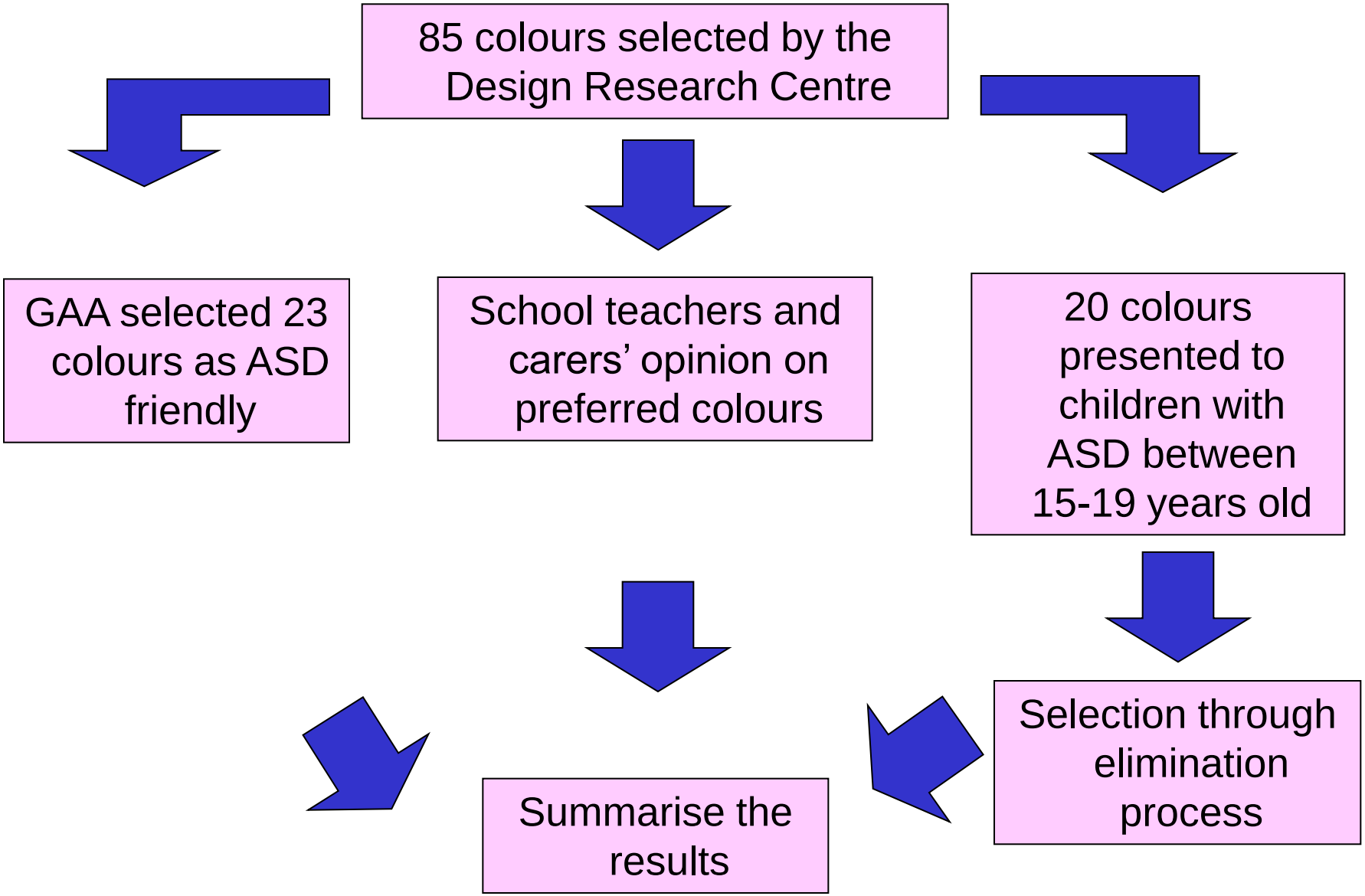
Designing Environments

for Children & Adults with ASD

About GA Architects

- Designers of environments for ASD
- New build and refurbishments
- Residential, educational and respite
- CDA to London Borough of Hackney
- Advisor to school in Svendborg Denmark
- Member of Sensory Star Advisory Board of America
- Member of British Standards Institute Neuro-diversity Working Group
- Collaborator with University of Kingston research project on colour palette for Autism
- Associated with Sapienza University of Rome
- Regular speakers at conferences
- Organisers of twice yearly seminars on ASD

The Method


85 colours selected by the Design Research Centre
GAA selected 23 colours as ASD friendly
School teachers and carers' opinion on preferred colours
20 colours presented to children with ASD between 15-19 years old
Selection through elimination process
Summarise the results

Basic Principles

- Low arousal colours

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- Single colour

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- Organic and non-toxic and low odour paints

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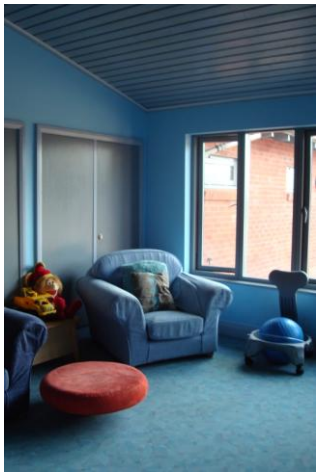
- Patterns should be avoided

