⁵⁹ and the Children's Play Council⁶⁰. This publication describes how young people benefit from a range of play opportunities and highlights seven key objectives that should inform any design of play spaces and inform the basis against which play provision can be evaluated. The objectives are:

- the provision extends the choice and control that children have over their play, the freedom they enjoy and the satisfaction they gain from it
- the provision recognises the child's need to test boundaries and responds positively to that need
- the provision manages the balance between the need to offer risk and the need to keep children safe from harm
- the provision maximises the range of play opportunities
- the provision fosters independence and self-esteem
- the provision fosters children's respect for others and offers opportunities for social interaction
- the provision fosters the child's well-being, healthy growth and development, knowledge and understanding, creativity and capacity to learn.



Play England⁶¹ offers advice, case studies and examples of projects where outdoor environments have been designed to offer free and inclusive play spaces. Documents such as 'The Charter for Children's Play'⁶² highlight commitments to developing good learning spaces, and through the Design for Play⁶³ guide, Play England sets out 10 key principles, which can further inform their design.

According to this guide, successful play spaces:

- are 'bespoke'
- are well located
- make use of natural elements
- provide a wide range of play experiences
- are accessible to both disabled and non-disabled children
- meet community needs
- allow children of different ages to play together
- build in opportunities to experience risk and challenge
- are sustainable and appropriately maintained
- allow for change and evolution.

Lackney⁶⁴ offers some other more specific advice around the design of outdoor space.

"Create spaces outside and adjacent to the building on site, or on neighbouring sites, that mirror learning space within the building. Locate outdoor play and activity areas on the south of the building to catch as much sun and light as possible, especially in the winter, spring, and fall months. To maximize the chance of year-round use of parts of the outdoors, create favourable microclimates by protecting outdoor activity areas from prevailing winter winds and from the extreme summer sun while allowing winter sun to penetrate. As much as possible, learning environments should allow for a variety of learning activities and

57. www.fieldsintrust.org

58. NPFA (2000). Best Play. What play provision can do for children. London, Children's Play Council (www.playengland.org.uk/resources)

59. www.playlink.org

60. Children's Play Council has been superseded by Play England: www.playengland.org.uk

61. www.playengland.org.uk

62. Can be accessed at: www.playengland.org.uk/resources/charter-for-childrens-play.pdf

63. www.playengland.org.uk/resources/design-for-play.pdf

64. Lackney, JA. Educational Design Principle No. 32: Establish a variety of outdoor learning environments. In 33 Principles of Educational Design. School Design Research Studio (schoolstudio.engr.wisc.edu/33principles.html)

experiences not available indoors such as nature trails, gardens, exploratoriums, fields, forested areas, ponds and other natural outdoor learning settings. In school settings where land is not available, or funds do not allow, the school might take advantage of the local community's existing neighbourhood resources such as parks, public space, walking tours, and community and business establishments.

Outdoor activity areas for younger learners can be modelled after a series of interconnected developmentally appropriate back yards, with resource-rich activity pockets zoned appropriately and linked by clear circulation which overlooks. Provide for a diversity of activities (i.e., not only gross-motor play, but also reading/listening, gardening, and fantasy play).

Outdoor space can be used for more than simply "burning off energy" before the real studying begins inside. Outdoor settings are often a missed opportunity for learning and can be a valuable resource and laboratory for exploratory learning not possible in built environments."

There are a number of commentators and organisations who not only believe that play is an essential and often overlooked element of children's lives, but also believe that involving young people in the design of play spaces and environments can be an essential element in children's development. For example, Learning through Landscapes⁶⁵, the national schools ground charity, specialises in supporting the development of enquiry-based environments that can be co-designed and nurtured by children. It provides a wealth of evidence to show that well-designed, enquiry-based spaces can have positive effects, such as improving pupil behaviour, reducing bullying, promoting positive attitudes to learning, improving social interaction and increasing parental and community involvement.



White and Stoecklin⁶⁶ (1998) also identify the need for participatory design of outdoor spaces and play areas. From their perspective, having both children and adults contributing to the design process is essential. They argue that teachers' input is necessary for them to take ownership and encourage links between indoor and outdoor learning; that parents need to be involved so that they get a better understanding of how 'messy play' can support their child's development; that maintenance staff should participate so they can provide appropriate support for the use of the space as it was intended; but most of all that learners' input is supported because it assures that any space becomes special to them, and moreover, when supported effectively through a participatory design process, children often design spaces very different to those designed for children by adults alone.

Whilst the task may seem daunting, there are numerous sources of support to increase understanding and provide evidence, examples, advice and guidance around the design of outdoor learning and play spaces. The specific aims, space, opportunities and resources available will have a significant impact on the direction of outdoor play and space design. Below are just a few of the multitude of excellent organisations, publications and references that might be useful in supporting the development of outdoor play and learning space projects, whatever the chosen direction.

65. www.ltl.org.uk

66. White, R and Stoecklin, B (1998). Children's Outdoor Play and Learning Environments: Returning to nature. Can be accessed at: www.whitehutchinson.com/children/articles/outdoor.shtml

OTHER USEFUL RESOURCES

London Play works to promote accessible, inclusive and quality play opportunities within the capital. Its site offers policy documents, links, case studies and a wealth of other inspiring resources to support the development of good play spaces in a range of contexts and environments.

www.londonplay.org.uk

Play England promotes access and opportunity for free, inclusive and local play provision and play space for all children and young people in England.

www.playengland.org.uk

The **Free Play Network** provides information, support, best practice guidance, an image gallery and links to promote better understanding of the need for better play opportunities for children. By joining the Free Play Network you have access to a range of individuals and organisations that promote and support free play opportunities for children.

www.freeplaynetwork.org.uk

PLAYLINK is a multi-faceted independent play and informal leisure consultancy that covers aspects of planning, design, policy, strategy, local engagement, fundraising organisational development. Its site has a good selection of case studies and an interesting photo exhibition. It has a focus on delivering sustainable benefits to young people and local communities through 'on the ground' work.

www.playlink.org

Department for Education and Skills (DfES)

'Primary Ideas: Projects to Enhance Primary School Environments'. London, TSO. This publication includes a 'toolkit' of some design principles, creative ideas, case study projects and links to both national and international projects that can inspire good outdoor designs.



The Children's Play Information Service

(CPIS) is a national library and information service on children's play, funded by the DCMS. Managed by the National Children's Bureau, it provides an enquiry service and a reference library, with a range of factsheets available from its website. A good resource for those looking for designers and architects to support their play space design, as well as offering articles and information to inspire thinking and ideas.

www.ncb.org.uk/library/cpis

Fields In Trust (FIT) (formally NPFA) - is the only independent UK-wide organisation dedicated to protecting and improving outdoor sports and play spaces and facilities.

www.fieldsintrust.co.uk

Playday is a national campaign is committed to achieving the full implementation of the UNCRC Article 31 and ensure all children in the UK can play by encouraging their participation in locally organised events and activities.

www.playday.org.uk

United Nations Convention on the Rights of the Child.

Can be accessed at:
www.unicef.org.uk/youthvoice/pdfs/uncrc.pdf

Outdoor Learning Environments – National Clearinghouse for Educational Facilities offers a useful resource list of links, books and journal articles on the design, construction and maintenance of school grounds to support and enhance a school's educational objectives. See edfacilities.org/rl/outdoor.cfm. For further information on establishing other outdoor learning environments also visit:
www.edfacilities.org/rl/playgrounds.cfm
www.edfacilities.org/rl/landscape.cfm

The Landscape Institute is the Royal Chartered body for landscape architects, professionals who inspire people to expect the best from the natural and built environments. The site offers access to a specialist library of resources and a public enquiry service to members.

www.landscapeinstitute.org

OPENspace is the research centre for inclusive access to outdoor environments.

www.openspace.eca.ac.uk

Snug and Outdoor is one of a number of organisations that incorporate aspects of co-design into their approach to develop more dynamic and imaginative playgrounds.

