

# Making Space

architecture and design for children and young people



# Context



This publication builds on key themes that emerged from the international conference **Making Space 2010: architecture and design for children and young people**, held in Edinburgh, in October 2010. It also provides a showcase for the winning and many of the shortlisted entries to the associated **Making Space 2010 International Award**.

The conference was organised by Children in Scotland, funded by the Scottish Government and held in partnership with the OECD's Centre for Effective Learning Environments and Architecture and Design Scotland. It promoted innovation, creativity and sustainability in design for children and young people aged 0-18. International experts explored how children related to their environment, how it impacts on their learning, the implications of Curriculum for Excellence on building and space design and what we need to focus on in the future.

The International Award focused on excellence and innovation in architecture and design for children and young people. It attracted entries from 26 countries.



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# Foreword

*By Seona Reid, Director of the Glasgow School of Art, and former Director of the Scottish Arts Council*



Community School Nieuwstraat Rotterdam, The Netherlands. Shortlisted Making Space 2010  
(Entrant: Arconiko Architecten)





We are not just designing aesthetically pleasing and structurally sound buildings, but spaces that will enable children to develop to their full potential – intellectually, creatively, physically and spiritually.

Spaces that promote free movement and socialising, that maximise daylight, have good acoustics, good ventilation, and which are visually stimulating, will help bring out the best in our children. They will also help Scotland make a success of policies such as Getting it Right for Every Child and the new Curriculum for Excellence, which favours a more holistic approach to education.

And responsibility for this extends beyond the design of schools and adventure playgrounds to public areas in general – housing estates, urban centres and parks. Children actually spend a minority of their time in spaces designed specifically for them. A commitment like this reflects the value that our society places on children and childhood.

Good architecture and design may not come cheap. That is why, even in economically difficult times, it is vital that we continue to invest financially and intellectually, so that the spaces created today are sustainable and as future proof as they possibly can be. They are likely to serve generations to come.

Since the establishment of the Scottish Parliament in 1999, more than 650 school building projects have been completed across the country. Architecture and Design Scotland and the Scottish Futures Trust are working to help ensure future school designs are innovative and high quality, as well as representing value for money.

The **Making Space 2010 conference and associated award** and this publication are providing an invaluable opportunity for sharing ideas and practice at international level - not only among architects and designers, but in collaboration with those who work directly with children and have a professional understanding of child development.



Joseph Rowntree School, England. (page 34)



Nursery in the Park, Spain. (page 12)

# Introduction

By **Bronwen Cohen**, Chief Executive, Children in Scotland



The spaces and places where children experience their childhood will help create memories that last a life-time. Our physical environment is not simply a passive setting – it has the power to elicit or inhibit behaviour, evoke emotional responses and influence the way relationships are formed. Italian architect Michele Zini describes the physical environment that a child grows up in as their “third teacher... an integral part of learning which helps define their identity”. Designing spaces and places for children carries huge responsibility – they will help shape this generation, and generations to come.

Children in Scotland was delighted that the **Making Space 2010 International Award** attracted so many high quality and innovative examples of architecture and design for children and young people. The winning and shortlisted entries were recognised not just on architectural merit but for the contribution they have made to improving the totality of children’s learning

Community School Nieuwstraat Rotterdam, The Netherlands. Shortlisted Making Space 2010 (Entrant: Arconiko Architecten)



Hongodai Christ Church school and nursery, Japan (page 14)



Community School Nieuwstraat Rotterdam, The Netherlands. Shortlisted Making Space 2010 (Entrant: Arconiko Architecten)

# Introduction



Punkaharju day-care centre, Finland. Shortlisted Making Space 2010 (Entrant: Partanen & Lamusuo Partnership)

experiences and in many cases the lives of whole communities. For example, the architectural qualities of the overall winning entry from Thailand (page 52) were “outstanding” according to the judging panel. But beyond this technical brilliance, the project has transformed the lives of the children who now use the buildings, and breathed life into the local community. Judges praised the project’s “completely child-centred approach”, stating that “it meets the needs of a child within a social and cultural context.”

This holistic approach to architecture and design for children and young people also defined the **Making Space 2010 conference** and is a focus of this publication.

One of the defining examples of an holistic approach is the work of Michele Zini, who led a research team to

create a “genetic code” for the design of spaces for children (page 10). His team included not only representation from architecture and design, but psychology, science, education and art. The focus of their findings is on the ‘soft qualities’ that help create caring and stimulating environments for children such as light, colour, touch, sound and smell, and the organisation of space to facilitate relationship building and support inclusion. The most important assessment of a space is how well it reflects a view of the child as citizen – a rich, competent human being with huge creative potential <sup>(1)</sup>. All spaces for children have to provide opportunities that will help users fulfill this very positive and ambitious image of the child. The commitment is even extending beyond early years centres and schools to areas not designed exclusively for children but nevertheless used by them. Michele Zini is involved in a project to help Italy’s food shops become not just child-friendly but active in food education (page 49). It is recognition that opportunities for learning and development are not just restricted to the classroom.

In Scotland, at a time when budget cuts will place huge pressure on the design and build of not just schools but all public buildings and spaces, local authorities will have to work hard to maintain such a broad, holistic view. However, it is arguably even more important in the context of Scotland’s more child-centred, and family and community-focused Curriculum for Excellence (page 18). All spaces need to reflect Scotland’s image of the child as a successful learner, confident individual, responsible citizen and effective contributor. Both Seona Reid, Director of the Glasgow School of Art and Chair of the Making Space 2010 conference, and Grant Robertson, Associate Director of the Scottish Futures Trust, (page 44) believe the current climate presents an opportunity for a fundamental rethink on how design briefs are set and managed. Something that is integral to Curriculum for Excellence is the involvement of children in the design and build process. Alison Clark (page 26) discusses meaningful consultation which respects the ideas that children put forward without expecting them to *be*

professional architects and designers. Architecture and Design Scotland's Schools Programme (page 30) is an example of how Scotland is championing the importance of participation and collaboration in the design and management of learning spaces.

Outdoor space is crucial for children's overall well-being. Alastair Seaman, Programme Manager for Grounds for Learning (page 22), explores how nurseries and schools can make the most of their outdoor spaces and the Hidden Gardens (page 25) and Ikiminami Primary School (page 24) are both beautiful testimonies to the role that outdoor space can play in supporting children's physical, intellectual, creative and spiritual development.

Spatial organisation to promote relationship building, creativity and inclusion is gaining renewed attention as the industrial model of passive and authoritarian teaching is replaced by an understanding of education which embraces openness, inquiry and invention. Spaces are having to change to reflect this and the Erika Mann Elementary School (page 47) is an excellent example of this. Sanderson's Wynd (page 36) is also a good example of spatial manipulation to promote inclusion. The school includes an integrated Additional Support for Learning unit to help ensure all members of the community are brought together and not segregated.

The Scottish Government wants environmental sustainability to be a core aspect in the planning, design, development and management of all schools (Scottish Government 2009). Seaview Primary School and Windygoul Primary School (page 42) are both examples of new school buildings in Scotland that demonstrate a commitment towards energy efficiency. A more holistic view is also beneficial here, encompassing a view of the building's life-span (it will need to adapt to meet future demands and changes in technology) and the wider benefits for users (Karin Buvik on page 40 explores how better insulation and ventilation not only reduces a building's carbon footprint but enhances users' well-being and thus increases productivity).

Making Space 2010 showcases examples of spaces across the world that will enhance the lives of the children, young people and communities using them. It has also provided an international platform for the discussion and sharing of ideas that we hope will help to keep the wheel of innovation turning.

<sup>(1)</sup> The city of Reggio Emilia in Italy is recognised worldwide for its innovative approach to early childhood education and care. The image of the child as citizen is central to service development and delivery.



The Grove Early Years Education Centre, Ireland. Shortlisted, Making Space 2010 (Entrant: Collins Maher Martin Architects)

# Successful learning through good design: pedagogy and architecture

There are beautiful buildings that are not effective learning environments for children. So how can architects and educators create stimulating, physical environments that will contribute to improving the quality of education?

**By Michele Zini**, Architect and Designer with ZPZ Partners. He has carried out numerous research projects with Reggio Children.



Nido Lattanti, ZPZ Partners, Italy.

A prescriptive formula for what makes a good physical learning environment does not exist – this would not sit comfortably with, nor serve, the rich complexity and spontaneity of childhood. But following years of research into designing spaces for children in Reggio Emilia, Italy, ZPZ Partners can perhaps offer values, qualities and tools that will help guide educators and architects.

A holistic approach to the design of space for children is absolutely essential. Aesthetic beauty helps, but it does not always follow that a beautiful building is a good environment for children to learn and thrive in. Architects should not work alone.

When ZPZ Partners first began research (Geppi and Zini 1998) with Reggio Children in 1994 to open up dialogue between architecture and pedagogy, the team included representatives from the fields of education, psychology and complex systems sciences (one of the team was a bioengineer, studying how the



brain perceives shapes) as well as architecture, art, interaction design (the creation of meaningful relationships between people and the products and services they use) and soft qualities design (focusing on light, colour, touch, smell, sound and micro-climate). Our job was to coordinate the contributions, ensuring they complemented each other whilst preserving expertise.

We needed to move away from just building structures and towards the idea of creating 'artificial ecosystems' for children made up of the immaterial 'soft qualities' above.

Our research has produced a kind of 'genetic code' for children's spaces - the architects, designers, educators and others who take inspiration from it may produce an infinite variety of spaces, but hopefully they will all share a similar quality and 'flavour'.

**Multi-sensory workshops:** The aim is to create spaces that are workshops for the children's senses, which enable them to *be* the rich, competent human beings they are and achieve their incredible creative potential.

**Light:** Lighting from a variety of sources to provide concentrated as well as diffuse light and different colour 'temperatures' such as warm, cool and rose white. Light should also create different shadows for the children to play with.