X

- Soft furnishings should also be kept fairly plain



√

- Patterned floors can be confusing and may increase anxiety

X

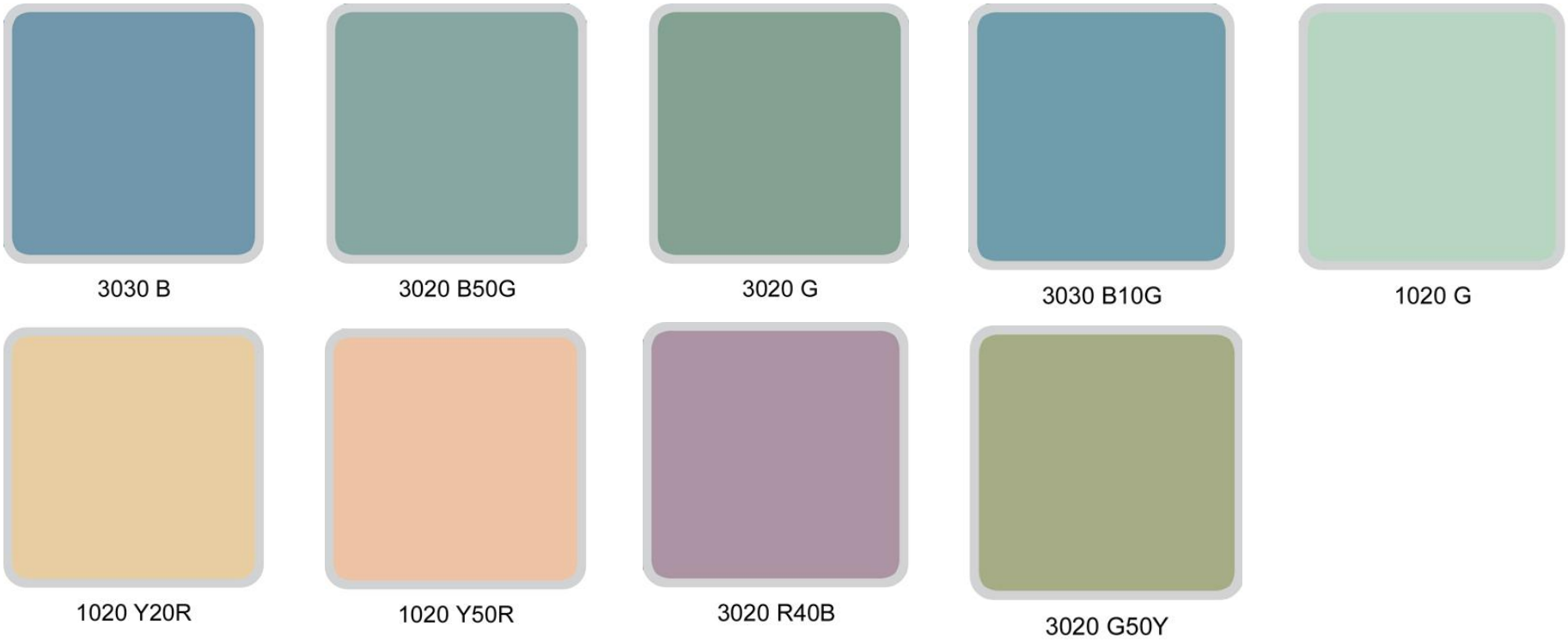
GAA Colour Palette Selection

Colours used on various projects visited

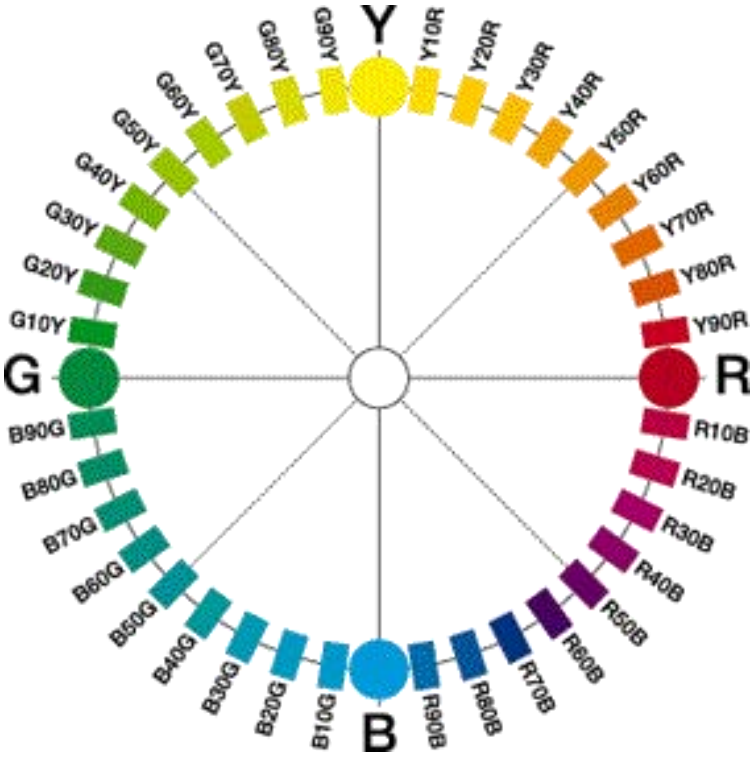
Colour palette presented to children

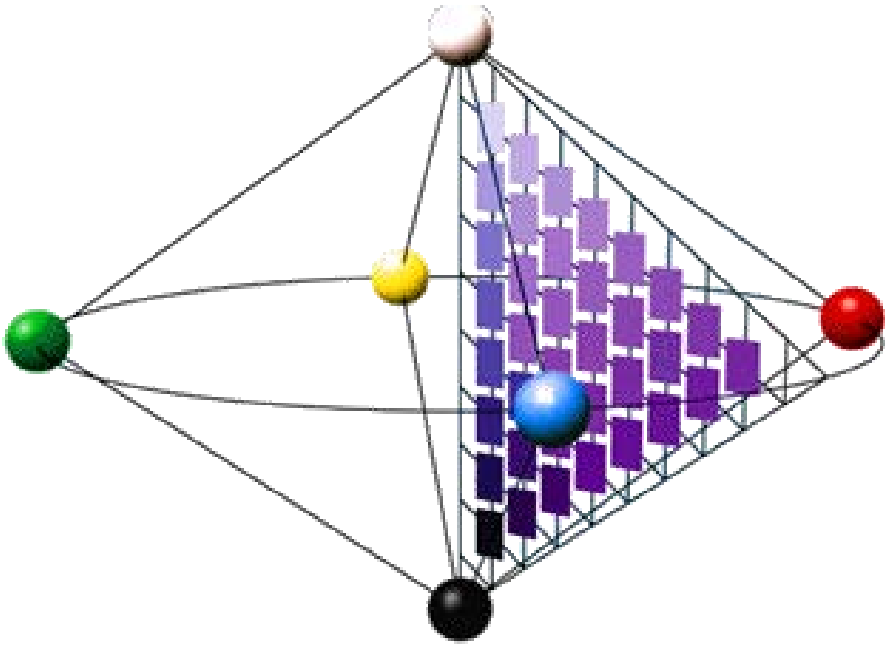
ASD friendly palette chosen by children

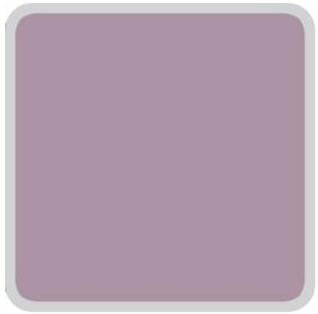
- Subdued and colours mixed with grey were favoured by the children with autism
- A predominant preference for colours in the Blue/Green hue sectors was notable
- A balance between colourfulness and greyness is seen to be popular.