They involve children and adults at every stage of development and work closely with schools, architects, contractors and engineers, utilising some less than 'traditional' techniques in doing so and offering interesting insights to help children and adults rethink what is possible. This type of approach means that learning occurs in the design process as well as through the interaction with the final output.
www.snugandoutdoor.co.uk

The RBS SuperGrounds Awards community programme is delivered through Learning through Landscapes and aims to help around 900 primary schools worldwide in transforming existing school grounds into attractive and stimulating places where children can learn and play in safety. The programme has also developed a useful 'Playground Planner' and associated activities that can support initial thinking and structuring during development and design.
www.ltl.org.uk/schools_and_settings/programmes/all-programmes.htm?t=1&page=1&item=58

The International Play Association (IPA) is a world-wide, non-governmental organisation providing an inter-disciplinary forum for discussion and action and offering a number of resources and links to information to promote children's right to play.
www.ipaworld.org/home.html

The Association of Play Industries (API) is the lead trade body within the sector representing the interests of manufacturers, designers and distributors of both indoor and outdoor play equipment and areas. Its site offers a range of links, information on products and services, case studies and news and events relating to children's play areas.
www.api-play.org

Landscape Structures is one of a number of providers of innovative playground equipment, offering some interesting designs and creative play experiences for children that might provoke ideas for those thinking about play space design.
www.playlsi.com

Inflatable Play Manufacturers Association (IPMA) is a trade body representing the interests of manufacturers of inflatable play equipment.
www.ipma.uk.com



Tim Gill – Rethinking Childhood – a series of books and publications advocating child-friendly communities where children are free to explore and learn.
www.rethinkingchildhood.com

Getting Serious About Play: A review of children's play. DCMS (2004). London, Department for Culture, Media and Sport

Best Play: What play provision can do for children. NPFA (2000). London, Children's Play Council.
www.playengland.org.uk/resources

Managing Risk in Play Provision. Play Safety Forum (2002). London, Children's Play Council.
www.playengland.org.uk/resources

The Complete Playground Book. Brett, A, Moore, RC and Provenzo, EF Jr (1993). New York: Syracuse University Press

6. OUTDOOR PLAY AND LEARNING PROVISION OUTSIDE THE CLASSROOM

When trying to think creatively about outdoor learning and play spaces, it is useful to think about spaces other than school grounds to inspire ideas and designs for playgrounds and outdoor learning spaces, giving consideration to the different types of play and learning that occur in less formal settings. For example, Tai et al (2006)⁶⁷ give examples of sustainable designs of music gardens, barnyard settings, memorial gardens and others to demonstrate the diversity of spaces that are important to children's development. Exploring the vast range of examples of play spaces, resources and environments that children inhabit and interact with, and seeking inspiration from home environments, gardens, farms and virtual spaces can all provoke ideas generation.

This section offers a small number of examples of spaces that have been designed by, with, and for children and young people in community and informal settings and in previously underutilised spaces, which illustrate the breadth of potential approaches to designing outdoor experiences for children. Clearly, there are far more possibilities than it is possible to outline here but the examples below provide a starting point for reconsidering how and what type of play and learning spaces might be designed or utilised.



Designing a new learning and/or play space can offer opportunities to make significant advances around pedagogical aims, practices and relationships, or to integrate elements within school or wider community spaces that support other agendas, such as Every Child Matters. It could also represent an opportunity to embed learning, approaches or indeed extended services and other provision into day-to-day aspects of school life. The Government's definition of an extended school⁶⁸ is one where provision of services and activities is offered by the school to meet the needs of pupils, families and wider communities. These can be integrated on site and within 'traditional' school hours and days, or before and after school. Any aspect of school design should consider how these wider services might be incorporated or linked to, as well as what relationships with other organisations, individuals and the wider community might be formed and what other spaces may be used to provide better environments and experiences for children.

A number of established organisations and initiatives already provide opportunities for play and learning in non-school settings. For example, the Forest Education Initiative (FEI)⁶⁹ seeks to increase the understanding and appreciation amongst children and adults of the environmental, social and economic potential of trees, woodlands and forests. Forest Schools⁷⁰ similarly offers outdoor learning experiences in local woodland environments, which aim to provide practical and engaging tasks that can help develop intrinsic motivation, sound emotional and social skills and greater self-awareness. Forest School leaders work with children, initially on projects run from their own grounds, gardens or playing fields, which allow children to become comfortable with an outdoor approach to education and play, before moving to woodland settings and undertaking activities that are aimed to foster trust, self-exploration and to develop a more child-led outdoor curriculum.



Other initiatives and organisations also promote the involvement of young people in outdoor learning activities. The Federation of City Farms and Community Gardens⁷¹ works with a number of consortia and organisations, and is integral to numerous Government initiatives that promote outdoor learning, sustainability and healthy lifestyles and communities. It works in partnership with a number of other key initiatives and organisations, which offer further opportunities for outdoor learning and engagement with the environment. For example, it partners with: Growing Schools⁷² - a DCSF-run initiative to enhance learning and teaching through farming and growing; The School Farms Network (SFN)⁷³ - a registered charity offering support and information to promote community-managed farms, gardens, allotments and other green spaces and school farms across the UK; Access to Farms (ATF)⁷⁴ - a partnership which aims to improve the opportunities and quality of educational access to farms by schools; The Allotments Regeneration Initiative (ARI)⁷⁵ - which offers advice and support for regenerating allotments and sharing good practice; Sustainable Production in Active Neighbourhoods⁷⁶ - funded by the Environmental Action Fund - seeking to improve support and information services to community groups to enable local people to become involved in food production and consumption; Every Action Counts (EAC)⁷⁷ - an initiative for community and voluntary groups aiming to bring people together to take practical steps to improve their local environment through simple actions.

67. Tai, L, Taylor Haque, M, McLellan, G and Jordan Knight, E (2006). Designing Outdoor Environments for Children: Landscaping schoolyards, gardens, and playgrounds. MacGraw-Hill

68. www.teachernet.gov.uk/wholeschool/extendedschools

69. www.foresteducation.org

70. www.forestschoools.com

71. www.farmgarden.org.uk

72. www.growingschools.org.uk

73. www.farmgarden.org.uk/school-farms-network.html

74. www.farmgarden.org.uk/atf

75. www.farmgarden.org.uk/ari

76. www.farmgarden.org.uk/span.html

77. www.farmgarden.org.uk/every-action-counts

A more holistic approach to the provision of outdoor play and learning space may require not only taking advantage of a range of initiatives and organisations that support learning in more diverse locations, but also working with the local community to transform or design spaces that provide mutual benefit other than the school site.

The Calthorpe Project⁷⁸



Calthorpe Project

The Calthorpe Project is a unique building integrally linked to a small, multi-use green space in London's King's Cross. Created from wasteland, it has now been redesigned and transformed into a lovely garden and space that offers varied activities and services for children and adults, ranging from gardening, an under-5's drop-in, and ESOL classes with a crèche. The site also includes a one-acre organic community garden for local people to tend and a floodlit sports pitch for hire.