**Colour:** Colours should go beyond the simple red, yellow and blue that adults often associate with children. The aim should be to offer children a subtle colour scheme, with many different shades, contrasts and variety to add visual richness.

**Sound:** The soundscape is an environmental dimension which can be designed - not only lowering or raising acoustic levels but also designing in sound possibilities. The soundscape can be sharp, dull or well-rounded for example.

**Smell:** The 'aromascape' can also be designed. Materials such as rubber, cork or latex are characterised by particular odours and things such as cleaning products, natural elements and fragrances are important.

**Touch:** A variety of materials create a multi-sensory setting with surfaces that are smooth and rough, wet and dry, opaque, bright, translucent and transparent.

**Micro-climate:** Ventilation, humidity, temperature, pollution etc all impact on the functional use of space.

**Relationships:** All schools and early years centres in Reggio Emilia have a 'Piazza', a central area similar to a town square where the three main subjects of the community - children, teachers and parents - can socialise together. Children often work on projects together here.

**Space:** Learning environments should not simply be divided up according to specific functions. Highly specialised areas, for creating music for example, have a place. But the more generic spaces, like the Piazza at the centre, are fundamental for their flexibility. This is even more important as our global understanding of education evolves to one of openness, limitless knowledge, inquiry and invention.

The immaterial soft qualities are powerful design tools for creating stimulating and caring learning environments. They arguably become even more important as we learn more about children's cognitive processes. Also important is recent research into 'mirror neurons', which suggest that our interpretation of others' behaviour play a key role in our ability to empathise and socialise with others.

There is no doubt that designing spaces which are flexible and continually changing, yet reflect the "one hundred languages of children", is difficult. Children are complex beings - this implies a complex design approach. It is however worth the investment.

In Reggio Emilia, a child's first teacher is their parent and the second is their classroom teacher. The third is the environment. A child's environment is not just a context for learning or a passive setting for activities. It is an integral part of learning and helps define their identity.

# Successful learning through good design: pedagogy and architecture

**Judges of, and contributors to the Making Space 2010 International Award give their views on what makes a good physical learning environment. Presented alongside some of the Making Space 2010 shortlisted entries.**

*Sam Cassels, Design Advisor (Schools),  
Architecture and Design Scotland*

Whether a learning environment is in a hut or a skyscraper, the senses of place that matter to children are universal. These include a **sense of light and space**, a sense of scale, a sense of comfort and a sense of inspiration. Places that provide these are places that people, of all ages,

want to be in.

They are also about a sense of belonging – meaningful places that reflect closely the physical contexts and the individual narratives of those who use them. **Acknowledging the uniqueness of the land and its local communities** is the primary means by which good environments happen. Good learning environments are places that feel special to one place, but have lessons for us all.

## “a sense of light and space”



Nursery in the Park

**Nursery in the Park, Spain. Shortlisted, Making Space 2010  
(Entrants: Ignacio Grávalos Lacambra, Patrizia Di Monte and Santiago Carroquino Architectos)**

A nursery for children aged 0-3. A building described by the architects as “promoting values such as transparency, contact with the environment and light”. The entry was noted by judges for its “great use of space and natural light”.



Mana Tamariki, New Zealand

## "Acknowledging the uniqueness of the land and local communities"

**Mana Tamariki, New Zealand. Shortlisted Making Space 2010 (Entrant: Mana Tamariki)**

A Maori language immersion nursery, primary and secondary school. Its design is of a distinctive contemporary Maori architecture, and educational practices reflect Maori custom.

*"Mana Tamariki responds at many levels to its local context and culture."* Paul Stallan

*Paul Stallan, European Design Director and International Principal, RMJM*

The perfect learning environment is a space that can be continuously re-configured to support many different learning activities.

I am constantly thinking about how a space can adapt to both informal and formal working. Whether at a campus scale or at the scale of a classroom the challenge is to provide a building structure that is not overly prescriptive but is neither a blank canvas.

A new building can be designed or an existing environment adapted so as to grow and contract responding to different user or community requirements. For example, a **classroom need not be a box** but a space from which you might open onto a garden or combine with an adjacent room. It is easy to incorporate window seats for individual contemplation or a library corner which is not a corner but a small room within a room. The library might have wheels and like a piece of furniture move around the space or even outside. Robust spaces that stimulate the imagination ... liberating learning landscapes and laboratories for young and old!

# Successful learning through good design: pedagogy and architecture



Hongodai Christ Church School and Nursery, Japan

**"A classroom need not be a box"**

**Hongodai Christ Church School and Nursery, Japan. Shortlisted Making Space 2010 (Entrant: Takeshi Hosaka Architects)**

Sliding glass doors are the interfaces between the inside and outside. Sunshine filters through the trees into the building and the breeze through the forest also blows into the building. Judges said: "The dynamic of the building is in its flexibility and beautiful connections with the outside world."

**Scarab School, and Mobile Learning Device, Mali, West Africa. Shortlisted, Making Space 2010 (Entrant: Jula-Kim Sieber, Ar2.com)**

The 'Transportable Classroom', allows learning to take place anywhere. Each pupil has a wooden board for a writing desk, mobile seat and table and a pocket to store pens and books. All you need is a teacher then school can begin. Judges described it as "a worthy project that challenges our idea of learning space."



Mobile Learning Device, Mali, West Africa

*Will Alsop, International Principal,  
Will Alsop at RMJM*

Above all **the designer should stimulate imagination** and a sense of enquiry into a learning environment, remembering that the children's experiences there will create memories for a whole lifetime.

Each space should be dominated by a huge, enigmatic picture. A curiosity that is capable of taking your mind off the lesson, an image to take to the grave. A puzzle to ponder. It will allow the pupils an exposure to art for long periods of time. Painting the other walls is an ongoing activity. It is part of the curriculum.

Imagine a classroom where a wonderful operatic aria was played at the beginning of every session every day. Every day a part is devoted to making music and making instruments – it is part of the curriculum. The poem, the meal, the debate are all life changing and all relevant to it.

The reality is that our schools should be tough and resilient spaces and not over designed. They should absorb abuse and changes of heart. They should be **peculiar and individual**. Large spaces for activity and wonderment interspersed with oases of cosiness.

Every child should be excited with an anticipation of entering the school. They should not be places of conformity but full of naughtiness...



Erika Mann Elementary School, Germany. (page 47)

## “The designer should stimulate imagination”

**Erika Mann Elementary School, Germany. Shortlisted.  
(Entrant: Susanne Hofmann Architekten and Die Baupiloten)**

A fictional 'Silver dragon world', conceived with pupils, formed the basis of this school modernisation project and resulted in playful and expressive architecture. The silver dragon is said to “spark children's imaginations”.

# Successful learning through good design: pedagogy and architecture

**“Different kinds of teaching and learning need different kinds of ambience”**



**Erika Mann Elementary School, Germany.  
Shortlisted, Making Space 2010**

The school includes “places of retreat”



**Community School, The Netherlands. Shortlisted,  
Making Space 2010 (Entrant: Arconiko Architecten)**

Includes “communal spaces located at key places throughout the school to enhance the building experience and support group work.

**“Peculiar and individual”**

**Quinmo Village Primary School,  
Hong Kong.  
Shortlisted, Making Space 2010  
(Entrant: University of Hong Kong)**

The school’s colourful façade is made up of bricks individually painted by villagers and children. Described by judges as “powerful, quirky and relevant”.



Quinmo Village Primary School, Hong Kong



The puckelball pitch by night. Photo by David Puig Serinyà

## **“They should not be places of conformity”**

### **The Puckelball pitch, Sweden. Shortlisted, Making Space 2010 (Entrant: City of Malmö)**

An interactive art project between two city areas facing social challenges. It is designed to assist with integration. It resembles the playground of life which is neither equilateral nor level – the ball doesn't go where you want, the different halves of the pitch are not the same size.

*Alastair Blyth, Analyst for the Programme on Educational Building, Directorate of Education, OECD*

In the words of one student, when asked what her advice to architects would be: “Create somewhere relaxing and bright, so you can open the windows and see out – somewhere you want to be for 7 hours a day!” Such a building is one that allows a student to want to learn rather than one that merely contains the learning process.

*Teresa Heitor, Director of the Portuguese Secondary School Building Programme*

A successful physical learning environment is one that enables learners to engage and teachers to teach well. The environment should be flexible and stimulating, supporting a range of facilities and combining different types of indoor and outdoor learning spaces in order to accommodate all types of learner and learning experiences. Creating and maintaining a positive, harmonious and cooperative learning atmosphere can be achieved through school space organisation, appropriate and comfortable learning conditions as well as the engagement of the school community.

*Karen Anderson, Chair, Architecture and Design Scotland; Partner, Anderson, Bell & Christie Architects*

**Different kinds of teaching and learning need different kinds of ambience** – from stimulating to reflective, and from cooperative to individual and more protective. Each of the latter can be created through use of materials, lighting and differing scale. For example, quiet spaces with minimal use of different materials, pale colours and perhaps a selective window view can help promote concentration. Characterful nooks and crannies - often occurring naturally in older buildings can be designed in at windows. Spaces on the round can be provided to accommodate group working.

Buildings designed to support learning need to understand the particular of the culture and use the potential of the place - views, orientation and character - in which they are located, rather than promote 'standard' solutions as often has happened in the past. If inspiring and beautiful spaces, designed with sensitivity to reflect the importance of the immediate and wider environment, are the first experience of our young learners then they will develop to be confident citizens who will shape a better future for all.

# Designing for excellence in Scotland

In August 2010, the new Curriculum for Excellence became a reality in every classroom across Scotland. It aims to provide a coherent, more flexible and enriched curriculum from 3 to 18 that will equip children and young people with the knowledge, skills and attributes needed for life in the 21st century. The school estate – the buildings, the physical environment and facilities – will play an important part in its implementation.

*A policy context from the Scottish Government*



Bonaly Primary School. Courtesy of elder & cannon architects limited

## What is Curriculum for Excellence?

The purpose of Curriculum for Excellence is encapsulated in the four capacities – to enable each child or young person to become a successful learner, a confident individual, a responsible citizen and an effective contributor.