The Natural Colour System







3020 R40B

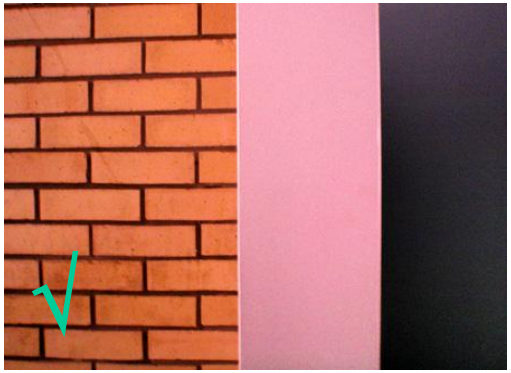
3020	R40B
30%Black	60% Red
20%Chromaticness	40%Blue
50% White	

Proxemics

Definition: How much space is needed around an individual to feel comfortable

Basic Principles:

- Too little space may result in feelings of discomfort and possibly claustrophobia



Proxemics

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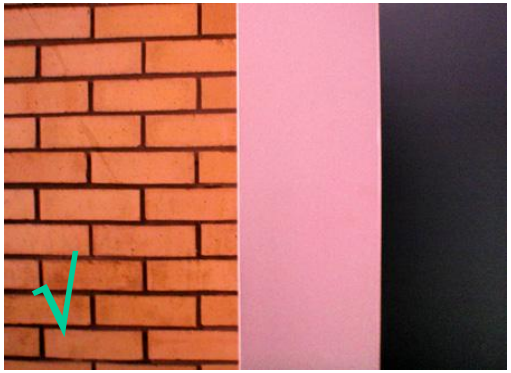
- Too much space may result in feelings of isolation



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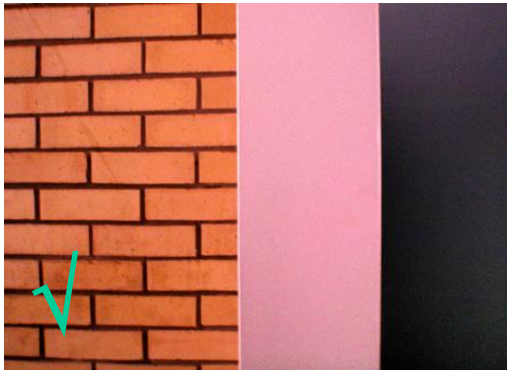

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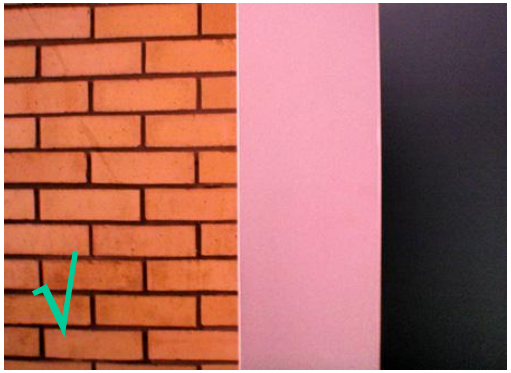
- Colour used in tonal blocks helps to understand the space around
- Lighting and shade helps the relationship between the space and the individual



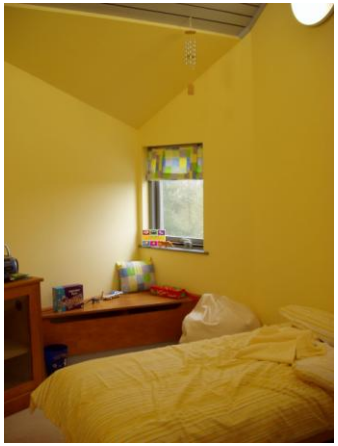
Colour coding

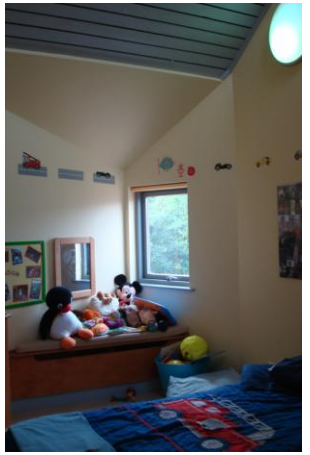
- Review preferred colour palette









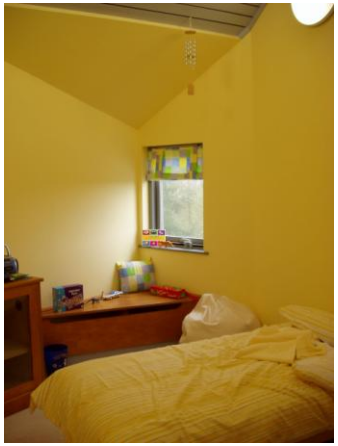
Colour coding

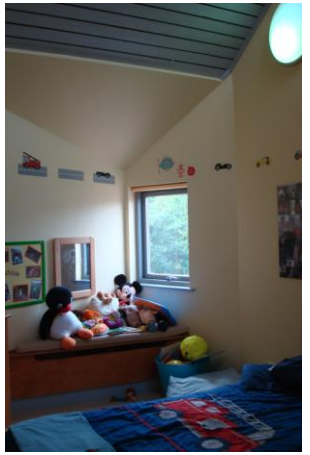
- Review preferred colour palette
- No stimulating colours









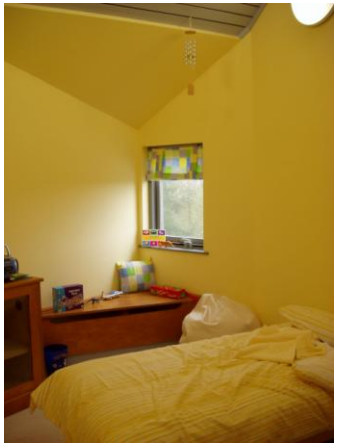
Colour coding

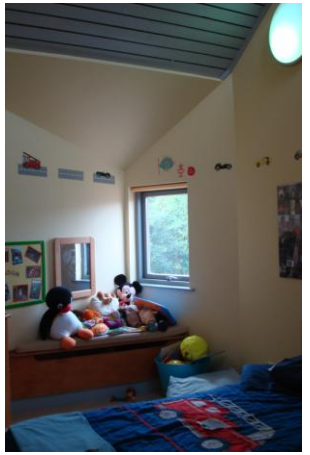
- Review preferred colour palette
- No stimulating colours
- Consider colours in daylight and artificial lighting conditions