Brainstorming potential relationships and alternative and additional spaces for development prior to embarking on design is a valuable process, in order to explore more ways to provide stimulating spaces and experiences other than within the school grounds. It is worth utilising techniques such as developing an 'asset map'⁷⁹ of the social and cultural resources within a local community, which identify the range of people, associations, institutions, physical and economic assets that might support you in developing better or more comprehensive outdoor play and learning opportunities.

⁷⁸. www.calthorpeproject.org.uk

⁷⁹. Asset maps have been applied usefully in a number of contexts. For more information about asset maps, see for example: The ABCD Institute (2005). *Discovering Community Power: A guide to mobilising local assets and your organization's capacity*. Written in cooperation with the WK Kellogg Foundation (www.northwestern.edu/ipr/abcd/kelloggabcd.pdf)

The Spacemakers project: Young people designing a public space



LOCI Design

Spacemakers was a two-year project in which young people designed a public space within their own community. The project sought to involve disenfranchised youth in shaping their own environment, improving their self-esteem and fostering a sense of ownership. The young people took part in courses around the design of public spaces, learning about regeneration issues, public speaking, planning and negotiating, as well as learning about and utilising a range of participatory techniques and tools. They worked alongside designers, architects, designers and educators, to co-design a stainless steel seating, shelter and play area in and for their local community.

For more information visit:

www.bristol.gov.uk/ccm/cms-service/download/asset/?asset_id=27736157
www.publicartonline.org.uk/archive/casestudies/spacemakers



LOCI Design



Play England⁸⁰ recognises the numerous and varied examples of practice and strategies in operation in different sites offering free and inclusive play provision for children: from organised activities to unstructured to free play; from open to regulated access; in rural and urban locations; as part of school or extended school services to community locations and partnerships. CABE is another organisation that offers advice to local play partnerships. The CABE Space project led to a publication which provides case studies examples and ideas around urban space design projects where young people were directly involved in the design process in order to foster a sense of ownership and responsibility that brought benefits to whole community⁸¹. In 2008, a follow-up study was undertaken in which project leaders identified that engaging young people and the local community was the single

most important and successful aspect of the project and that some of the young people are still involved with the project⁸². There are numerous examples, such as the one below, that highlight the benefits of involving young people in the design of shared spaces outside the school.

My City Too⁸³ is a campaign created by Open House⁸⁴. It works with young people - ambassadors aged 12-19 - across London to inspire them to take a more active role in the design of spaces, highlighting the importance and value of involving young people in the design of spaces they will inhabit. Whilst still relatively early in its development, young people have already created a 'Teenagers' Manifesto for Better Spaces in the Capital', which offers a useful insight into some of the issues around design that are important to them.

80. www.playengland.org.uk

81. CABE (2004). What would you do with this space? Involving young people in the design and care of urban spaces. Can be downloaded at: www.cabe.org.uk/default.aspx?contentitemid=482

82. The follow up report can be found at: www.cabe.org.uk/default.aspx?contentitemid=2720

83. www.mycitytoo.org.uk

84. www.londonopenhouse.org

My City Too: Teenagers' Manifesto for Better Spaces in the Capital

- 1. Let us have our say and young people will be fully involved in planning, designing and decision-making in their city**

We can't vote – yet – but it is our city too! We can help improve places and spaces and we'll use and respect them more if we've been asked.

- 2. We want every inch of the capital to be used and not left derelict**

Even if unused spaces can't be redeveloped immediately, we'll help you find new uses for them; when left derelict they are dangerous and make our area look and feel abandoned.

- 3. We need sheltered places to sit and to meet people that are better designed and well looked after**

Quality design and materials that are well looked after tell our communities that we are worth investing in.

- 4. We need broader pavements and car-free streets**

Pedestrian areas need to be planned and designed to be safer for everyone.

- 5. We want lively streets with better and more creative lighting**

Busy, well-lit areas will help us and everyone else feel safe on our streets.

- 6. We want every generation to have their own corner in public spaces, acknowledging their needs and making them feel welcome**

Separating activity zones for small children, teenagers, adults and senior citizens through soft zoning (floor markings, tree fences, etc) will ensure everyone feels happy about sharing the same public space.

- 7. We want play and performance areas for young people that are at the heart of shopping centres, main streets and parks**

Design places where we can meet each other and be seen doing something worthwhile while feeling safe.

- 8. We want playful signs, bright colour schemes and changing public art**

Give our local areas a stronger identity and make them places that we are proud of.

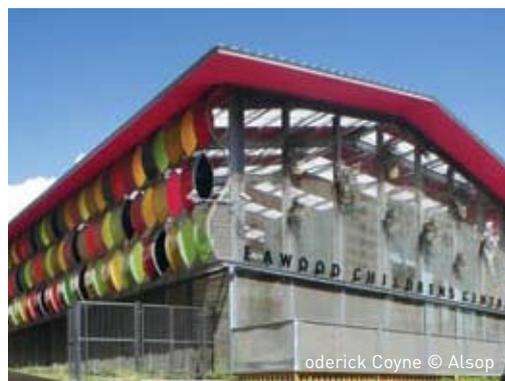
- 9. We want trees, pools and fountains everywhere**

Greenery and water features have a calming effect and make places feel more welcoming.

- 10. We want everyone to be able to move around London**

Provide ramps and lifts in all public spaces so everyone can be part of the capital.

There will be potential for some schools to explore the link to other community spaces, organisations and schools through the various capital investment programmes, other initiatives and partnerships. It is worth investigating pre-existing schemes, community facilities and other partnership and sponsorship opportunities, and considering how resources and skills might be shared more effectively with others to design new spaces, or redesign existing non-school environments. Other organisations that provide extended services for children may also be useful partners in developing play and learning opportunities elsewhere that complement those offered within the school grounds.



Fawood Children's Centre in Harlesden, for example, is a highly versatile space that provides accommodation for a range of uses.

The Container City^{TM85} system uses linked shipping containers that are combined to create a variety of spaces to suit user needs. Using 20 containers set over three floors, new spaces for a nursery, office space and an adult education centre were created, which were housed under a brightly coloured meshed shell.

There are an increasing number of projects offering different space for play and learning for children housed on 'mixed service' sites. These not only include areas more traditionally concerned with extended services but also those which offer

85. For more information visit the Container City website: www.containercity.com

community services, housing, office space and shopping, many incorporating outdoor spaces.

This highlights that outdoor play and learning provision can occur in many spaces. To create a more holistic and comprehensive provision for children requires greater joined-up thinking, cooperation and liaison between the various spaces and organisations. If good links and coherent provision are provided across a local area then it is more likely that not only will children have more opportunities and better experiences but also that such connections provide schools with greater opportunities to diversify provision and curriculum pathways, personalise experiences to individual needs, and provide greater economies of scale for doing so. For instance, it is not beyond the realm of possibility that each school in the local area could provide different, specialised or focused play provision catering for different learning and play needs, and that each child from all of those schools would get regular opportunities to experience each different space and provision. This might be complemented further through their experiences in different community spaces, those which provide extended provision, and the various local schemes that support learning outdoors. School-based play and learning resources could also be experienced by others as part of a wider community provision. Private sponsorship and public-private partnerships could also be sought to fill any perceived gaps in provision that might be identified.

The opportunities for outdoor play and learning have always occurred in different sites, but scaled investment programmes mean that there are new opportunities to make more coherent connections between inside and outside school provision and across institutions. The inside-outside metaphor can also be taken in a less literal sense. Many new buildings are being created with outdoor spaces located indoors, that is, open garden and play areas housed within the outer exterior of buildings.



oderick Coyne © Alsop



Alan Lei © Alsop

Conversely, other spaces also offer inside spaces or covered spaces in outdoor areas. For those who are planning partial or full scale redesigns, this mixture of 'outside-in, inside-out' experiences can blur the boundaries and create more continuity between what happens outdoors and what happens inside the school, with the psychology of the space prompting different behaviours and relationships to arise.

