The Communication Friendly Spaces™ Approach:
The targeted use of colour in learning environments

The Communication Friendly Spaces™ (CFS™) Approach helps to create positive learning environments for children, young people and adults. This guidance paper is one in a series about the way that colour in the learning environment can impact on behaviour, communication, emotional well-being and general engagement. Getting the environment right for learners contributes to their overall achievement.

The targeted use of colour is one of the most challenging aspects to get right in a learning environment. Over the years, the idea that young children thrive in brightly coloured environments and that a vivid combination of primary colours is the best way to stimulate them and to support their learning has become established in many places for children.

Reviewing the wide range of research studies into human response to colour has led us to question this. The work that we have carried out with over 26,000 practitioners, teachers and families has prompted us to examine this view more critically.

Stop and think

What colours do we prefer?

How many adults would choose the same colours in their living room as those seen in many schools?

We're not suggesting that all environments should be totally neutral but when colour is used more thoughtfully, in an informed way, it can enhance learning, influence mood and atmosphere.

Concentration, behaviour, well-being and attainment

Frank Mahnke, a researcher working in the USA, found that colour can affect attention spans, creativity, feelings of safety, and comfort levels in a space.

Diana Vining, working in Philadelphia in 2006, found experimental evidence that the physical state of a school can affect attendance, instances of violence, and academic performance.

Dr. Willard R. Daggett and colleagues, found that: 'Colour is an important factor in the physical learning environment and is a major element … that impacts student achievement, as well as teacher effectiveness and staff efficiency… Specific colours and patterns directly influence the health, morale, emotions, behavior, and performance of learners.'

Alison Clark, UK on consulting primary children about colour preferences found that "the responses covered a spectrum of colours, with more girls in this small sample suggesting purples and pinks than the boys. Nicholas was aware that he would like the colours to blend with the other furnishings. Colour schemes were equally varied for floors. For example, Alex suggested blue green yellow and black. Fernando introduced the subject of patterned flooring, which he apparently had a strong aversion to: "I hate patterns." This raises the question of what assumptions are made about designing interiors for young children.'

Possible spaces P87 Transforming Children's Spaces Children and Adults participation in designing learning environments. Alison Clark Routledge 2010.

Mood

We know that colour can affect mood. How often do we use the term to 'see red' when we describe anger? And how often do we see soft blues and greens used to induce feelings of calm in places such as dentists' waiting rooms and doctors' surgeries? Children's moods too, are affected by the colours that surround them. Sensory rooms or those places in nurseries where young children and babies rest and sleep, are at their best when sensitively decorated in calming colours.

Linking colour to planned activities and areas

It's important to think about the whole space, inside and outside, and to decide what you want to happen in them. If the colours are 'too neutral', they can give an impression of coldness and hardness that could feel unwelcoming or uncomfortable.

Look at the New Zealand-based paint company Resen's paper 'Colours for living and learning', on the impact of colour in a range of spaces on babies, children, young people and adults.

Click HERE to visit their website.

Connecting colours for walls, floors, furniture, storage, fabric and equipment

When we decorate at home, we tend to choose one main colour and then add accessories in similar tones, or complementary colours. This approach works well in schools, settings and public spaces too.

Newcastle University researcher Pam Woolner, found that 'small and relatively low-cost alterations to the learning environment, such as changing the colour of classroom walls, could make a significant difference to the classroom experience.'
When colours are chosen from a natural palette they make the space feel open and calm. They also enable the resources and most importantly the people using the space feel more relaxed, at ease and able to concentrate.

Stop and think

Ask yourself and your team: 'What do we want it to feel like in this area?' Use colour to set the scene, encouraging this to take place.

Displays

The use of colour in displays should be more than merely decorative. Children's work is what we want to look at when we see a display. Using a wide variety of backing papers and borders leads to a 'fight for attention' in our brain. When neutral colours are used, we focus on the work and not the backing, as these two examples demonstrate.