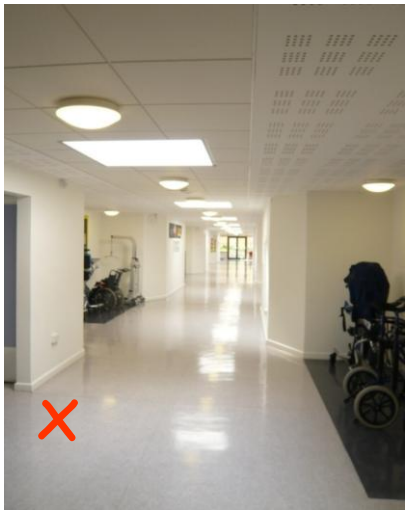




Lighting

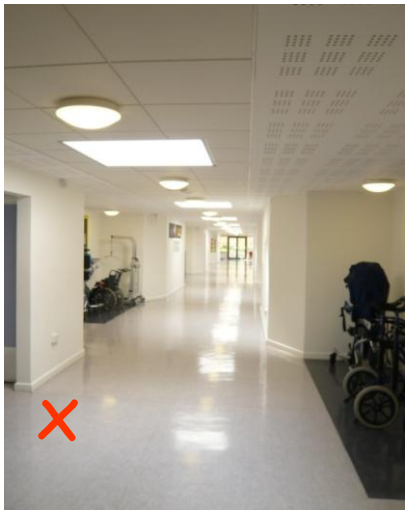
- Lighting and room layout influence the perception of colours



Lighting

- Lighting and room layout influence the perception of colours

- No flickering fluorescent lighting



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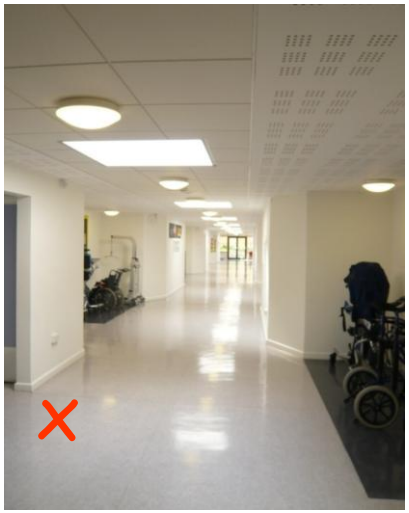
- Lighting and room layout influence the perception of colours
- No flickering fluorescent lighting
- Hidden or indirect lighting preferred



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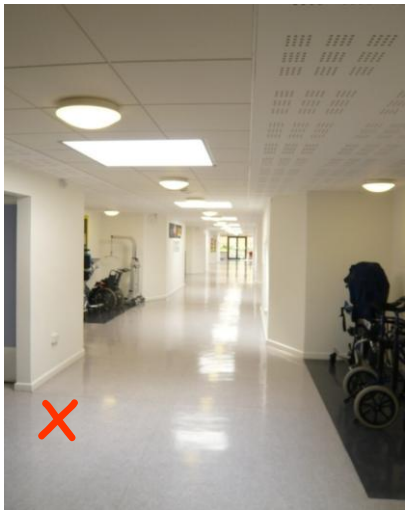
- We seek an interior that glows



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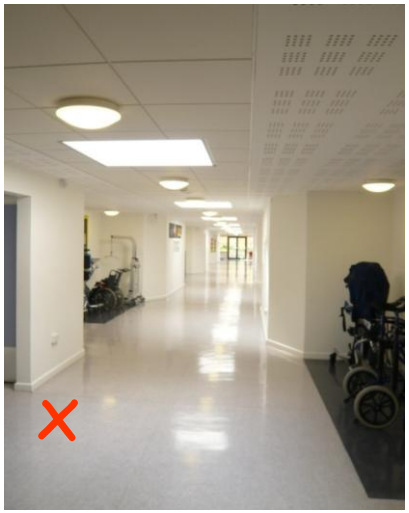
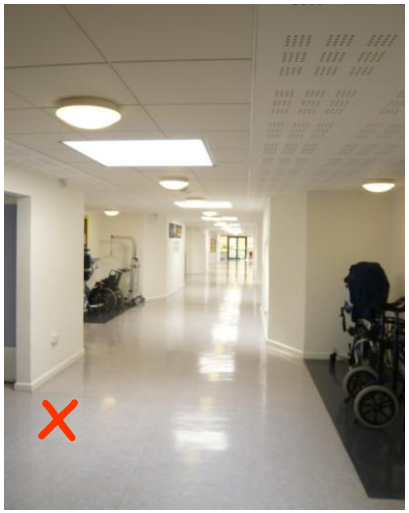
- Incorporate dimming facilities



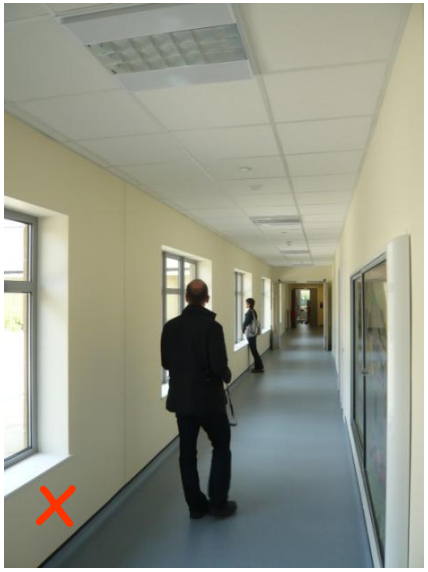
Lighting

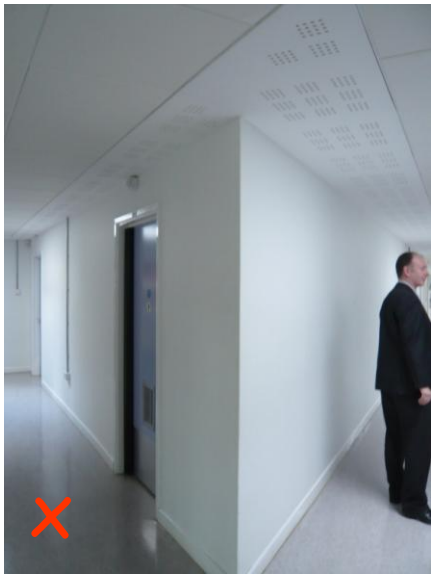
- Lighting and room layout influence the perception of colours
- No flickering fluorescent lighting
- Hidden or indirect lighting preferred
- We seek an interior that glows
- Incorporate dimming facilities
- Consider coloured lighting for scene setting