This section has sought to give ideas and examples from, and for, provision that occurs other than in the school. It highlights the need to consider existing spaces, community resources, linking with other schemes and pooling resources to provide more comprehensive and holistic learning and play opportunities. There is a wealth of other information, examples and support in this area, and a few key resources are identified below.

The next section looks at how new technologies might be used to enhance outdoor provision and children's experiences by transforming what outdoor learning and play spaces are and what they might be perceived to be.

OTHER USEFUL RESOURCES

The National Clearinghouse for Educational Facilities is one of the richest resource lists for links to organisations, books, guidance, journals and articles on the design, construction, and maintenance of school grounds to support and enhance a school's educational objectives. It has a specific resource list on school grounds and outdoor learning environments and provides a great basis for further research in this area.
www.edfacilities.org

The Children's Play Information Service hosts a collection of play strategies from around the country. It also has a list of the play associations around the country.
www.ncb.org.uk/library/cpis

TeacherNet provides a range of information relating to policy and advice on setting up extended services.
www.teachernet.gov.uk/wholeschool/extendedschools

The Community Spaces Programme is a £50 million lottery-funded open grants scheme providing funding and support to community groups across England. The scheme aims to help groups create or improve green and open spaces to improve the quality of local neighbourhoods.
www.community-spaces.org.uk

Groundwork delivers programmes in partnership with a wide variety of organisations to support communities in need with the aim of improving the quality of people's lives and the places where they live, work and play. It aims to develop more sustainable communities that respect the local and global environment.
www.groundwork.org.uk



Learning Through Landscapes

Local Food is a £50 million programme that will distribute grants to a variety of food-related projects to help make locally grown food accessible and affordable to local communities.
www.localfoodgrants.org

Allotment Growing – Garden Design: Landscape Gardening. Personal site of John Harrison has articles, a diary, images and links to other resources and organisations involved and interested in allotments and landscape gardening.
www.allotment.org.uk

Cities for Children: Children's rights, poverty and urban management. Bartlett, S, Hart, R, Satterthwaite, D, De La Barra, X and Messair, A (1999). Earthscan, London in association with UNICEF, New York, 1999.
web.gc.cuny.edu/che/cerg/publications/books/books_cities_for_children_index.htm

7. NEW TECHNOLOGIES TRANSFORMING OUTDOOR LEARNING AND PLAY SPACE

New technologies can and do enhance a number of spaces and places; however, with the exception of a number of special schools, the incorporation of new technologies into outdoor spaces in school settings is relatively limited. Clearly incorporating new technologies into outdoor learning and play spaces should not be undertaken merely for the sake of it, or to give the appearance of modernisation, but instead will be best and most appropriately applied when it significantly contributes to and enhances the wider learning aims and play experiences and activities for young people.

Examples of how new technologies can enhance play and learning spaces are, however, plentiful and varied. The examples of technologies and environments outlined below should give you some ideas about the types of technologies that might be appropriate to enhance your outdoor space or aspects of it, and how they can support and promote the types of activities you want to encourage.



Mobile technologies

There are numerous types of mobile devices, such as mobile or handheld computers; communication devices such as mobile and cordless phones, pagers, walkie-talkies; games consoles and personal navigation devices; media recorders such as digital video cameras, voice recorders, media players and so forth. These can be used in interesting and novel ways to enhance the outdoor learning and play experiences of young people, through their use in communication-based activities, information and data gathering, role play and the like.

Using mobile devices for technology-enhanced outdoor learning and play, for example, can be seen through the use of portable computers to collect data sets, using images, sounds and video to help children create and support them in interpreting their outdoor experiences and comprehending abstract information. They can also be used to enable children to have a 'voice' by helping them to express their interests, concerns and opinions in alternative ways, or when used as a tool for young children to initiate enquiry. Participation Works, a collaboration of agencies committed to children and young people's participation, has recently published a 'How To' guide that outlines how multimedia can be used as a dynamic tool to engage children and young people in decision-making processes⁸⁷.

Recent developments in editing software⁸⁸ can further assist their narrative development and storytelling capabilities and help them convey information. Developments in social software⁸⁹ can also help place children in a more active roles as authors and content creators and enable them to collaborate with others in new ways. Digital cameras, for example, enable images to be taken, and various software packages⁹⁰ allow them to be manipulated in different ways, including the addition of tags to photos. Tagging is essentially the ability to add keywords to describe and add further visual data to the image. Other software can enable 'reading and writing' to these keywords,

meaning that the text or caption can be searched for automatically and reused through online photo sharing sites such as Flickr⁹¹. Whether using pre-defined or self-created tags, children can convey more about the image, adding a further dimension for interaction and discussion with others, and incorporating into visual displays. Such displays could be used to support discussions around the design of a space, or could be incorporated and integrated into the outdoor space. Similarly, digital video and related software can be used as a tool for participation and expression. The process of creating a video can be also be a great learning experience. Davies (2008)⁹² outlines six steps to creating online video in his practical guide, which offer opportunities for various skills acquisition for young people beyond the technical and media literacy that is developed as a result:

- _ create a story board
- _ find (or create) the footage
- _ transfer and convert
- _ edit your video
- _ upload your video
- _ embed your video.

Again, video can be published, shared and discussed, offering the opportunity for children to link to other individuals and organisations interested in the same issues as them. Final outputs can convey the meanings and thoughts of children in dynamic and interesting ways, and through the use of visual display technologies can be incorporated into and enhance outdoor play and learning spaces.

Other mobile devices and software can be used not only to collect and reformat data for sharing with others but can also be used to overlay virtual worlds onto physical landscapes. Mediascapes⁹³ are a potentially powerful way of enabling children to engage with the world around them and explore and interact with

87. www.farmgarden.org.uk/every-action-counts

88. For instance, Nokia Lifeblog, available for download europe.nokia.com/photos is a multimedia diary and website tool that collects photos, videos, sound clips and texts messages that users create or receive on their mobile phones. It organises all the contents in a timeline that can be downloaded on a PC and edited.

89. See Futurelab report about social software and learning, available at

www.futurelab.org.uk/resources/documents/opening_education/Social_Software_report.pdf

90. Many editing software packages are available for free on the web, such as Google's Picasa (picasa.google.com) or Flickr's web-based editing suite (www.picnik.com).

91. www.flickr.com

92. Tim Davies (2008). Six Steps to Effective Online Video. Created for Oxfam Video Change (www.timdavies.org.uk)

93. HP has developed specific mediascape technologies: www.hpl.hp.com/mediascapes

the landscape in new and exciting ways. Using PDAs, GPS units, and special software⁹⁴, it is possible to create and view compositions of sounds, images and video placed outside. Beginning with a map of the area that is to be explored and importing it into the software on a computer, 'regions' can be attached that can then be filled, or tagged with, images, video and sound files. These media-rich maps can then be transferred to portable devices and the mediascapes can then be experienced outdoors when the GPS unit recognises your position in the outdoor space.

Create-A-Scape is a website that provides clear instructions and resources aimed at schools and other learning institutions to enable the creation of mediascapes, or digitally-enhanced outdoor learning experiences.