It is structured around the totality of experiences that are planned for children through their education, wherever they are being educated and includes: the curriculum areas and subjects, which all contribute towards developing the four capacities; interdisciplinary projects, which push learning beyond subject boundaries; the ethos and life of the school community; and opportunities for personal development both in and beyond the classroom, which build motivation, resilience and confidence. By recognising and planning learning around different contexts and experiences,



the curriculum aims to make better connections across learning.

*"Curriculum for Excellence is all about bringing real life into the classroom and taking lessons beyond it."* (Learning Teaching Scotland)

A key part of this agenda is a renewed faith in the professionalism of Scotland's teachers and Curriculum for Excellence provides freedom to think imaginatively about how the experiences and outcomes might be organised and planned for in creative ways which encourage deep, sustained learning and which meet the needs of children and young people.

### **The role of Scotland's School Estate in implementation of Curriculum for Excellence**

*"Schools should be attention-grabbing, eye-opening, thought-provoking, empowering and should thereby inspire and drive anew approach to effective learning and teaching which Curriculum for Excellence embodies. To help achieve this local and Scottish Government will... focus attention not only on how the physical environment and facilities (especially ICT) support new ways of learning and delivering the curriculum, but also on how they themselves are instruments of change in thinking and practice, encouraging and enabling interdisciplinary learning, enhance teacher collegiality and collaboration etc..."* (Scottish Government, 2009)

To successfully deliver Curriculum for Excellence, all schools, new or old, require good governance, excellent leadership and teaching, motivated pupils, and the enthusiastic and supported participation of parents and the wider community to build a community of interests – a school in and of its community.

Schools - the buildings and spaces, the grounds, the fittings and facilities, even the furniture - are learning environments in the broadest sense. All these component parts play a role in helping to ensure positive outcomes, in helping to deliver Curriculum for Excellence. Poorly designed, poorly

maintained, or poorly managed facilities can therefore hinder the delivery of good education.

'Building Better Schools: Investing in Scotland's Future', Scotland's school estate strategy, aims to ensure Scotland's school estate is fit for the delivery of Curriculum for Excellence. It sets out the Scottish Government and local government's shared vision for schools which:

- signal the high value we place on learning
- people and communities can enjoy using and can be proud of
- are well designed, maintained and managed
- encourage continuous engagement with learning
- are far more than just 'educational' establishments
- provide a quality of environment that supports an accessible range of services and opportunities
- enrich the communities they serve and the lives of learners and families.

The Strategy also articulates a set of aspirations and a framework of guiding principles and objectives for future planning and action to be taken into account by those involved in the management of the school estate. At the heart of these principles is the participation of our children and young people, and the communities in which they live, in the planning and design process.

Indeed, the first guiding principle is that "Good consultation means better outcomes" and it highlights the benefits of engaging, consulting and involving all potential users.

Collaboration of all the agencies involved in delivering services for communities will help ensure that the good ideas that come from such participation can be realised. A joined up approach in both the planning and management of places and spaces for children and young people is essential to deliver a school estate which facilitates and supports Curriculum for Excellence.

# Designing for Excellence in Scotland

## *Tynecastle High School, Edinburgh, 'a learning space for the 21st century' – by Tom Rae, Headteacher*

Visitors to the new Tynecastle High School in Edinburgh are often bowled over by the sense of space, light and colour as they enter the atrium, which serves as the hub of the school. The architecture acts as a metaphor for growth, openness and transparency - all key messages under-pinning Curriculum for Excellence.

**Flexible working spaces** are an integral part of the design. Classroom walls which can be collapsed to allow IT-rich learning spaces for up to 100 learners, the open-plan S6 common room, the library, and even the staffroom provide flexible learning spaces that support cluster working and interdisciplinary learning, both central to the delivery of Curriculum for Excellence. They also support interdisciplinary working and CPD

among staff. Other flexible spaces can be found in break-out areas around the school, which allow small groups of students to collaborate spontaneously, fostering **creativity**.

Creativity is enhanced by the rich **IT capacity**, which links different areas digitally, for example drama, music and the recording and editing suites. It creates a sense of real-life working to a high professional standard.

Curriculum for Excellence expects schools to offer high levels of **personal support** to pupils, especially at transitions, an entitlement delivered by the fully integrated student support suite on the first floor.

The community wing is where partners deliver other types of learning (Duke of Edinburgh, JET, College collaborations etc), and there is a café style area for the public where the breakfast club meet. These facilities are attractive to local lets and help reconstruct schools as **real learning communities**. The atrium that is the social and dining area during school hours converts to letting space after 6pm used by a variety of local groups.

The **outdoor spaces** were designed to help inspire creative learning - the roof terrace for the art department, the Greek amphitheatre in the playground, the school garden and the roof-top greenhouse. The two latter examples make eco-projects easier to deliver.

A final enhancement of these **innovative spaces** are the features and artworks inspired by original school buildings. The Tynecastle war memorial boards, the old school bell and clock, and the Dux Boards foster **a sense of tradition and local identity** which is so crucial in this Brave New World of 21st century learning.



The atrium that is the social and dining area during school hours converts to letting space after 6pm used by a variety of local groups. Photo by Paul Zanre.

*Tynecastle High School hosted a study visit as part of the Making Space 2010 conference*

***Bonaly Primary, Edinburgh, 'supporting the four capacities' – by Gordon Robertson, Headteacher***

The principle of a **broad education** is central to Curriculum for Excellence, and so the provision of spaces that allow for this breadth is fundamental. Bonaly Primary School's gym, the flexible GP spaces designed to accommodate Music, Science, Art and ICT, tutorial rooms, outdoor learning spaces and dual purpose dining hall/PE space with moveable partition all contribute. And without large enough classrooms with linked breakout space, the cooperative and active interdisciplinary learning that is core to Curriculum for Excellence would be severely restricted.

Flexible partitions mean that classrooms can either be opened to linked breakout spaces, or closed off, and they can be doubled in size by opening partitions between neighbouring classes. This **flexibility of main spaces** gives the opportunity to work with all sizes of groups, from individuals to classes, to year groups or even more.

**Curricular progression** is mirrored in the way children move through the school. Classes are placed so that children feel themselves moving on, until the progression is completed as they move upstairs. Throughout their daily travels around the school, open classrooms and breakout areas allow children to witness what they will do in the future, while also encouraging open relationships and shared learning among staff.

An infrastructure to support **ICT**, including interactive whiteboards in all classes, allows staff and children to benefit from tools such as GLOW.

The spaces not only help to develop '**Successful Learners**', but the other three capacities of Curriculum for Excellence. The 400-seat performance space encourages '**Confident Individuals**', and the range of spaces encourages community use of the school, including those where volunteering is evident. Adults can model what being an '**Effective Contributor**' and '**Responsible Citizen**' actually means.

*Bonaly Primary School hosted a study visit as part of the Making Space 2010 conference*



Flexible main spaces possibilities for different types of working. Courtesy of elder & cannon architects limited.



Moveable partitions mean that classrooms can either be opened to linked breakout spaces, or closed off. Courtesy of elder & cannon architects limited.

# The importance of outdoor space in architecture and design for children

Outdoor learning will play an integral role in implementation of Scotland's Curriculum for Excellence. Alastair Seaman explores why outdoor learning needs to be mainstreamed and how new and existing nurseries and schools can make the most of their outdoor space.

By Alastair Seaman, Programme Manager, Grounds for Learning <sup>(1)</sup>



Merrylee Primary School, Glasgow. (page 25)

Ecologically, humans have adapted to thrive in a mixture of open and wooded natural spaces. We are equipped for this kind of environment, which is why providing well designed outdoor and naturalistic spaces is so important for child development.

Sudden and radical alteration of a species habitat can cause disruption and stress. It should be no surprise, therefore, that children suffer if they are forced to grow up in an indoor, sedentary and virtual world that is radically different to the kind of space that they have been designed for. The benefits of access to well-designed outdoor spaces for children are well researched:

## **Healthy physical development**

Muscular strength, coordination, balance, dexterity and aerobic fitness. The National Institute for Health and Clinical Excellence recommends that playground designs encourage active play (NICE, 2008). However few, if any, briefing documents for Scottish schools reference this.



### **Emotional and social development**

Learning how to make friends, form teams, negotiate, compromise and deal with conflict are learned in the playground rather than the classroom. In a survey, 84 per cent of schools that had improved their playground reported better social interaction (Learning through Landscapes, 2003).

### **Connecting children to the natural world**

Connections with nature are created more through informal play in natural spaces than formal education (Lester and Maudsley, 2006). Outdoor spaces can give young people powerful experiences of nature every day and opportunities not just to learn about nature but to actively care for it.

**Improving learning** Learning Teaching Scotland guidance states that: "Outdoors is often a more effective place to learn than indoors" (Lester and Maudsley, 2006). Good playgrounds allow teachers to bring learning to life using active hands-on approaches that enrich learning and benefit all pupils, but especially those who struggle with stationary, room-based learning.

### **Creating new spaces**

Experience of building schools in Scotland has taught us that these significant benefits can be easily overlooked. But we've also learned what's needed in order to deliver better outdoor spaces.

**Ensure an effective brief** at the beginning of the project. This should integrate with the wider educational brief and specify the desired outdoor outcomes for children and teachers. Outdoor spaces need similar levels of detail to indoor spaces and should ensure that indoor and outdoor spaces actively complement each other. Images that might support particular design outcomes can be very helpful.

**Invest in clientship skills.** Pupils and staff can find it hard to imagine possibilities beyond their own limited experiences. If teachers have never taught outside, their ideas for outdoor learning will be limited. Likewise, if children's play experiences have been limited, their contributions will be restricted. Time spent

trying some simple outdoor lessons and visiting a range of different play spaces will yield richer contributions.