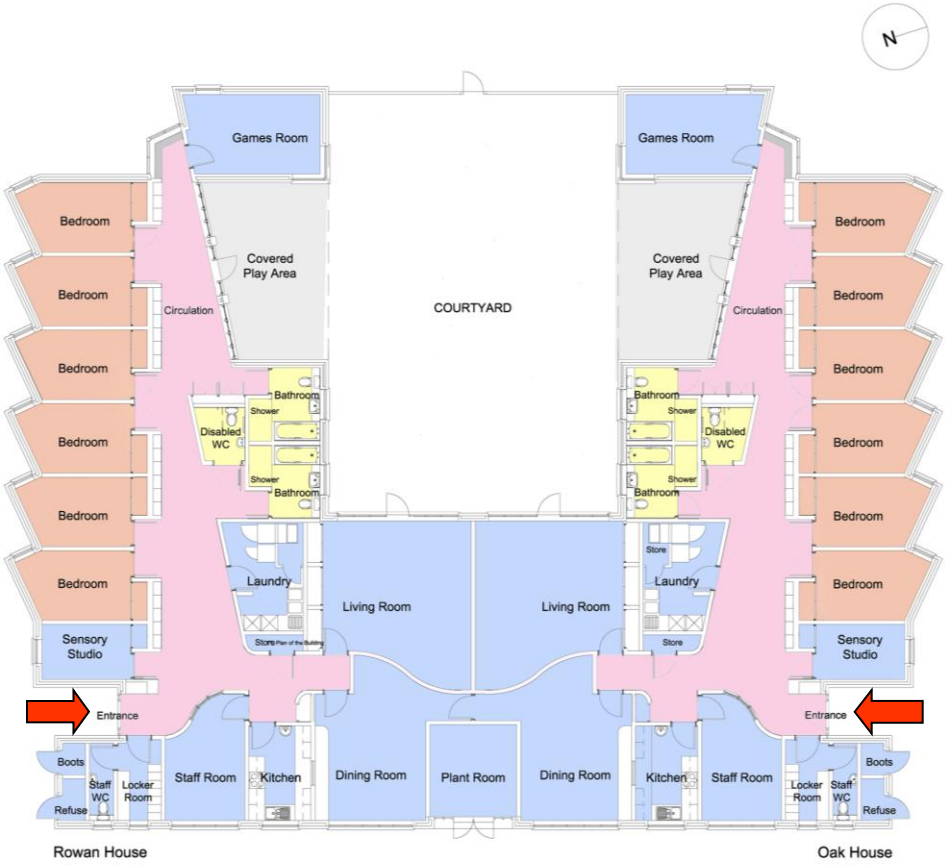


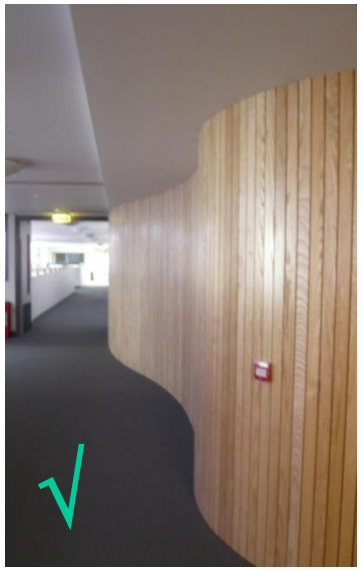
Way finding

- Clear geography





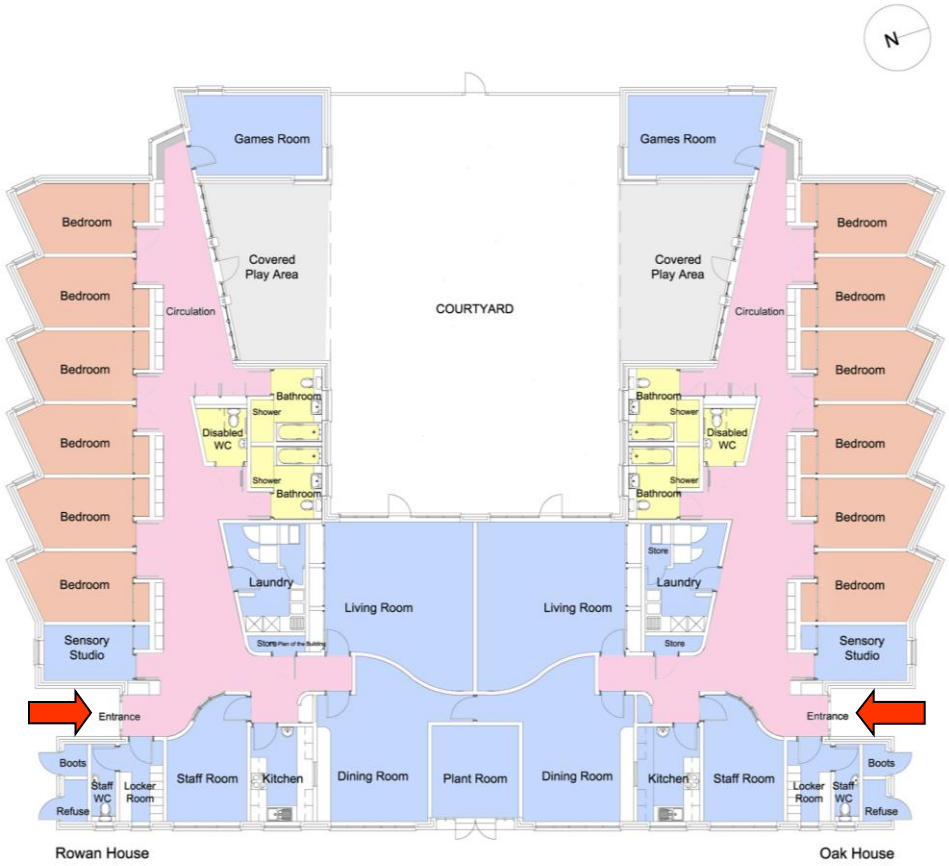


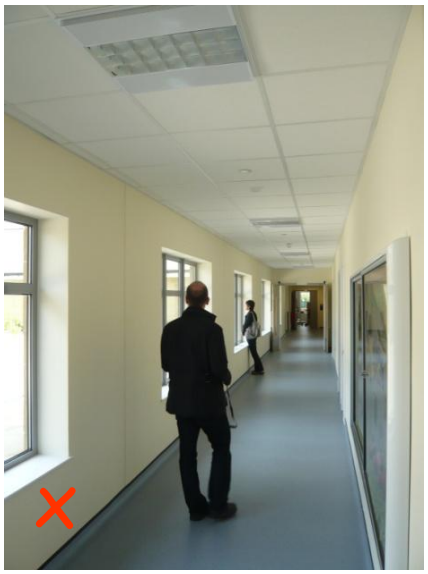


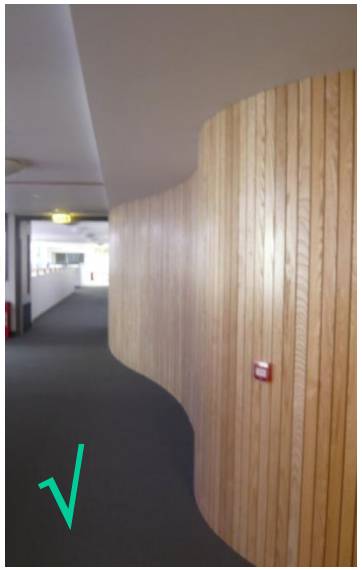
Way finding

- Clear geography

- Curved walls