Go to: www.createascape.org.uk

Mediascapes offer a different way of interacting with the outdoor environment and can be created for a number of purposes. These range from creating basic guided tours, providing structured exploration of factual information in situ, learning from, with and in the environment, developing outdoor games with clues and involving other artefacts, through to more open learner-devised and created content. In this sense they are versatile in their application to the space, and new mediascapes can be created constantly and overlaid onto any school grounds or other outdoor space.

This is one example of new and emerging locative technologies that are based on geo-tagging, as a means of adding geographical

identification metadata to media to provide dynamic outdoor experiences.

Another example is Futurelab's Mobimissions⁹⁵, in which players engage with their environment and community in new ways, creating missions on their mobile phones, which they can then 'drop' in locations around the city. The locations are defined by the mobile 'cells', that is, the geographical areas comprised in a mobile phone network, and the missions are activated when someone with the Mobimissions software loaded on their mobile walks into a cell.

Technology creating sensory environments

Multi-Sensory Rooms (MSRs) and spaces are largely used as therapeutic environments, often to re-create conditions that facilitate relaxation and promote activity and interactivity between individuals and various stimuli. Much depends on the particular aims relating to the specific needs of the end-users. Such technologies are usually used alongside other non-digital artefacts and can include other features such as tactile and varied surfaces, textures and fabrics, mirrors, mirror balls, ball pools, swings, water beds and games, to name but a few.

Many of the technologies can also readily be incorporated into outdoor space to create multi-sensory interactive environments. Various natural sensory stimuli may already exist and can be enhanced significantly through creative landscaping and design. New technologies can potentially further enhance the sensory aspects of an outdoor space and increase interaction, stimulation and feedback.

For example, lighting can be used to: flood areas with colours and create moods; enable children to change and control the environment by using switches and triggers; affect the 'feel' of an environment in response to children's preferences, or in response to other stimuli or changes in the environment via programming software and sequencers. Fibre optics can be used in sprays and other designs that change colour, pattern and mood. Proximity, colour, speed or accelerometer and compass sensors can be used to enable objects to 'come to life' and react to children's behaviours. Projection and screen-based technologies can: provide background lighting, images or effects on walls, ceilings and floors; help represent moods and themes; convey information, via text, images and video; be used for dynamic displays;

94. See, for instance, www.mobilebristol.com/flash.html

95. www.futurelab.org.uk/projects/mobimissions



Sensory Technology

offer sensory stimuli, especially if utilising audio. Ultrasonic beams⁹⁶ and vibro-acoustic equipment can enable children to interact with equipment to convert movement into electronic sounds. Electronic music or artefacts, such as synthesisers, drums and objects and surfaces that emanate sound on touch, can increase interactivity levels and learning in the environment; sequencers enable programmed and programmable music and sounds, which can respond to triggers; and radios, CD players, MP3 players, speakers, amplifiers and other sound equipment can be used to enhance the environment and atmosphere or relay information.

More specialised technologies such as bubble machines and columns, vibrating surfaces, conveyors, infinity tunnels and a range of assistive or adaptive technologies could also be incorporated, depending on the space and needs of pupils.

Case study

'Banabi' is an audio-visual pedagogic gaming experience for young children. The game uses children's positions on the floor as input to control the game. The position is tracked by a webcam, and everytime the child steps onto the playground little creatures are projected onto the floor and sounds are produced; these react to the child's position, stimulating play and movement to work out an audio-visual sequence.

www.we-make-money-not-art.com/archives/2005/01/interactive-pla-1.php

96. See for example: www.soundbeam.co.uk/dance/video-clips.html

In terms of designing spaces with objects and artefacts that can increase activity and interactivity, incorporating designs with MIMO (Multi Input Multi Output) characteristics is one approach that can be taken. Utilising various sensors, pressure pads and other triggers can cause the artefact to react, which invariably causes reactions amongst children as they attempt to work out which of their actions caused this occurrence or chain of events. As Song⁹⁷ (2008) suggests, "input-driven electronic devices support interactivity by allowing communication between the source and the user". Furthermore, if these are used in conjunction with programming environments⁹⁸ that enable reconfiguration, then the artefact potentially becomes more versatile and sustainable in the degree to which it can be used and reinterpreted by the children who will use it over time.

The general ambience of a space can be altered dramatically using relatively simple projection, display and signage technologies and light-emitting surfaces. However, ambient intelligent spaces incorporate interactivity between artefacts and displays and humans, which, in turn, change the ambience of the environment. It is argued that in this sense, the spatial flexibility and versatility is enhanced⁹⁹.



'EnterActive' in Los Angeles, designed by Electroland, built in 2006, uses LED panels on its façade that respond to the movement of tentative visitors, and Cloud 9 Architecture's Hotel Prestige Forest to be developed in Barcelona, Spain, has an 'energy mesh' façade which conveys the amount of solar energy collected during the day by glowing in different colours at night.

⁹⁷. Song, S (2008). Shifting Paradigms: Renovating the decorated shed. Article exploring theories discussed in Robert Venturi and Denise Scott Brown's *Architecture as Signs and Systems: For a Mannerist Time* (archinect.com/features/article.php?id=75250_0_23_0_C)

⁹⁸. There are numerous programming software and environments. See for example: mindstorms.lego.com

⁹⁹. Song, op cit

Case study

Sensory garden systems featuring accessible interactive elements combining lighting, audio and water equipment have been developed for children with special needs.

Bishopswood Special School

At this school a dynamic sensory garden has been designed next to the school playground, utilising seismic sensors buried under coloured steps and stones, which are then triggered by children's feet and produce natural and amusing sounds from in-ground speakers.



James Hopkins Trust sensory garden

This garden for special needs children has been designed with a 'Whispering Wall', which forms part of a mosaic depicting the JHT kite logo with additional sensors to trigger funny and natural sound effects through 'reflection ports' recessed into the wall.



From www.magicfountains.co.uk/installations/jht.htm © Credit Here

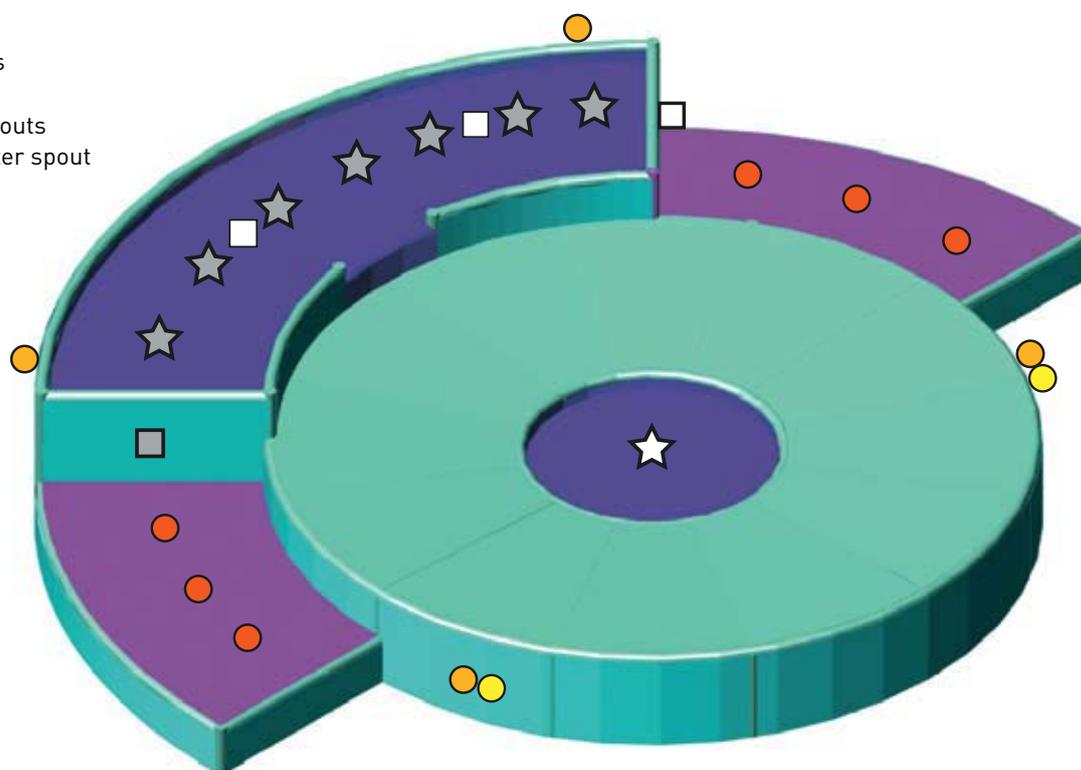
Dario Buzzini's interactive wall, developed in 2004, and Kinecity's 'Comment Wall', an idea developed in 2005, both continuously display messages and images which are input or requested by users.