**Create meaningful participation** at all stages. Involve pupils and staff beyond the design stage. Consider creating a shadow project management team, which can be a valuable 'real world learning' experience for pupils as well as allow ongoing input as the project unfolds. Look for opportunities to get pupils and staff involved such as designing seating areas, sculpture or tree planting.

### **Improving existing spaces**

It is not necessary to wait for a new building in order to improve outdoor space.

Find out how the space is currently used by staff and all pupil age groups. What works well and what doesn't?

Identify what the difference you want this to make for children. Is it to tackle behaviour at break-times? To develop more engaging ways of delivering the curriculum? To get children more active? This will enable you to work out what changes are needed.

Develop a long-term vision that's owned by the whole school community. Describe how you'd like the grounds to look in 15 years time (in words and on a map) and then do a little every year to work towards this.

Find out who can help – parents, partner agencies and local authority staff. Think about maintenance. Who is going to look after your new garden or water the plants during the school holiday? Who will inspect the new play equipment?

Get everyone involved at all stages. Include pupils, parents and staff, from setting the vision through to implementing work on the ground and ongoing maintenance.

Think about how the whole project can be a learning experience. What opportunities are there for teaching and learning as you make the changes?

<sup>(1)</sup> Grounds for Learning is a charity that helps Scottish children connect with nature, become more active, learn outdoors, develop social skills and have fun. [www.gflscotland.org](http://www.gflscotland.org)

# The importance of outdoor space in architecture and design for children

## 'A genuine wild garden'

**Ikiminami Primary school, Japan. Shortlisted, Making Space 2010. (Entrant: Kyushu Institution of Japanese National University)**

Open and natural spaces are few and far between in Japan. As the dense urban sprawl continues unabated, some locals try their very best to create or preserve small pockets of green space where wildlife and children can thrive.

Ikiminami Primary school's garden, in South Japan, is

one such example, described by the Making Space Award judges as: "a genuine wild garden where kids can get dirty and learn". Design of the garden began in 2002, and its evolution has been closely monitored. A survey in 2004 revealed it was home to 52 different types of plant, 42 species of insect, and 10 species of bird (including a heron). Moreover, researchers recorded 186 different ways that the children play in the garden – from running around, jumping from one side of the stream to another, to sitting in a quiet spot talking, studying different flowers and trying to catch insects.



Ikiminami Primary School, Japan



MerryLee Primary School's 'Urban Jungle', Glasgow

## An urban jungle

### MerryLee Primary School, Glasgow.

The 'Urban Jungle' in MerryLee Primary is a natural playground that uses landform, planting, trees and recycled elements to create a series of outdoor spaces for imaginative play. The project was co-funded as a pilot project by Glasgow City Council and the Forestry Commission. The play area opened for use in autumn 2009.

## A secret garden to explore

### Hidden Gardens, Glasgow.

The Hidden Gardens is a public space in Glasgow, created by arts organisation NVA with a creative team of landscape architects and artists. The gardens opened to the public in 2003.

The gardens were not self consciously designed specifically for children but seem to be loved by children. There is no play equipment. There are small spaces, routes and paths - some that are obvious and some that are obscure. There are different levels, textures and surfaces and interesting and unusual plants. The gardens are both enclosed and overlooked. It is a space that parents have reported feeling comfortable bringing their children to and letting them explore.

*'Hidden Gardens' hosted a study visit as part of the Making Space 2010 conference*



Exploring the 'Hidden Gardens', Glasgow

# Collaboration and consultation: drawing on multiple perspectives

Consultation with all stakeholders is fundamental if building design is to meet the needs of its users and the wider community. But what does proper consultation look like? Experience shows interpretation of 'good consultation' is hugely varied.

By **Alison Clark**, Senior Lecturer in Childhood studies at the Open University



Coriandoline: designed by children for children, Italy. (page 28)

Involving children, parents and practitioners in the design process can bring new insights to the 'drawing board' but at the same time runs the risk of being tokenistic. 'Quick fix' consultations based on gathering ready answers from the most articulate stakeholders can lead to a growing sense of dissatisfaction in a community. New understandings gathered whether directly or indirectly from participants need to inform the outcomes but are not trying to replace professional expertise:

'The true sense of participation is an organised progression to which everyone authoritatively contributes with their own recognised skills. This means that children were expected to be children and not adults or architects.' (Malavasi and Pantaloni, 2008)

The collaborative process which resulted in the innovative housing initiative, Coriandoline in Correggio, Northern Italy,



(page 28) called upon children to bring their own knowledge of place use and experiences to the design process. The children are expected to be themselves rather than pretend to be either architects or adults. But this can require adults involved across different professional boundaries to rethink their expectations and assumptions about children. Do we view children as having insights to offer about being in a place or do we assume that this knowledge does not exist or is too difficult to reach? Working across these boundaries will also require a level of reflection and willingness to reconsider meanings and values.

Enabling children to be children within the design process will require tuning into how children of different ages and abilities choose to communicate. Observing children's choice of materials and engagement with an existing environment can open up new possibilities, as described in the example of the Ashmount School outdoor area for children with complex needs. Similarly the workshops involved in the planning of Kilburn Grange were rooted in the multi-sensory material world, spaces filled with objects and people and influenced by the weather. This is far away from abstract consultations that require quick answers to disembodied questions.

Tuning into different ways of communicating about spaces and places may help adults as well as children to explore their ideas. There is the possibility that in opening up participatory design to the voices and experiences of young children may in turn provide new ways for adults to articulate their feelings about spaces. Opening up participation to include visual and sensory means of communication, through for example walking tours and the use of participants' photographs can enable practitioners and parents as well as young children to step back and reflect on 'what does it mean to be in this place?' (Clark, 2010).

So this is not about replacing the role of architects but to add new insights to the architects' role, including from those stakeholders whose perspectives have perhaps remained hidden. This suggests a reciprocal participatory process in which children can be involved at different stages of the design

process and in which architects can become more engaged with the views and experiences of children. This way of thinking about participatory design:

- discusses meanings and values
- promotes reflection
- bridges disciplinary boundaries
- fosters the hundred languages of children and adults
- involves children and adults, users and professionals
- includes on-going encounters rather than one-off consultations (Clark, 2010).

Where might the process of participatory design lead? I am interested in the legacy of participatory projects beyond the life of individual initiatives. Different financial and time constraints will place particular burdens on extended collaborations between designers and children. However, perhaps there is a role for gathering accumulated knowledge from individual initiatives to provide a more informed starting point for others. One way to do so may be to look for the common themes emerging. This could include attention to private spaces within public environments and to the childsize within adult spaces. The architects and early childhood practitioners involved in Coriandoline assembled the views and experiences of their young participants into a Manifesto of Children's Living Needs (Malavasi and Pantaleoni, 2008; Clark, 2010). The manifesto included the importance of intimate, peaceful and playful spaces. Perhaps such consideration may not only support more child-friendly design but environments which are living spaces for adults as well as for children.



# Collaboration and consultation: drawing on multiple perspectives

## Coriandoline: the residential district designed by children.

**Coriandoline, Italy. Shortlisted, Making Space 2010 (Entrant: Andria Society)**

Coriandoline is perhaps the ultimate example of an architectural project that embodies the wishes of children. Set in the Italian city of Corregio, its colourful houses, open play areas, playful stairways, hidden playrooms beneath grassy mounds, magical tower and bespoke 'bird lamp-posts' provide a real home for real families. The project began in 1999 and the housing estate was built in

collaboration with 700 children, 50 teachers, and numerous families. Architects described the project as "an experimental test-bed... You need to have the courage to dare". And dare they certainly did. Although some of the suggestions put forward by the children exceeded all practical capabilities and could not be realised, the architects made every effort to ensure that as many of the children's wishes as possible came true. Designers used the child's point of view as a "benchmark for quality".

An edited extract from the book *Coriandoline* (Malavasi and Pantaloni, 2008) reveals the dedication of architects to create a

place designed by children, for children: "A house is different in the eyes of a grown-up to those in the eyes of a child. The size is different, for a start, but the emotional response is also different. Adults live in a physical house, while children live in the ideas of a house too. Architecture is different when inspired by the psychology of a child. It is different to work from a child's drawing rather than from a blueprint! Putting the children's needs in the foreground and considering their contribution to be as important as adults' turned the status quo of design on its head, and continually reminded us of the great responsibility upon our shoulders."



I would like "a house with stairs and slides"

## The children's wishes

*This is how I would like my house to be...*

*"So I can look outside if it's sunny or if it's raining..."*

*"So it will never break."*

*"Peaceful... no traffic"*

*"A house with stairs and slides"*

*"It would be soft and warm"*

*"I would put precious stones so the house is nicer"*

*"I would like a secret place to go into and come out of whenever I liked."*

*"So we can ride around it with our bikes."*

*"I want a special wall... so that when I put my hand on it, it takes me on journeys."*



The project used the 'child rule' as a quality measure. "We are convinced that the houses designed provide a response to the children's needs, and help the whole family to enjoy their homes much more."



"This house contains all sorts of precious stones, so it is very beautiful. All the colours and shiny stones also make it happier. And when the sun shines they really sparkle. Maybe this is the most wonderful house because at the top there is a fabulous attic."

# Collaboration and consultation: drawing on multiple perspectives

“Why should experienced professionals listen to inexperienced amateurs? Because they will have to live their lives in what the professionals create. Because they are the world class experts about their own lives. And, because the alternative... is not a credible, responsible way to make great places.” (Architecture and Design Scotland, 2011)

## Participation and Collaboration in Scotland's Schools Programme

*An overview by Architecture and Design Scotland*

Scotland's Schools Programme has focused its attention on seeking better ways of engaging and involving those for whom schools are designed – pupils, staff, and their communities. The website resource at [www.smarterplaces.org](http://www.smarterplaces.org) shares what has been learned from past experiences and the experience of local authorities.

*Building Better Schools: Investing in Scotland's Future* provided a framework for Architecture and Design Scotland's 'joined up' collaborative initiatives with local authorities – facilitating conversations between those responsible for the provision of public services and those responsible for the use of public assets. Scotland continues to challenge and reframe the ways in which more complete learning places are created – and investment in schools can be a real catalyst for innovation.