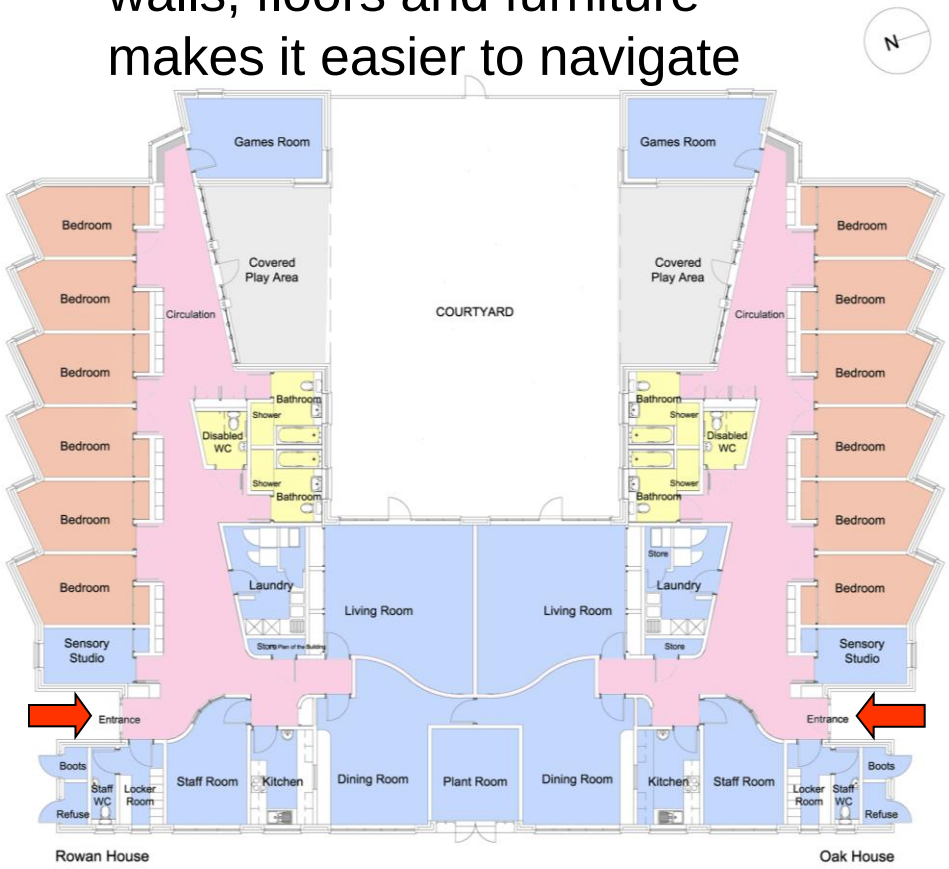


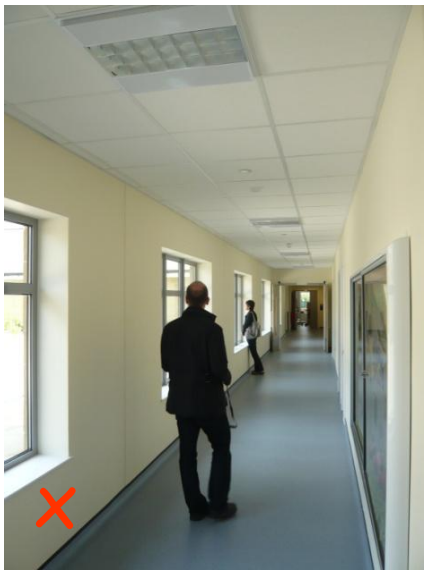


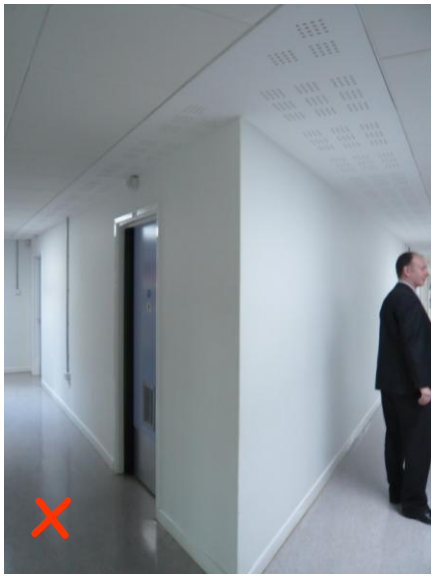


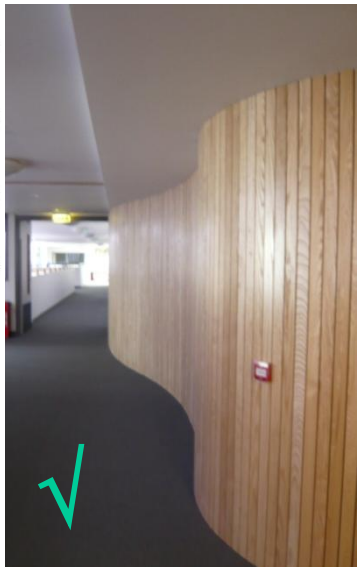
Way finding

- Clear geography
- Curved walls
- Using colours to distinguish walls, floors and furniture makes it easier to navigate