Look at our website for a 'before and after' DVD about display from Woodpeckers pre-school.

Don't forget outside!

Think about how natural light affects inside spaces and how it causes changes that can dramatically alter the effects of colour throughout the day and with the changing of the seasons.

Make links between inside and outside spaces wherever possible by using similar tones and shades to merge the two areas together and promote a sense of outside when you are inside.

Case study: Using colour effectively

Great Dunham Primary, Norfolk had a new classroom. Staff were torn between choosing a deepish shade of green, a warm blue, or a shade of terracotta that would feel cosy in the colder months.

After much deliberation they decided on a shade of blue for feature walls that was happy and warming, but clean and fresh and calming for the children (and staff). Other walls were painted cream.

Display boards were a pale cork colour, while the flooring was 'biscuit' coloured with tiny specks of pale silvery blue.

Outside areas blend well with inside spaces and

include plants in colourful children's wellingtons outside the play house, bicycle wheels on the fence that have been woven with cheerful splashes of coloured fabric and saucepans tied to the fence for a musical area.

The whole setting works well, the links between the inside and outside spaces are harmonious and pleasing. Feedback from children, parents and carers is positive.
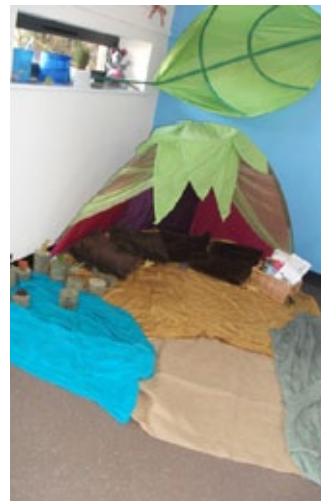
Colour and special educational needs

We know that people within the autistic spectrum are affected by colour, and that 1 in 12 men have a form of colour blindness. It is also clear that good colour contrast is important for the visually impaired.

Autistic Spectrum Disorder (ASD)

There is some evidence that children in the autistic spectrum can become stressed by colour and patterns. There are calming colours and stimulating colours, warm colours and cold colours. The choice of colour in a building can have an impact on behaviour. Research is available on this subject and care should be taken to select and use colour in a way that creates a warm but not over-stimulating environment.

Anne Thorne Architects found that for example one wall painted in a golden yellow as a focal part of the hallway of a special needs school they worked on, was enjoyed by the children coming into the school. Lit by roof lights it created a sunny and warm spot to welcome.

The level of stimulation needs to be controlled because autism is typically marked by extreme sensitivity to the sensory stimulation of sound light and colour.

Temple Grandin, whose books describe her own experience with autism, has written that fear — including a terror induced by the spatial disorientation that autistics experience in large, busy, unfamiliar environments — can overwhelm an autistic person. That fear can cause an autistic child to block out the outside world.

Designing an appropriately colourful environment for children with autistic spectrum disorders.

Anne Thorne's experience concurs with Magda Mostafa that there is a place for different colour experiences in a child's life that are carefully designed but awareness of the effect is all important. Mostafa advises the following:-

• Use bright colours to create visual stimulation for the hypo-visual.

• Use neutral colours to create serenity for the hyper-visual.

• Use warm colours to create psychological warmth for the hypo-tactile.

Stop and think ?

'Approximately 1 in 12 men and 1 in 200 women suffer from some form of defective colour vision.'

http://www.theiet.org/factfiles/

Defective colour vision

Vision itself isn't affected, only the ability to distinguish between certain colours. Understanding how colour blindness affects children is important and needs to be thought through when using colour, for example for the identification of different classrooms.

Different shades of red appear dull and indistinct. Greens, oranges, pale reds and browns all appear as the same hue, distinguished only by their intensity.

In one rare form of colour blindness, blues and yellows can't be distinguished. In another, all colours are seen in black and white.

Using colour to support partially sighted learners

At Reading University the Project Rainbow has studied the benefits for partially sighted of using colour contrast. This is now incorporated in Building Bulletins and in Part M of the Building Regulations.