Architecture and Design Scotland's project-based support for Scotland's Schools for the Future programme has therefore been directed at helping local authorities have more meaningful conversations with users, explore wider opportunities beyond the school gates, and prepare strong briefs – the essential basis for good design.



The completed Kilburn Grange Park Adventure Playground, England.

## Creative and practice-based consultation



Kilburn Grange Park Adventure Playground, England – 'practice-based consultation'

### **Kilburn Grange Park Adventure Playground, England. Winner, Making Space Children's Choice Award and shortlisted Making Space 2010 (Entrant: erect architecture)**

Adventure playgrounds are about children playing freely and creatively without too much prescriptive input – somewhere children can explore and take controlled risks. The consultation process that informed the design and build of the Kilburn Grange Adventure Playground sought to reflect this.

Erect Architecture ran creative and practice-based workshops with children, including exploring definitions of "adventure", the possibilities of play and uses of space, and the creation of different textured surfaces for the playground all using natural materials. This involvement progressed to construction stage, with children helping to erect tall posts that would be used as part of the completed area. The result has been a sustainable and well-used resource for the local community.

## Engaging children with complex needs

### **Ashmount School outdoor play area, England. Shortlisted, Making Space 2010 (Entrant: make:good)**

The consultation process that led to Ashmount School's new outdoor play area is an example of engaging users who may have complex communication difficulties. Architects make:good visited the school on a regular basis for 12 weeks, shadowing the staff and observing how children used the space in order to gain a comprehensive insight into their needs. From this experience they discovered that the use of textures, colours and 'fun' props such as dressing up materials, were important for the children's learning experiences. The process also made it easy for pupils and staff to contribute ideas in a relaxed and informal way.

The final design was tried out using temporary materials to see how the children interacted with the space, which were then tweaked to get the best resource in practice. For example, a trial showed that mirrors and coloured canopies were ineffective as the children would focus on them too much, whilst water was extremely beneficial. Architect Catherine Greig, said: "One child screamed when we were using water. The staff explained that she rarely makes any sound and that this was amazing. Without the relationship we had with staff we would have assumed that screaming was a bad thing."



# Schools as part of the community

A strong two-way connection between school and community can enable a much broader and rounded learning experience for children. A Scottish project has explored the potential for learning to take place beyond the confines of the school walls – the potential of whole communities as places for learning.

By **Sam Cassels**, Design Advisor - Schools Programme, Architecture and Design Scotland



'Learning Towns', courtesy of Gareth Hoskins Architects

Scotland's Curriculum for Excellence encourages, recognises and fosters learning wherever this takes place. It recognises opportunities for learning beyond the school walls - and the potential of whole communities as places for learning.

Those who provide education, from nursery to university, are responsible for a vast estate at the heart of communities and cities. The spaces that surround these public buildings are not only a critical resource in learning - but also in redefining, regenerating, and enriching the public and private activities around them. In addition every town contains a great range of other public resources which could offer great learning experiences if institutional barriers could be overcome.

'Learning Towns' is a concept that provides a way of viewing whole communities as places for learning. It focuses on outcomes for individuals and communities using all of the resources that are around them. A project in Dumfries and Galloway, 'Senses



of Place : Learning Towns', has given valuable insight into how this could work.

In 2009, Architecture and Design Scotland's Schools Programme was invited to support Dumfries and Galloway Council in exploring how to redesign its educational system in the context of Curriculum for Excellence, efficient delivery of services, and investment in learning to help the town's economic regeneration. The emerging briefs from a number of collaborative events and conversations pointed towards Dumfries becoming a 'learning town' - learning would become the key prism through which any consideration of the town's future would be viewed and schools would be part of the whole rather than oases of learning.

Five architect and design firms were part of the project. They were handed a strong and authentic set of stories and voices, which had emerged from extensive consultation with pupils on the future of learning and its place in communities. Design is not just a drawing - it is an approach, a tool, a way of looking at the world and making it different. Inspired by the pupils' creativity and imagination, the five firms used their expertise to imagine different ways of doing things, and produced not only a unique view of future possibilities but a different view of the role of children in shaping this future.

Their ideas were not intended as a new direction for educational buildings - simply as a vivid illustration of what might be possible if we viewed our communities more creatively.

And it shows that we have real choices:

- Every day pupils pass by amazing educational experiences on their way to school. Exploiting these everyday possibilities for learning could transform educational commuting into 'journeys of discovery'.
- Sometimes educational possibilities can best be explored in highly specific

spaces. Within walking distance of many schools are buildings designed for other purposes which could also make exceptional 'polarised learning spaces'. For example, a park, an ice rink, indoor bowling centre, church or forest.

- Our communities and towns are about both places and connections. Looking beyond each school site as a stand-alone institution, whole towns could be mapped to identify specific 'hubs for learning'.
- Every town has its own diversity of places, spaces, and surfaces. Weaving these together as educational resources using the right interventions and tools could transform these places into 'educational landscapes'.

**Explore each idea in more detail at [www.smarterplaces.org](http://www.smarterplaces.org)**

We live and learn in places that are more than individual sites and buildings. Comparing what a school needs for learning with the best learning possibilities a whole place has to offer could inspire true 'learning quarters'. The project 'Senses of Place : Learning Towns' recognises the challenges posed by these concepts. But it also recognises that design can help us use what we have to deliver the best we can.

The same team of designers have since worked closely with the Schools Programme to develop their initial concepts and to explore how these might work in practice in a real context. Using these ideas to unlock the learning potential of Scotland's towns has led directly to the 'Senses of Place : Learning Towns' initiative.

Design offers us a way of looking anew at our towns. By bringing together participation and collaboration with a healthy injection of imagination and pragmatism, we can begin to see our communities as the places that children imagine they could be.

# Schools as part of the community

## A community hub

**Min Buri Old Market Library, Thailand. Winner, Making Space 2010. (Entrant: TYIN tegnestue Architects)**

The winning entry to the Making Space 2010 International Award is an example of a project designed to embrace the whole community - not just as a completed build but during the process of its design and construction.

The ultimate aim of the project was to inspire passion amongst a deprived community in Bangkok that would make a contribution towards its future development. The construction work was carried out entirely by the local community and volunteers and the finished library has become a vital community hub for children and adults alike throughout the day.

**View the 'winner's showcase' on page 52**

## 'Cutting edge facilities for the wider community'

**The Joseph Rowntree School, England. Shortlisted, Making Space 2010. (Entrant: Bond Bryan Architects)**

The Joseph Rowntree School is an example of a school designed to maximise the potential of its space and cutting edge facilities and equipment. By positioning itself as not only a school, but a resource for the wider community it is helping to reconstruct schools as real learning communities, and also secure vital income to help ensure its future financial viability.

The new facilities at the school, which include a lecture theatre, activity studio, multi-gym, sports hall, and therapy, massage and beauty suite, are all attractive to local lets. The school also includes an Autism Unit and has positioned itself nationally as a centre for excellence in technology and science education.



Joseph Rowntree School, England

## 'A one-door approach'

**Rainbow Family Centre, Port Glasgow, Scotland. Shortlisted, Making Space 2010. (Entrant: Inverclyde Council)**

Schools and early education and care centres are focal points in communities and can be ideally placed to be hubs for service delivery.

The Rainbow Family Centre in Port Glasgow is an example of a 'one-door' approach, providing a range of universal services to meet the needs of local families.

It was built on a brownfield site within an area in Port Glasgow which was about to undergo extensive regeneration. It laid the foundations for redevelopment of the neighbourhood - embedded in the heart of the community, surrounded by social housing and close to a secondary school.

As well as providing education and child care for children aged 0-5 in three playrooms and an outdoor area, the flexible accommodation provides a number of meeting rooms for a range of support services provided by different outside agencies. The Centre facilitates access visits for looked after and accommodated children and a crèche room is available to allow adults the space to attend classes whilst their children are cared for.

"The centre has been well received and accepted by the community. They have welcomed the new building into their neighbourhood and consider it an asset and are proud to access the resources provided. The building will continue to make good imaginative use of its accommodation to meet the needs of the community and will be well prepared to adapt to changes within the regeneration of the local area", said Inverclyde Council.



Rainbow Family Centre, Port Glasgow, Scotland

# Inclusion

The physical environment plays an important role in achieving an inclusive society - creating flexible learning spaces which open up educational opportunities to all and creating community spaces which give all citizens an equal opportunity to participate and lead fulfilling lives.



Sanderson's Wynd Primary School, East Lothian, Scotland. Shortlisted, Making Space 2010.

Inclusion, both educational and social, is central to Scottish educational policy. Flexible learning spaces, which cater for all learners' needs and remove barriers to participation, are crucial within the framework of the Education (Additional Support for Learning) Act and in Curriculum for Excellence.

## Design to support inclusion

Sanderson's Wynd, a new-build primary school in East Lothian, has been built with an integrated additional support for learning unit (named 'The Hub'), pre-school, early years and community facilities. Judges of the Making Space 2010 Architecture Award commented that: "It addresses inclusion in a way that is so often not addressed... it is important that all members of the community are brought together and not segregated, and this primary school brings that point home". The school's pedagogical model was described as "progressive and innovative".



Headteacher, Fiona Waddell, said The Hub is viewed as an integral part of the school. The children who come to The Hub are buddied up with children who attend the mainstream part of the school. They attend assemblies, some mainstream classes and likewise children from the mainstream part of the school go to The Hub on a weekly basis to do PE and music lessons. The whole school is learning sign language and encouraged to use it as a means of communication in school.

"I have noticed much greater understanding among both pupils and staff. Unless you come into contact with people who are 'different', in any way, people don't know how to react."

Sanderson's Wynd is an example of a school with an inclusive ethos that has been facilitated by the design of the physical environment.



Sanderson's Wynd multi-use gym hall - children from the mainstream school and The Hub have weekly PE lessons together.