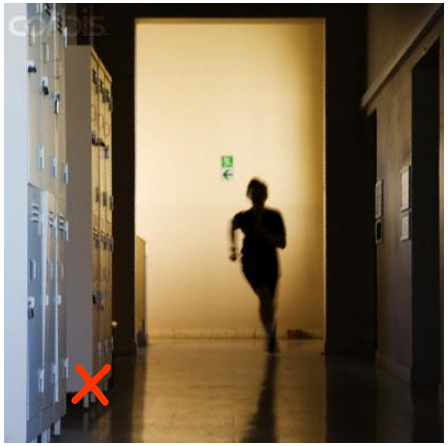


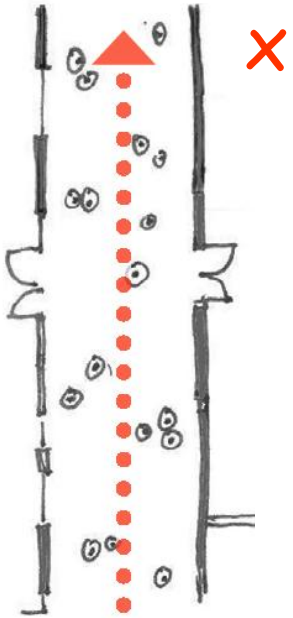




Circulation

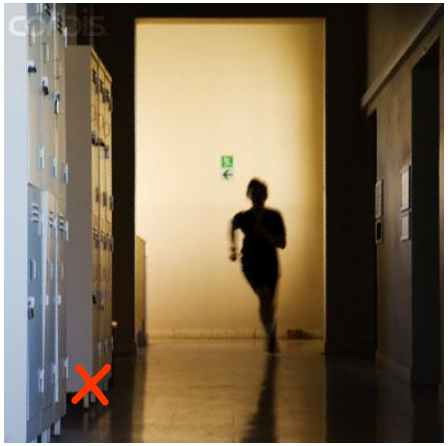
- No ‘corridors’, consider circulation spaces

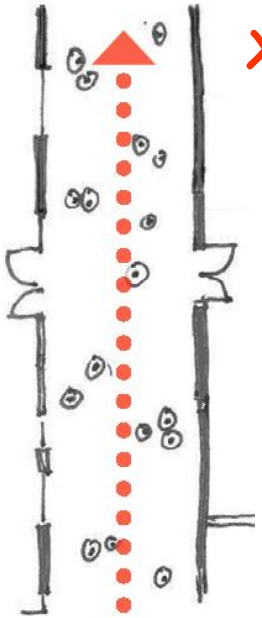




Circulation

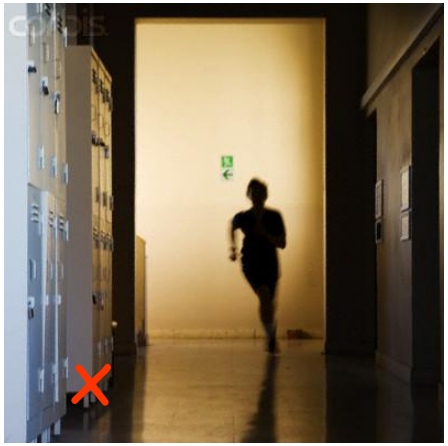
- No ‘corridors’, consider circulation spaces
- Eliminate running opportunities

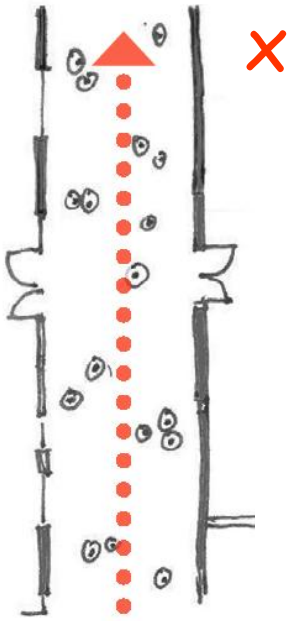




Circulation

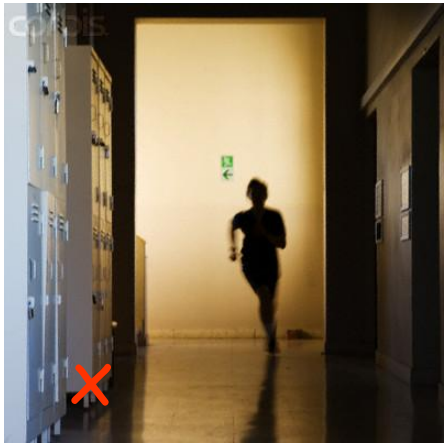
- No ‘corridors’, consider circulation spaces
- Eliminate running opportunities
- Spaces for socialising and being alone

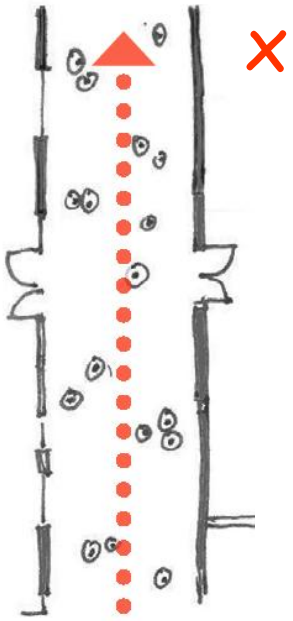




Circulation

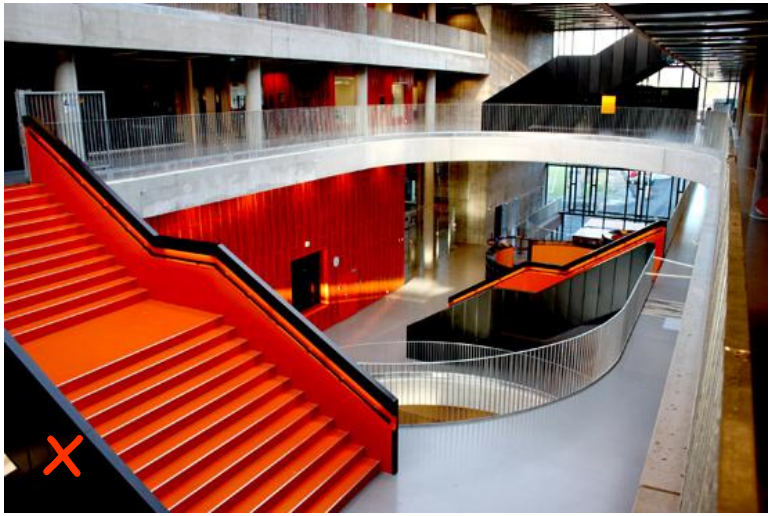
- No ‘corridors’, consider circulation spaces
- Eliminate running opportunities
- Spaces for socialising and being alone
- Point of interest, recognisable spaces