Inputs (sensors)

- Sound sensors
- Proximity sensor
- Pressure pad

Outputs

- Speakers
- Lights
- ★ Water spouts
- ☆ Main water spout



Fountaineers, a partnership project between Futurelab, Stakeholder Design and Luckwell Primary School, led to the design and construction of an interactive, programmable, 'intelligent' water fountain. The fountain design incorporated MIMO characteristics and is configurable in multiple ways and programmable by children. The diagram above demonstrates how the use of lights, speakers, proximity, sound and pressure sensors are incorporated and these can be programmed via LEGO Mindstorms NXT software, with the outputs viewed through a simulator. Creating ambient environments that change in response to people's actions, reactions and moods, or can be abstract interpretations of information, is a developing area of design and is often referred to as 'ambient intelligence', which is an attempt to strike a balance between the aesthetic and informational properties of spaces.

New technologies can add much to the ambience and function of outdoor practices and the experience of children who react to and interact with them, whether these are utilised to promote play, stimulate the senses, relay information or provide flexible and reconfigurable resources that can foster a sense of 'ownership' of a place. The type of technologies, and the ways and degree to which they are used, will be mediated by various factors, such as the wider aims of the project, the needs of the children, and the practicalities of incorporating them. A contentious issue is the degree to which they can and should be used in relation to their impact on the environment. Issues of environmental, social and design sustainability will be looked at in more detail in the next section.

OTHER USEFUL RESOURCES

Special Children, April 2008, has an excellent article on the use and development of multi-sensory. Can be accessed at:

www.teachingexpertise.com/publications/special-children-1993

iMuse is a centre for research and training in the use of interactive multisensory environments for children with special needs and the elderly in long-term care based at Sunderland University.

my.sunderland.ac.uk/web/projects/imuse/ahome

Becta provides a range of guidance and advice surrounding the use of assistive and alternative technologies. Becta also provides a range of information on the types of mobile phones and other mobile devices, their functionality and issues to consider when using them in school.

schools.becta.org.uk

www.becta.org.uk

The GATEWAY Project website aims to raise awareness among young people, educators and employers relating to the variety of assistive technologies available and the resulting capabilities of people with disabilities. It offers practical, non-technical advice to potential users or information seekers and acts as a gateway to further assistive technology information.

www.gateway2at.org/page.php?page_ID=1

There are numerous market providers who offer tools and services that will give you a better idea of the full range of different multi-sensory products on offer. For example, the Technical Solutions website demonstrates the huge range of special equipment for people with disabilities (Assistive Technology).

www.tecsol.com.au/TSA-About.htm

Sensory Technology Ltd is a UK-based business that specialises in the design, manufacture, sales and installation of products and systems for the multi-sensory market.

www.senteq.co.uk

Magic Fountains is a company that designs and constructs animated, interactive, musical, programmed fountains and sensory play equipment, ranging from programmed displays to bespoke voice-activated, video-sensing, touch-control sensory play equipment for special needs. Its site contains numerous case studies and an overview of an extensive range of products.

www.magicfountains.co.uk

Tim Davies' blog has a range of interesting articles and links around youth participation and social media and some case study examples of different technologies being used to support participation in practice.

www.timdavies.org.uk

8. SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

There are numerous contested interpretations of both sustainability and sustainable development¹⁰⁰, and the terms are often used interchangeably¹⁰¹. Definitions vary depending on the perspective employed, context in which they are operationalised, issues they refer to, and the scale of issue under discussion. Whilst there are no agreed definitions of sustainability and sustainable development, it is also argued that there is possibly no need for one¹⁰² because they are emerging and evolving concepts that are defined by action at global, national and local levels and by the implications for our lives.

However, the Brundtland Commission (formally the World Commission on Environment and Development) defines sustainable development as that which "meets the needs of the present without compromising the ability of future generations to meet their own needs"¹⁰³, and similarly the DCSF defines it as "development that allows people to meet their basic needs and enjoy a good quality of life without compromising the quality of life of future generations"¹⁰⁴. Sustainability tends to suggest a stable and mutual supporting relationship between human activities and the natural world and its resources.



As well as the ecological dimension, there are other aspects of sustainability and sustainable development to consider in relation to design and planning, such as: the economic sustainability of a project; the sustainable provision of services and products; social sustainability; and the sustainability of processes and activities.

Developing critical awareness of sustainability and sustainable development amongst all stakeholders prior to any design decisions being made is crucial. It provides a valuable way for participants to learn more about global, national and local issues, which can inform wider thinking and practice. Moreover, many commentators firmly believe that participatory democracy is a fundamental prerequisite for achieving sustainable development, as the education of individuals and the modelling of sustainable practices is in itself a route to achieving more sustainable futures¹⁰⁵.

Measures and ways of evaluating design and operating performance of spaces are critical. The DCSF's Sustainable Schools Strategy¹⁰⁶ sets out the Government's approach and also where it expects schools to be by 2010 in relation to sustainability. It highlights eight interconnected sustainability 'doorways' that play a major role in school life through which schools might initiate, address or extend their sustainable school activities. These 'sustainability doorways' are:

- _ food and drink
- _ energy and water
- _ travel and traffic
- _ purchasing and waste
- _ buildings and grounds
- _ inclusion and participation

- _ local well-being
- _ global dimension.

As well as providing an overarching framework, practical guidance, ideas and links to other resources, it seeks to ensure that sustainability issues are embedded more deeply within whole-school management practices. Practically, the strategy is also a good resource for creating interest and ideas around local design in relation to an important global concept that will have an effect on all of our lives. The National College for School Leadership has also developed a toolkit¹⁰⁷ specifically aimed at school leadership teams to help them understand and focus their school activities around sustainability.

A guidance document, 'Sustainable Schools: How national recognition schemes can support your school's progress'¹⁰⁸, has been compiled by organisations that run some of the larger national schemes and programmes that can support the Sustainable Schools Strategy. Schemes including Eco-Schools¹⁰⁹, Food for Life Partnership Mark¹¹⁰, Healthy Schools¹¹¹, International School Award¹¹², RHS Campaign for School Gardening¹¹³, Rights Respecting Schools Award¹¹⁴ and RSPB Wildlife Action Awards¹¹⁵ are mapped against the eight 'doorways' in the Sustainable Schools Strategy in order to demonstrate how each one can help advance sustainable development in schools.

Sustainable Schools (SuSchool)¹¹⁶ takes a slightly different approach but offers help for schools that wish to become more sustainable through a wealth of useful resources, links, lessons plans, ideas and inspiration ideas for improving sustainability in school design, and has specific advice on developing sustainable playgrounds and outdoor spaces.