### **Flexible and stimulating learning environments**

Only a minority of children have very complex needs that require a specialist unit like The Hub in Sanderson's Wynd Primary School. Mainstream schools should be stimulating and accessible for *all* children regardless of whether they have additional needs.

It is difficult therefore to separate an 'inclusive learning environment' from a 'good learning environment' as explored in *Successful learning through good design: pedagogy and architecture* (page 10). The

project Access all Areas (Children in Scotland, 2007), which has researched pupils' views on inclusion, revealed that whilst physical access and practical issues such as acoustics and lighting are fundamental, friendships and other social aspects are as important.

An environment that stimulates learning through good use of different textures, lighting and sound to enhance children's senses is an environment that is accessible to all and it may be that mainstream spaces could benefit from the sensory-rich interior and exterior designs of environments for children with complex needs (see Hazelwood School, page 38).

# Inclusion

## Design for complex needs

**Hazelwood School, Glasgow, Scotland. Shortlisted, Making Space 2010  
(Entrants: Alan Dunlop Architect Ltd and Glasgow City Council)**

Scotland affirms the right to additional support for learning to *all* children and there is a continuing need for specialist education facilities, which are designed to meet very complex needs.

Designed for children with sensory and dual sensory impairment, Hazelwood School resulted from considerable consultation and collaboration with parents, staff, agencies and the architects.

The architects worked in close collaboration with teachers, parents and children to achieve a state of the art campus, which will provide curricular and life skill facilities from early childhood to adolescence. The school caters for 60 students with multiple disabilities aged from 2 to 19.

The judges praised the entry as: "outstanding in pure architectural terms... and a responsive, fantastic space".



Hazelwood School, Glasgow, Scotland. Pictures by Keith Hunter and Andrew Lee.

## Community inclusion



Nagaoka City Child-Rearing Support Facility – long winter months create a real need for a community hub to help prevent feelings of isolation.

### **The Nagaoka City Child-Rearing Support Facility, Japan. Shortlisted, Making Space 2010 (Entrant: Hideyuki Yamashita, Nagaoka Institute of Design)**

Inclusion goes wider than schools and nurseries. A whole community will benefit if every member is able to be part of it and bring something positive. The Nagaoka City Child-Rearing Support Facility in the mountainous area of Niigata, is an example of an environment that has been designed to meet a real need – to contribute to the overall wellbeing of everyone in the community and help them feel included in community life.

Between 2 and 4 metres of snow can fall in winter and The Nagaoka City Institute of Design described it as “a long narrow dark tunnel” in which parents, particularly mothers, are vulnerable to deep depression.

The project was set up to provide a community hub – an indoor area for children where they can exercise in winter and an outdoor area – a park and a cherry-lined bank walk along River Shinano.

The building has three spaces - the ‘square’ for active indoor play, the ‘circle’ for babies and toddlers and for theatre performances (the most recent was a local musical production of Snow White) and the ‘triangle’ for adult education and support, and local themed evenings (for example a lecture on how to make delicious coffee). Other activities have included dance classes, concerts, puppetry, origami classes, bamboo flute-making classes, health consultations and foreign language lessons.

# Environmental sustainability

Public buildings can lead by example with energy efficient designs. And the benefits go wider than the environment – ‘greener’ buildings can enhance user wellbeing and are, in themselves, a powerful learning and teaching tool.

By **Karin Buvik**, an Architect experienced in environmental building design and a SINTEF<sup>(1)</sup> Project Leader.



New daylight openings in the Borgen Community Centre

Environmental sustainability is increasingly central to the planning, design and development of public buildings, not least because they have a responsibility to demonstrate sensitivity towards energy efficiency, but also because energy efficient designs often create more productive, uplifting and healthy environments which enhance users' wellbeing and improve learning experiences.

Considering children spend so much time in schools and early childhood centres, this benefit cannot be overlooked.

The aim is always to create an environmentally friendly building with low energy consumption and implementation of renewable energy sources but the focus is not purely technical. As energy efficient design moves into the mainstream, a more integrated approach combines energy technology with space design. It includes consideration of softer issues such as user involvement in the planning process, user wellbeing, opportunities for environmental



education, and the design of space to promote opportunities for learners and the wider community.

SINTEF took an integrated approach to providing advice on an energy efficient refurbishment of the Borgen Community Centre in Asker, Norway, first built in 1970. The refurbished centre contains a secondary school with workshops, kitchens and canteen, a local library, health care services, offices and meeting rooms for let and accessible space for local groups and leisure activities.

SINTEF advised on issues including the following.

**Ensuring more efficient use of space and resources:**

The building needed to be opened up to the community, making it suitable for a variety of activities and for use by local community groups.

**Reducing purchased energy consumption by half, and improving the indoor climate:**

Not only has this goal been achieved (energy consumption is at least 50 per cent of what it used to be, and the extra cost compared to a conventional building is expected to be paid back within 7 years) but the increased light and better ventilation and heating has meant users have reported improvements in overall wellbeing and productivity.

In aiming to reduce energy consumption, a five-step strategy was applied and follows.

**Reducing electricity consumption:**

achieved by new daylight openings, new hybrid and natural ventilation systems, thermal mass, solar shading, and efficient lighting.

**Reducing heat loss:**

achieved by improving insulation, replacing windows and more efficient heat recovery of ventilation air.

**Maximising solar energy:**

by using materials with high thermal mass capacity such as brick walls and concrete floors. Solar collectors were considered too expensive.

**Controlling and displaying energy use:**

using an energy management system that provides demand-led control of heating, ventilation and lighting and feedback and reminders for users.

**Implementing renewable energy supply:**

using a water-based heat pump, collecting heat from the ground for space heating, preheating of ventilation air and domestic hot water.

**An educational tool**

The feedback and reminders for users of the Borgen Community Centre on their energy consumption using the energy management system has had a positive impact on their awareness and knowledge of the issue. Kvernhuset School in Fredrikstad, Norway, another SINTEF project, has taken its commitment to integrating environmental education with the building to a different level. Each of the three school buildings are considered to be demonstration facilities for different subject areas – solar energy and energy consumption, aquatic issues and botany and recycling. The school curriculum was adapted to reflect this.

Energy efficient buildings are gradually becoming more mainstream, despite some resistance regarding the up-front cost. That is why demonstration projects such as Borgen, which demonstrate long-term financial savings and the overall benefits to users and the environment, are so important.

School buildings are often central in the minds of the public in general, and the demonstration projects and their successors are very likely to initiate a chain-effect that will result in a growing number of replication projects within few years.



(1) SINTEF is an independent research organisation in Scandinavia.

# Environmental sustainability

## Scotland's low carbon schools



### **Seaview Primary School, Monifieth, Angus, Scotland.**

Seaview Primary School was awarded the Carbon Trust's 2010 Low Carbon Building Award. It is predicted to save £29,000 each year in energy costs.

Heating is provided by a biomass boiler, which pumps hot water through insulated underground pipes. A significant proportion of the school's hot water is provided via solar panels on the roof.

### **Windygoul Primary School, East Lothian, Scotland.**

Windygoul Primary School was awarded the Carbon Trust's 2008 Low Carbon Building Award and is predicted to save £8,600 each year in energy costs.

An underfloor heating system provides warmth evenly across a whole room, supplied by efficient gas condensing boilers. Windows are strategically placed to provide maximum natural light and the artificial light that is used is connected to motion detection technology.

Sloped ceilings and windows provide a natural air conditioning system. Hot air from the classroom rises and escapes from the top window, while fresh air circulates from the lower window.

The deputy headteacher has described "a much healthier learning environment" as a result of improved heating and ventilation.

A solar water heating system generates hot water, and a solar photovoltaic system uses natural light to generate mains electricity. A display board in the dining area shows how much electricity the solar panels are generating.

For further information visit:  
[www.carbontrust.co.uk/energy](http://www.carbontrust.co.uk/energy)

A Building Energy Management System controls the heating and ventilation, maintaining comfortable conditions and healthy air quality levels inside by automatically opening and closing high level 'clearstorey' windows.

The design maximises the use of natural light through windows and skylights. Internal rooms without windows use highly reflective tubes running from the roof. The artificial lighting that is used, uses motion detectors to prevent wastage.



## Creative recycling



**The Geopark, Norway. Shortlisted, Making Space 2010. (Entrant: Helen & Hard)**

The surfaces and installations of The Geopark were constructed out of recycled and reshaped elements from the petroleum sector taken from abandoned fields, offshore bases, equipment suppliers and scrap heaps. The project was developed as an experimental urban space and activity park. Judges of the Making Space 2010 Architecture Award, described it as "a model project".

## Innovation

**The Space Lab, University of Tokyo, Japan. Shortlisted, Making Space 2010. (Entrant: Kohki Hiranuma Architect & Associates)**

The 'Space Lab' is constructed of only glass and wasted wood material that has been regarded as unsuitable for building because it is too thin or bent. The architects want to promote the use of these "thinned materials", which would otherwise be discarded, as a method of helping to restore balance to the natural environment. The space is widely used by both university students and the local community.

Judges described the project as: "beautifully constructed... very innovative with great use of space and materials".



# Promoting innovation and quality in financially difficult times

Sharp cuts in budgets will inevitably impact on design and building projects. The Scottish Futures Trust is coordinating Scotland's school building programme and hopes that with creativity and imagination it will still be possible to create innovative spaces for children and young people.

*By Grant Robertson, Associate Director of the Scottish Futures Trust.*



Tyncastle High School, Edinburgh, Scotland. Photo by Paul Zanre.

Scotland can and must continue to deliver innovation and quality in the design and build of spaces for children at a time when budgets are very tight. The Scottish Futures Trust is meeting with all Scottish local authorities to encourage a fresh look at how design briefs for schools are set and managed. If one thing is clear it is that changed times will require a changed approach.