• Partially sighted individuals gain a perception of spaces they entered by scanning the whole room. The critical surfaces are those that are the least cluttered.

• Good colour definition between these surfaces helps with perception of size, for example to judge the distance between the wall and the ceiling.

Consider

• Differentiating ceilings, walls and floors.
• Shiny surfaces are confusing - use matt or mid sheen colours.
• When pattern is used the colour that occupies the largest proportion of the area is most significant.

Stop and think

Conduct a colour audit.

As you walk round your school or setting, ask youself:

• Is our setting sensitive to the way that colour is used?
• How might the impact of colour be improved across the whole of our setting or school?
• How could we target the use of colour to support learning?
• What could we change immediately?
• How could we make measured changes over time to achieve a better balance?
• Are we confusing 'fun' and learning in the colour schemes that we have and what message is that giving to children, families and visitors about what our learning intentions are?

Designing with colour

Tips
• Choose colours from the cool end of the colour wheel.
• Keep flooring dark and walls light and the floor space will appear to expand.
• A low ceiling will appear higher if painted a lighter shade than the walls.
• Use the deepest tone of colour near to the floor and the lightest shade on the ceiling. This will give the illusion of space. Try it the other way around to see how a room can be made to look smaller.
• A small room doesn't have to be painted in light colours. Emphasise its cosiness by painting it a midnight blue or deep red.
• To make a room appear cosier, choose colours from the warm side of the colour wheel.
• A sunny yellow will 'heat up' a room, but don't go overboard, complement it with a white ceiling and woodwork to keep it looking fresh.
• A warmer shade used on the ceiling will bring the height of a room down and make it feel cosier.
• When using bright colours such as orange and red, remember to maintain balance by keeping the floor and carpet neutral. Don't overdo it, small amounts can stimulate the senses.
• The far end of a long corridor will seem closer if painted in a darker shade.
• In a long corridor-like room, paint the two, shorter end walls in a slightly darker shade to make the room appear squarer.
• Use texture to define different surfaces and try to keep to colours that appear in nature or with exposed natural materials such as wood and wool and linoleum.

Stop and think

- How much light the colour will reflect. Dark colours make a poorly lit room darker but may be cosier.
- Choosing colours that match- see if you can find a painting material or wall paper with the colours you are thinking of using and use paint swatches from the paint manufacturer to match the colours against the picture.
- Make sure you do this in daylight or in the room you are going to decorate with the lights on.
- Remember the subtlety of the image is also to do with the ratio of colours.

Find out more

http://www.psychologypower.com/how-color-affects-mood.html

http://www.livestrong.com/article/169976-does-color-affect-your-mood/

http://www.ehow.com/list_7016964_sensory-room-color-ideas.html

http://www.ncl.ac.uk/cflat/about/schoolbuildings.htm

Sensory Room Color Ideas | eHow.com http://www.ehow.com/list_7016964_sensory-room-color-ideas.html#ixzz1KWNDZGDP

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Building Bulletin 98, BB 98, Briefing Framework for Secondary School Projects.

Building Bulletin 77, BB 77, Designing for Pupils with Special Educational Needs and Disabilities in Schools.

A design guide for the use of Colour and Contrast to improve the built environment. Produced by University of Reading Project Rainbow with Dulux Technical Group.

http://www.bbc.co.uk/homes/design/colour_wheel.shtml

http://www.annethornearchitects.co.uk/

Colour Vision Defects A Factfile provided by the Institution of Engineering and Technology. theiet.org/

An Architecture for Autism: Concepts of Design Intervention for the Autistic User.

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Designing a tailorable environment for children with autistic spectrum disorders.

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Color in an Optimum Learning Environment Dr. Willard R. Daggett, President, International Center for Leadership in Education Jeffrey E. Cobble, Executive Vice President and Director of Educational Design, and Steven J. Gertel, Senior Project Architect, Harvard Jolly, Inc. March 2008.