100. See for example: www.gdrc.org/sustdev/definitions.html

101. See for example: Carter, N (2002). *The Politics of the Environment: Ideas, activism, policy*. Cambridge University Press

102. See for example: Macleod, H. *Teaching for a Sustainable World*. UNESCO - UNEP International Environmental Education Programme

103. United Nations (1987). *Report of the World Commission on Environment and Development*. General Assembly Resolution 42/187, 11 December 1987

104. www.dcsf.gov.uk/aboutus/sd/index.shtml

105. Mintzer, IM (1992). *Confronting Climate Change: Risks, implications and responses*. Cambridge University Press

106. www.teachernet.gov.uk/sustainableschools/upload/Sustainable_Schools_doorways.pdf

107. www.ncsl.org.uk/sustainableschools-index.htm

108. Can be found at: www.teachernet.gov.uk/publications

109. www.eco-schools.org.uk

110. www.foodforlife.org.uk

111. www.healthyschools.gov.uk

112. www.britishcouncil.org/learninginternational-school-award.htm

113. www.rhs.org.uk/schoolgardening

114. www.rhs.org.uk/schoolgardening

115. www.rspb.org.uk/youth/makeanddo/do/actionawards/index.asp

116. www.suschool.org.uk

The Children's Plan¹¹⁷ clearly sets ambitious targets for all new school buildings to be zero carbon by 2016 and for all schools to be sustainable schools by 2020, with new builds reducing carbon emissions by 60%.

The DCSF also offers a range of resources and guidance to support schools in their approach to sustainability and how to embed core principles and practice¹¹⁸ in all areas of school life, and to help whether you are designing indoor or outdoor spaces in primary schools. The Design of Sustainable Schools report¹¹⁹, for example, presents a series of case studies aimed at professionals such as designers and local authority clients and outlines a range of available sustainability techniques which can be applied to different contexts and settings.

Some of the practical applications of a more sustainable approach in design include using: low impact materials; energy efficient resources and products; renewable materials and resources; durable materials; and recyclable and reusable materials. It also means considering how to design healthy spaces for the occupants that don't impact negatively on others, ensuring biological sustainability, considering changing services and provisions in favour of ones that are more environmentally friendly, and which reduce consumption and are energy efficient and so forth.

There are numerous design impact measures and rating systems to help give estimates of environmental impacts, which should guide any design from start to completion and for the lifecycle of its use. The DCSF has set out targets for schools based on obligations in wider policy around reducing carbon emissions and reducing energy consumption. The Sustainable Development Action Plan¹²⁰ overviews the policies and work planned in this area. The Teachernet site¹²¹ not only gives information regarding the concepts

but also has links to all the key documents in this field to support leadership teams and classroom practitioners in their drive towards sustainable design. Other publications, such as Building Bulletin 99¹²², offer non-statutory area guidelines for primary school buildings, whilst others, such as Primary Ideas¹²³ and Schools for the Future: Designing School Grounds¹²⁴ offer further information, tools and resources, which outline how you might rebuild, refurbish and use schools and school grounds in keeping with educational, recreational, social and environmental needs.

Designing adaptability and reconfiguration

There are other aspects of design sustainability that also need consideration.

Designs should consider different ways of adapting and reconfiguring space in response to changes in spatial requirements, demographics, policies, and the learner needs as core aspect of sustainability in order to maintain the cultural relevance of the space for the community that utilises, interacts with and redefines it. A number of spatial design elements identified in the literature can help us perceive how designs can be reconfigured. For example, **responsiveness** – refers to the ability to design for short term and immediate changes to the space, whether it's the agility to change environmental conditions, providing greater flexibility through moveable structures or furniture, or designing greater adaptability in semi-permanent fixtures; **diversity** – is the provision of a variety of different types and sizes of areas suited to different pedagogies, learning styles and play; **fluidity** – is how the environment on the whole flows and whether different spaces are organised and integrated in a blended way; and **partialism**¹²⁵ – is the potential to leave aspects of the design incomplete and to allow the final shape to evolve by its use¹²⁶.

117. www.dcsf.gov.uk/publications/childrensplan

118. See for example: www.teachernet.gov.uk/sustainableschools

119. DfES Schools for the Future: Design of Sustainable Schools: Case Studies. London

120. www.dcsf.gov.uk/aboutus/sd/actionplan.shtml

121. www.teachernet.gov.uk/sustainableschools

122. DfES (2006). Briefing Framework for Primary School Projects. Building Bulletin 99 (2nd Edition). TSO, London. Can be ordered from: www.tsoshop.co.uk/education/bookstore.asp?FO=1160398&ProductID=9780112711537&Action=Book

123. DfES (2006). Primary Ideas: Projects to enhance primary school environments. TSO, London. Can be ordered from www.tsoshop.co.uk/education/bookstore.asp?FO=1160398&ProductID=9780112711834&Action=Book

124. DfES (2006). Schools for the Future: Designing school grounds. TSO, London. Can be ordered from: www.tsoshop.co.uk/education/bookstore.asp?FO=1160398&ProductID=9780112711827&Action=Book

125. Taylor, L, Bracken, K, Atkinson, D, Perrotta, C (forthcoming). Exploring the Personalised Learning Landscape. Literature review for the DCSF for the Space for Personalisation Project. DEGW, Futurelab, EdisonLearning, Penoyre & Prasad

126. For a more detailed account, see: Taylor, L, Bracken, K, Atkinson, D, Perrotta, C (forthcoming). Exploring the Personalised Learning Landscape. Literature review for the DCSF for the Space for Personalisation Project. DEGW, Futurelab, EdisonLearning, Penoyre & Prasad



If a design is going to be sustainable in terms of fostering a sense of ownership amongst future cohorts of children who will inhabit that space and who will interpret and interact with it in various ways, it needs to have a degree of adaptability designed into it. Design For Adaptation (DFAD) is a methodology for achieving sustainable designs that has arisen on the assumption that many products and services become obsolete because they fail to adapt to account for numerous changes that can occur in the wider environment or society. Taking this principle into the realms of designing outdoor space with young children, it is therefore essential that spaces are dynamically designed so they can be controlled, reconfigured and adapted, not only because of the need for new cohorts to take ownership of the space and for it to reflect the changing needs and preferences of the children, but also so they can be adapted and respond to the myriad of physical, cultural, economic and environmental considerations that may arise in the future. In short, it is worth considering designing spaces for activities and functions beyond those experienced by the first users of that space, what Scott Brown calls 'wobble room' to allow for flexibility beyond the original function¹²⁷.

Decisions about sustainability have to be taken in conjunction with other decisions, such as: how to develop the sensory aspects of the design; how to create the right aesthetics; the functional and practical aspects; the way water is used, conserved and managed; the plants, flowers, shrubs, trees and wildlife included; the learning opportunities, focused play and recreational facilities and opportunities; and so on and so forth. This section offers a number of policy leads, examples of approaches and

links to help identify more sustainable designs, but the potential resources for inspiring ideas are vast, ranging from the services and approaches offered by commercial companies, to utilising features that already exist in the local community, through to ideas and beliefs emanating from the experiences of children, parents, staff and other stakeholders.

Tai et al (2006)¹²⁸ not only offer a range of advice regarding design, installation and maintenance of sustainable landscapes for children, they also overview a set of case studies of varied space designs that can inspire ideas, including a storybook courtyard, music garden, barnyard setting, nature trails, wildlife habitats, memorial gardens, and vegetable and fruit gardens.