Delivering high quality, sustainable space for children requires innovation in thinking, processes and design. Local authorities and their design teams must be prepared to step back and review processes and procedures to ensure stakeholders get what they need. Cost is a constraint and quality solutions don't just happen. They require the involvement of a committed team who have the necessary skills, can allocate sufficient time and resource, and are prepared to challenge existing historical solutions and preconceptions.

We must consult and engage with all



stakeholders early and, critically, take hard decisions and explain why certain items are included and others excluded. If consultation is undertaken well, with clarity over both objectives and cost constraints, recent experience shows that stakeholders welcome the involvement, appreciate the complexities and accept that firm decisions are made following a well informed process.

Feedback in 2009 from staff and pupils on 28 of Scotland's recently completed schools (Scottish Futures Trust, 2009) was both positive and informative, with no unrealistic demands but rather a clear wish to have buildings which are fit for purpose. Comments ranged from wanting corridors to be sufficiently wide, toilets to be clean and designed so as not to encourage bullying, rooms that do not overheat in summer and adequate social space. If these needs, which are an integral part of Scotland's Schools for the Future programme, are achieved, then in the eyes of the users, building quality will have improved.

Over the years quality has proven difficult to evaluate and local authorities must establish early on which objectives are key to the success of the project, and which are simply 'wants' or added on by a subset of stakeholders or user groups. These objectives need to be achievable and remain the focus throughout the various stages of project development.

Buildings must work hard, be fit for purpose, and represent value for money – not just because of the financial climate but to comply with best practice. We need them to be efficient, effective, and where possible flexible, to make them socially, environmentally and economically sustainable. It is important to focus closely from the outset on the buildings' ultimate users and beneficiaries and not the inherent interests of those engaged in the creation of the building and subsequent delivery of services.

Overall quality cannot simply be evaluated by a series of metrics such as how much area is allocated per pupil, although such high-level parameters are relevant to bring a focus to

definition of needs not wants when budgets are constrained. Quality of outcome must be deliverable within high level parameters set, but assessed by a much more rigorous evaluation process and include the evaluation of points raised during the 'lessons learned' exercise. A host of other points will be identified by local authorities as they develop their briefing requirements assisted by their design teams and stakeholders throughout the engagement process.

To get the most from the limited resources available, a fresh approach to information sharing between organisations is needed. The Scottish Futures Trust is facilitating the sharing and building of best practice. We are not promoting standardised buildings, but the view that some component parts of schools are common. For example, if local authorities decide to adopt a particular teaching approach such as standard classrooms, there is no need to reinvent the wheel. Collectively we can make sure we create the best standard classrooms they can be and as a result focus more attention on elements that will benefit from being different in different settings.

The Scottish Futures Trust will also be helping teams look outwards to England, Ireland, Scandinavia and Canada to learn from wider experience, explore new approaches and procurement routes, consider early contractor involvement and much more...all in an effort to improve the quality and build of spaces for children.



Bloorview Kids Rehab, Canada. Shortlisted Making Space 2010 (Entrant: Montgomery Sisam Architects Ltd)

# Promoting innovation and quality in financially difficult times

## Imagination and innovation on a budget

**Hyndland after-school club, Glasgow, Scotland. Shortlisted, Making Space 2010. (Entrant: Abbozzo)**

The brief was to create much needed additional space, incorporating separate boys and girls toilets, a kitchen, storage space, staff facilities and a cloakroom. The original space was just 140 metres square shared by more than 60 children and 10 staff with only one toilet and hand basin.

In order to increase the existing space by over 40 per cent and still come in on budget the only achievable option was to create new floor space within the existing building envelope.

The client felt very strongly that they wanted to maintain the open feel of the club and so it was decided to use the generous height of the building to create two new mezzanine levels. There were extensive negotiations with local authority building control to allow for such an open and, what the architect and users considered to be, particularly child-friendly design.

The creation of two separate colour-coded mezzanines, one for children and one for staff, created an additional 58 metres square in total. New toilets for children and staff, and a new kitchen were also created.

The build had to rely on materials that could be sourced off-the-shelf in order to keep capital cost and any subsequent replacement cost to a minimum. And central to the design was ease of installation and construction.

The outcome has been a space described as "elegant, colourful and warm" by the judges, and a "low cost, imaginative and innovative use of old premises, and a very ordinary space." It is an idea that "could be replicated in other places".



## Breathing life into existing buildings



**Erika Mann Elementary School 2, Germany. Shortlisted, Making Space 2010. (Entrant: Susanne Hofmann Architekten and Die Baupiloten)**

It is inevitable that, when educational concepts and policies radically change, even solidly built schools and early education and care centres have to be renovated.

Architect Susanne Hofmann, said: "Plans are often socially ambitious but budgets are usually constrained within narrow limits, mostly not sufficient to allow for changes in the structure. In some cases it is not economically feasible to make even minor alterations to the fabric of the building, so many reconstruction projects have to be completed within a narrow framework but to maximum effect."



"The Erika Mann Elementary School was successfully modernised with a very tight budget. The broad corridors and hallways of the schoolhouse provided sufficient space to accommodate additional work and leisure areas. However, the biggest challenge was the use of non-combustible materials to comply with fire regulations."



"Working with pupils, the idea of the 'Silver dragon world' was conceived, which formed the basis of the modernisation project's playful and expressive architecture. The reconstruction captured the imagination of the children to such an extent that they were able to feel and describe the presence of the dragon. The identification with the school was also so great that, three years after the renovation work, nothing has been defaced or destroyed."

Judges described the project as: "innovative and colourful" and "a great example of the imaginative re-use of an existing 60s building".

# (Re)designing streets

Some of the most important learning experiences a child will have take place beyond the school or nursery gates, and far away from play parks. Architects and planners have a responsibility to consider how space used by the wider general public can be designed with children's needs in mind.

By **Michele Zini**, Architect and Designer with ZPZ Partners



Piazza Risorgimento, Italy. (page 51)

Cities are not designed for children despite the fact that many, many children live out their childhood in them.

The view of the child as a 'competent citizen' respects children for being children – they have their own way of using spaces. So why is it that this is often only a central consideration in the design of spaces exclusively for children, like early education and care centres, schools and play parks? Children do not stop being children when they leave these spaces, and in fact spend a relatively small proportion of their time in them.

Designing contemporary spaces that are welcoming for children and respect their right to explore and play is one of the biggest design challenges facing architects and urban planners today.

The design process must assume the child as a central subject in everyday spaces such as streets, squares, airports, shops, restaurants, waiting areas, hospitals and



cafes. We're not talking about supporting parents in whatever functional activity they are carrying out, like putting family parking bays in supermarkets. This is about placing the child's needs, as well as the adults, at the centre. Because children are citizens with rights and active players in urban daily life as much as adults are. Design must be focused on supporting fertile relationships between people through comfort, light, understanding of the space, quality and beauty.

ZPZ Partners approached the design of these 'other places' for childhood, together with Reggio Children and PLAY+, inside Terminal 5 at Heathrow airport. Since children are passengers, they deserve to have dedicated areas where they can move and play safely, so that parents can watch them while seated and children can interact freely without too much intervention.

The Atelier dei Sapori at the Loris Malaguzzi International Centre in Reggio Emilia, Italy, is another example. It is a restaurant, food shop, bookshop and bar underpinned by an educational philosophy. Each and every area is viewed as providing learning opportunities for

children. Staff support children's food knowledge and involvement - children can order first with various tools to help them do this, such as a drawing set or menu designed for them. There are small areas such as a soft reading area and books. The design is based on values outlined in page 11 - taking into account use of colours, lighting and use of materials.

ZPZ is currently designing tools to help make all food shops in Italy child-friendly in this way and to make children aware of the agricultural and food supply chain, encourage creative and autonomous relationships between children and shop staff and support parents in preparing recipes.

Reggio Emilia is currently in the early stages of developing a research project on how to make the whole city child-friendly. This will involve not only architecture but also service design, interaction design, urban management, product design, communication, social network tools, in the belief that this approach will not only make the city better for the children but it can be a central strategy that will impact on the city's evolution.



Piazza Risorgimento, Italy. (page 51)

# (Re)designing streets



## **TimberPlay Playspace, Scotland's housing expo, Inverness, Scotland. Shortlisted, Making Space 2010. (Entrant: Cadell2)**

The Expo is a demonstration housing project for the Scottish Government's Placemaking policy. The aim of Highland Council was to stimulate imaginative new approaches to 21st century housing to create a mixed, balanced and well-integrated new community. The core brief was to meet planning policy requirements in the provision of a Local Area for Play (LAP) and a Local Equipped Area for Play (LEAP) within a new housing development of 52 houses (now completed) and 42 houses (planned growth). However the design philosophy is much more extensive, prioritising design for pedestrian use, social activity and children's play and this has had a profound influence on the housing layout as a whole.

## **Designing streets**

Recognition that children are citizens and users of urban spaces is present in the recent Scottish Government policy *Designing Streets* (2010). It is a policy statement for street design that aims to change the emphasis in guidance on street design towards place-making and away from a system focused upon the dominance of cars. The policy holds the following references to the need for urban environment that respect a child's right to play.

### **Squares & spaces**

*The introduction of small, informal squares in a residential area can support navigation, provide social areas for people to gather and children to play, slow traffic speed and create positive character.*

### **Streets as social spaces**

*A significant amount of interaction within a community takes place in the external environment, and street design should encourage this by creating inclusive social spaces where children can play, people can stop to chat, and other appropriate activities can take place safely. In order for this to occur, it is essential that vehicular traffic does not dominate the street.*

(A policy statement for Scotland; designing streets, 2010)



**Piazza Risorgimento, Italy.  
Shortlisted, Making Space 2010.  
(Entrant: Ma0/emmezeo studio  
d'architettura)**

Piazza Risorgimento in Bari is an example of a public space that has been transformed in a way that will maximise its potential for practical use by children and young people.

The design for the piazza includes public benches that can be moved around and altered according to the wishes of the individual.

Not only does this design allow the benches to be moved in or out of the shade, the fact they can rotate has also meant they have the option of being moved at an angle to bring them closer together. This can easily facilitate larger group discussions amongst any age group, including young people.

The shape of the benches is also open to interpretation and can be used in different ways - they are designed to be comfortable to lie on, or they can seat roughly four, another aspect that is popular with the younger community in the area.

Piazza Risorgimento is being used in a more effective way and has proved to be more popular with the local school children. It has been described as the city's "centre of life".

Judge, Paul Stallan, RMJM, said of the project: "I could write a thesis on why this simple project is worthy. Fundamentally, it is for me about citizenship and the role of public space within our cities."



## The winner's showcase

'They have ambition; they are contextually, climatically and culturally responsive. They are socially supportive and life affirming ... and they are also beautiful'.



"Box shelves" in the Min Buri Old Market Library. Photo by Pasi Aalto / pasiaalto.com

### Winner of Making Space 2010 Architecture and Design Award

**Old Market Library, Safe Haven Orphanage, Soe Ker Tie House, Thailand. (Entrant: TYIN tegnestue)**

The overall winning entry to the Making Space 2010 Architectural Award was praised not only for its "outstanding architectural qualities" but for its "completely child-centred approach... which meets the needs of a child within a social and cultural context".

The entry from Norwegian practice TYIN tegnestue, incorporated three buildings built as part of humanitarian projects in Thailand – the Old Market Library, Safe Haven Orphanage library and bathhouse and Soe Ker Tie House, a children's residential home. They testify to the power of an holistic approach to architecture and design, which can transform the lives of



children and the wider community. They also demonstrate what can be achieved even if big budgets are not an option.

The three projects helped to create environments that are nurturing and protective, yet inspiring and empowering. They respect unique local identity, invest in local human and material resources and demonstrate meaningful collaboration with users. According to the Making Space International Award judges: "They have ambition; they are contextually, climatically and culturally responsive. They are socially supportive and life affirming ... and they are also beautiful."

### **Min Buri Old Market Library, Bangkok, Thailand**

The Min Buri Old Market Community was once a commercial centre but a fire in the late nineties forced trading activities across the canal and the community changed from one that was vibrant to one deeply affected by deprivation. Its people are often referred to as 'urban poor'. Many in the community do not enjoy security of tenure and have limited access to services like health, water, sanitation, housing, education and employment.

The aim of the project was not just to build a library, but to inspire lasting passion in the local community that would contribute towards future development of the community.

TYIN lived close to the site for five months and got to know the community on a personal level through video-nights, meetings and community workshops where everyone could get involved to help clear the site. "Our presence in the community became natural and fluent, enabling us to understand better what resources the community lacked and what they possessed."

The project was built inside a 100-year-old market building. All materials were sourced close to the site or bought second-hand at a nearby wood recycling facility. The construction work was carried out entirely by

the local community and volunteers, supported by the architects, which has not only helped to ensure a sense of local ownership and pride but empowered the community with an invaluable set of skills.

The Library has become a community hub for children and adults alike throughout the day. It is full of donated books, magazines, board games, a television, computer and other resources. There are several spaces for different activities, including an outdoor shaded reading area, a small quiet reading area, a loft floor and a raised area for computer use. Some local children use back space for dance practise.



The Main Room in the Min Buri Old Market Library. Photo by Pasi Aalto / [pasiaalto.com](http://pasiaalto.com)

The project is owned by the community through an informal board of leaders, and is run and maintained by users. Children have agreed on house rules such as no fighting, no gambling, and no shoes to be worn inside.

# The winner's showcase



Safe Haven Orphanage. Photos by Pasi Aalto / pasiaalto.com

## Safe Haven Orphanage and bathhouse, Ban Tha Song Yang, Thailand

Safe Haven Orphanage is a home for around 50 orphaned Karen children, part of an ethnic group that lives under persecution from the Burmese state.

The brief was to build a bathhouse and library for the orphanage, with the library set to benefit the wider community. The manager wants the library to be open for all local children as a safe environment for doing homework and hosting gatherings. Space in the library

has also been reserved to provide a sleeping area when the capacity of the orphanage is too small. In fact 6 months after it was built, the orphanage had to house 85 refugees during a period of heavy rain.

All the materials were sourced locally – the bamboo was cut less than 1km from the site, the bricks and concrete were sourced from a nearby market and the urinals in the bathhouse were made from old tyres.

All of the children at the orphanage at the time of its construction were involved in their own way. The older children helped with construction while the younger children helped to collect materials and tools.



Soe Ker Tie House. Photo by Pasi Aalto / pasiaalto.com

### **Soe Ker Tie House, Noh Bo Village, Thailand**

The goal was to provide a home for 24 persecuted Karen children to help them experience as normal a childhood as possible. "We wanted every child to have their own private space, a home to live in and a neighbourhood where they could interact and play."

The six buildings were built entirely by a local workforce, following a set of simple and robust construction principles and using a local bamboo weaving technique. Not only did this provide a vocational training ground for young unemployed men in the village, it will make it easier for the local community to accommodate any future expansion, maintenance and refurbishing work that is required.

The indoor spaces are open and semi-private to make sure the children can invite their friends and visitors into their homes while keeping the most private space of their sleeping area to themselves.

In addition to basic functions like toilets, bathrooms and kitchen, the area around the buildings are equipped with places to meet. There is a swing, benches, different staircases, an outdoor chessboard, a barbecue area, ball pitches, a climbing castle and a pond. The shaded areas are suitable for homework.

# Conclusion

**By Richard Yelland**, Head of the Education Management and Infrastructure Division, OECD (Organisation for Economic Co-operation and Development). The division manages the Centre for Effective Learning Environments (CELE).



OPEN Youth project, England. Shortlisted Making Space 2010 (Entrant: Hudson Architects)

Scotland is taking forward an ambitious school building programme that is being shaped by a paradigm shift in our understanding of the role of education.

As in many other OECD economies, this shift is from the standardised model of education, which prepared children for an industrialised economy, to one which prepares children for a knowledge-based economy where creativity, innovation, ingenuity, and life-long learning are essential. In Scotland this shift is reflected in the Curriculum for Excellence and it will require environments for children which support its aspirations.

No-one would deny the importance of parents, teachers and other nurturing role models in helping children to acquire the skills they need to thrive, but the themes to have emerged from **Making Space 2010** demonstrate just how influential the physical environment can be, particularly in helping children to be protagonists of their own learning.



The descriptions of what architects believe constitutes a good learning environment (on pages 12-17) reinforce the idea that quality goes way beyond building structurally sound schools and nurseries.

Soft qualities such as light, colour, touch, smell, sound and micro-climate have the power to enhance or diminish children's overall sense of wellbeing and thus enhance or diminish their learning experience. The way that space is organised can encourage or hinder opportunities for getting parents and community involved, for group work where relationships are cemented and creative ideas thrashed out, or for quiet individual reflection.

And let's not forget that 'learning environments' are not confined to indoor space. Outdoor space provides children with different opportunities to push their boundaries physically, intellectually and emotionally. This does not necessarily have to be grounds attached to a school or nursery – a diminishing resource particularly in urban areas. 'Learning environments' are everywhere as demonstrated by the Architecture and Design Scotland project *Senses of Place : Learning Towns*. As Michele Zini also points out, children do not stop being children when they are outside a school or playground. The wider cityscape where a child grows up will play a significant role in shaping them, providing opportunities for developing social maturity and confidence. Scotland's policy 'Designing Streets' (page 50), which puts people above the vehicle, is an important development. But it is Reggio Emilia's ambitious aim to make the a whole city child-friendly (pages 48-49), underpinned by its view of the child as a competent citizen with rights, that ties in particularly well with new aspirational educational approaches like Curriculum for Excellence.

The physical environment is complemented by the virtual environment - the hardware and the software which connect people in so many different ways. Digital technology has fundamentally transformed the relationships between learners and teachers; has brought together people in different communities and countries; and has revolutionised the creation

and transmission of ideas and knowledge. Education - which has enabled these changes – often struggles to adjust to them. The OECD is committed to improving the quality of learning environments for children and young people, promoting the exchange and analysis of policy, research and experience through partnerships and supporting programmes like **Making Space 2010**.

One of the biggest issues, and one which emerged during the **Making Space 2010 conference**, is that the impact of the physical environment on a child's educational outcomes is hard to quantify. More clarity is required in this area, particularly when the economic climate is forcing countries to make hard decisions, as described by the Scottish Futures Trust (pages 44-45). This is something that OECD work on innovative learning environments and on the evaluation of the quality of facilities is trying to address. Research focuses in on the nature of learning itself, as well as on educational policies, management and organisational structures. When we take into account our rapidly increasing knowledge of educational outcomes we have the potential for real improvement.

So if we have a clearer idea of *how* children learn, we should be able to design environments that will bring out the best in them. Society will continue to evolve and technological change will surely continue unabated, and we will need to keep on working to improve the environments that our children grow up and learn in. The showcase of inspirational environments that **Making Space 2010** has attracted gives confidence that there is enough creativity, innovation and determination out there to ensure this will happen.



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**All shortlisted entries to the Making Space 2010 International Award, and the overall winning entry, are available to view online at [www.childreninscotland.org.uk/makingspace](http://www.childreninscotland.org.uk/makingspace) and [www.smarterplaces.org](http://www.smarterplaces.org)**



# Making Space

architecture and design for children and young people



This publication builds on key themes that emerged from the international conference Making Space 2010: architecture and design for children and young people, held in Edinburgh, in October 2010. It also provides a showcase for the winning and many of the shortlisted entries to the associated Making Space 2010 International Award.

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*"We will need to keep on working to improve the environments that our children grow up and learn in. The showcase of inspirational environments that **Making Space 2010** has attracted gives confidence that there is enough creativity, innovation and determination out there to ensure this will happen"*  
Richard Yelland, OECD

Children in Scotland is the long-standing national 'umbrella' agency for the whole of the children's sector reaching over 250 000 individuals through our extensive membership of more than 450 statutory agencies, voluntary sector organisations, professional associations and community groups.

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