These sorts of examples in different settings and contexts can be a rich source of information and ideas that can inspire play and learning space design in schools and incorporate aspects of sustainable design.

In terms of designing sustainable resources, it may be worth considering the concept of biomimicry. The concept is used to describe how we can learn from nature in terms of redesigning industrial systems and modern designs. Benyus¹²⁹ argues that biomimicry is a new science that draws inspiration from nature's models and imitates or takes inspiration from them, with the emphasis not on what we can take from the natural world but what we can learn from it, and suggests 'ten lessons' from nature that can inspire and be incorporated into sustainable design. These are:

- nature runs on sunlight
- nature uses only the energy it needs
- nature fits form to function
- nature recycles everything
- nature rewards cooperation
- nature banks on diversity
- nature demands local expertise
- nature curbs excesses from within
- nature taps the power of limits.

¹²⁷. See: archinect.com/features/article.php?id=75248_0_23_24_M

¹²⁸. Tai, L, Haque, M, McLellan, G, Knight, E (2006). *Designing Outdoor Environments for Children: Landscaping schoolyards, gardens, and playgrounds*. McGraw-Hill

¹²⁹. Benyus, JM (1998). *Biomimicry: Innovation Inspired by Nature*. Perennial (HarperCollins)

Alan Lei © Alsop

Others, such as McDonough and Braungart (2002)¹³⁰, suggest going a stage further by calling for a new 'ecological consciousness' that will render traditional environmentalism and current eco-efficiency measures obsolete. From their perspective, "recycling for example, is actually 'downcycling', creating hybrids of biological and technical 'nutrients' which are then unrecoverable and unusable", and that instead we should move to a perspective that focuses not on how we can reduce the impacts of our lifestyle but on how we can design to contribute to environmental well-being and regeneration. This approach raises some interesting issues and innovative ideas in relation to the design of outdoor spaces. In their book they give a range of examples, such as including living rooftops covered with soil and plants, which provide natural insulation. Whilst there may be criticism about the extent to which such approaches can be applied to all

developments, it provides an inspiring reminder that designs can be both more innovative and ecologically sound. This has relevance and implications for the design of outdoor spaces and the opportunities that are afforded through planting, landscaping, nurturing plants and growing vegetables, encouraging wildlife, designing features to produce energy, and so on, but also for focusing on new ways of incorporating these in unique ways as a fundamental aspect of the play and learning experiences in schools.

130. McDonough, W and Braungart, M (2002). *Cradle to Cradle: Remaking the way we make things*. North Point Press; 1st edition

OTHER USEFUL RESOURCES

Teachernet provides useful information for all sectors and offers a number of excellent online and downloadable tools to help schools identify the best route to becoming more sustainable.
www.teachernet.gov.uk/sustainableschools

Securing the Future – delivering UK sustainable development strategy HMG (2005)
www.sustainable-development.gov.uk/publications/uk-strategy/index.htm

DfES Sustainable Development Action Plan (2006). Learning for the Future
www.dcsf.gov.uk/aboutus/sd/docs/SDAP%202006%20FINAL.pdf
www.dcsf.gov.uk/aboutus/sd/department.shtml

Framework Convention on Climate Change Bali (2007)
unfccc.int/2860.php

Climate Change and Children. UNICEF (2007):
www.unicef.org/publications/index_42166.html

BREEAM Schools
www.breeam.org/page.jsp?id=20

Construction Ecology: Nature as the Basis for Green Building. Kibert, C, Sendzimir, J and Guy, G (2002). London: Spon Press Ltd.

The **Global Gateway** website is an international gateway to educational partnerships between schools and colleges across the world. It is managed and run for the DCSF by the British Council. Many of the potential partnerships offer the opportunity to discuss and explore sustainability in its various forms and bring an international perspective to learning.
www.globalgateway.org.uk

Foundation for Environmental Education (FEE) is a non-governmental, non-profit organisation promoting sustainable development through environmental education. FEE is an international umbrella organisation with one national member organisation per country representing FEE on the national level and in charge of implementing FEE programmes nationally. FEE has member organisations in 55 countries worldwide.
www.fee-international.org/en

Eco-Schools is a programme for environmental management, certification, and sustainable development education for schools. Its holistic, participatory approach and combination of learning and action make it an ideal way for schools to embark on a meaningful path for improving the environments of schools and their local communities, and for influencing the lives of young people, school staff, families, local authorities, NGOs, and more.
www.fee-international.org/en/Menu/Programmes/Eco-Schools

Design Quality Indicators (DQI) for Schools is a tool which provides a framework for the assessment of school design.
www.dqi.org.uk/schools

White Hutchinson Leisure & Learning Group 123 website provides a wealth of links to articles relating to children's development and play, do's and don't's of design and how to create sustainable outdoor play and learning spaces. The site also offers some inspiring examples and designs, including naturalised outdoor environments, play gardens.
www.whitehutchinson.com

9. SUMMARY

This handbook offers insight, ideas, advice and examples aimed to inspire those involved in the redesign of outdoor learning and play spaces. It is by no means a 'how to' manual, nor does it aim to suggest an ideal route or way to approach design, or specify particular attributes that such spaces should include. It is illustrative, rather than specific, as decisions will be made and mediated by a range of local, environmental, financial and other elements. However, it does promote the centrality of outdoor play and learning in promoting children's health, well-being and emotional and social development.

It also advocates the idea that design and redesign through various unique opportunities, such as those afforded by current and significant capital investment programmes, should be perceived as an opportunity to model transformative practice and pedagogy. It draws on and highlights numerous policies and legislation that support a more transformative approach and urges more radical design

through more coherent consideration of these policies to inform the initial vision phase, so that such a vision can act as an enduring artefact to orientate the various stakeholders and interested parties that will move the vision through to actualisation.

Furthermore, it highlights the need to put children at the centre of education and educational practices and encourages a move towards more active engagement by children in the design and shaping of services which affect them. Notably, this publication suggests that redesign processes and capital investment programmes offer great opportunity to do this by involving them meaningfully in co-design processes, which expose them to diverse, real and interesting learning experiences and environments and enable them to work with, learn with, and achieve tangible outcomes and success with a multitude of different experts and professionals that can support their wider educational, social and emotional development.



A BIG PICTURE OF THE CURRICULUM

Engaging children and young people in co-design and active participation is an extremely valuable and beneficial activity. Yet the extent to which this occurs around the redesign of learning and play spaces is debatable. Ensuring meaningful engagement requires different approaches and can be time consuming and may sometimes be viewed as additional activities further to curriculum requirements. However, the activities and processes associated with co-design potentially offer great and unique learning

opportunities that can enhance and extend broad curriculum aims and may be the sorts of practices we wish to model in our schools and learning spaces of the future. For example, consider the QCA's 'big picture curriculum' diagram as a tool to support thinking about how broad curriculum aims might be mapped against co-design practices involved in the redesign of outdoor learning spaces.

www.qca.org.uk/libraryAssets/media/Big_Picture_2008.pdf

WHAT
ARE WE
TRYING TO
ACHIEVE?

The curriculum aims to enable all young people to become successful learners, confident individuals, responsible citizens

mapped by

curriculum aims, Every Child Matters outcomes and focus for learning

HOW DO WE
ORGANISE
THINGS?

The curriculum as an entire planned learning experience underpinned by a broad set of common values and purposes

mapped by

components, approaches to learning, whole curriculum dimensions, statutory expectations

HOW WELL
ARE WE
ACHIEVING
OUR AIMS?

To make learning and teaching more effective so that learners understand quality and how to improve

mapped by

evaluating impact and accountability measures