Calm and simple spaces

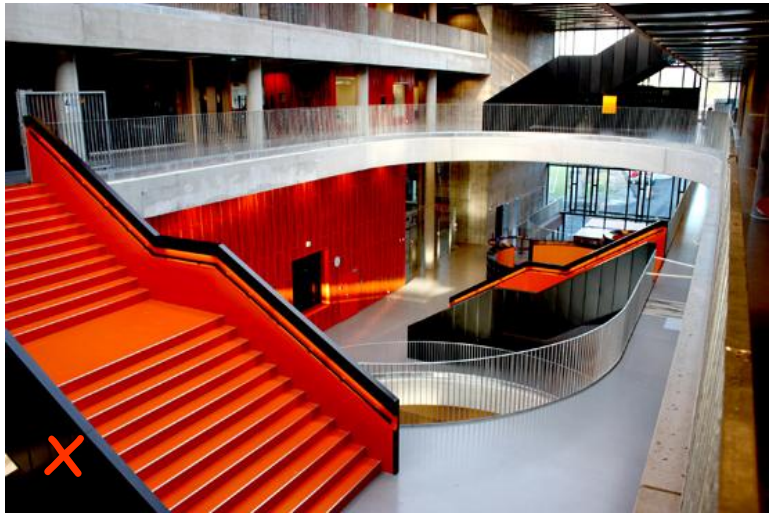
- No stimulating colours



Calm and simple spaces

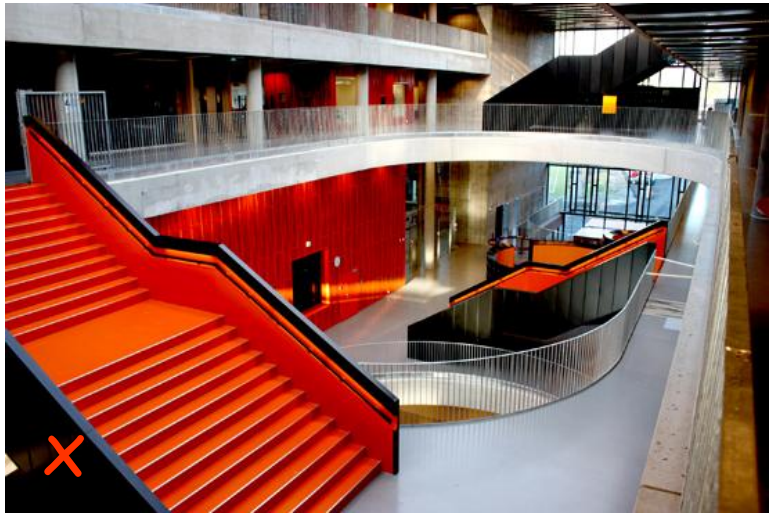
- No stimulating colours

- Good acoustics



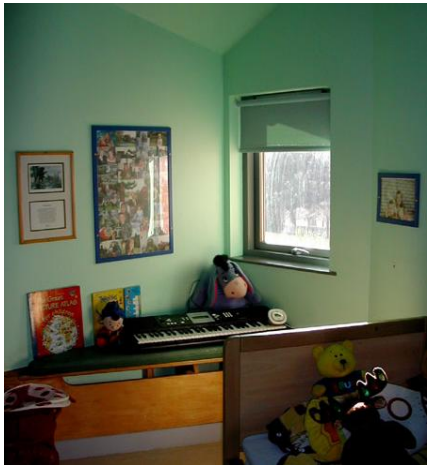
Calm and simple spaces

- No stimulating colours
- Good acoustics
- No confusing textures



Bedrooms

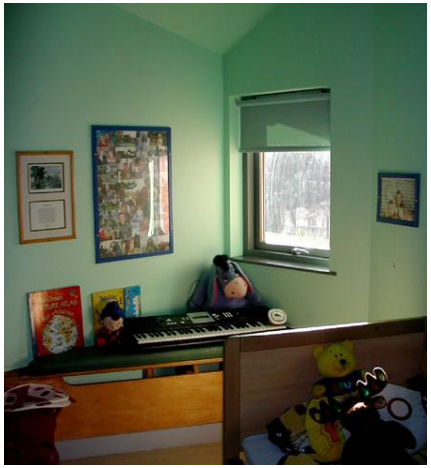
- Soft colours to the ceiling



Bedrooms

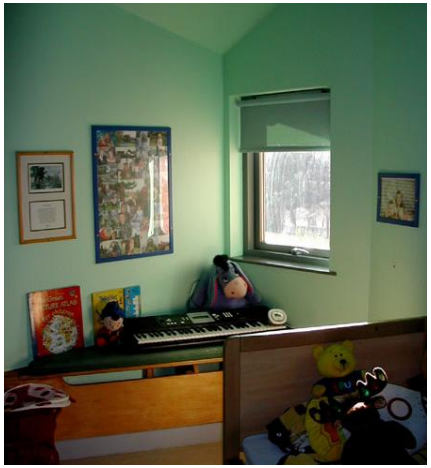
- Soft colours to the ceiling
- Screening and filtering the sunlight



Bedrooms

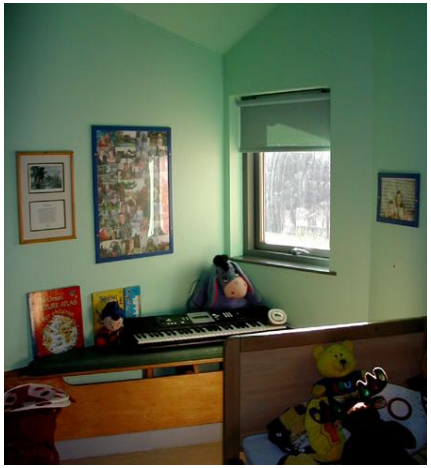
- Soft colours to the ceiling
- Screening and filtering the sunlight
- Flexibility to choose colours from a selected palette



Bedrooms

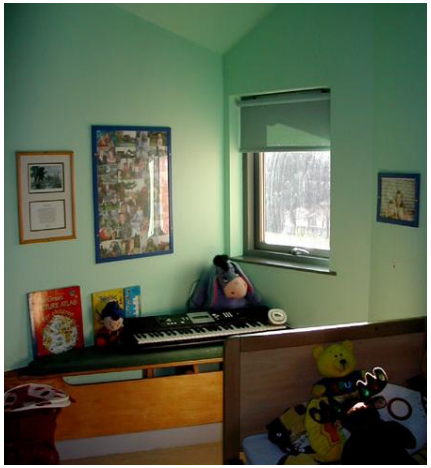
- Soft colours to the ceiling
- Screening and filtering the sunlight
- Flexibility to choose colours from a selected palette
- Collect items from their early childhood. Familiarity even if visually stimulating and potentially disturbing



Bedrooms

- Soft colours to the ceiling
- Screening and filtering the sunlight
- Flexibility to choose colours from a selected palette
- Collect items from their early childhood. Familiarity even if visually stimulating and potentially disturbing
- Natural ventilation through high level windows



Classrooms

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- Colours are used for identification of areas such as ‘personal’ space

Classrooms

- Simple layout
- Between 6-12 pupils per classroom
- Recommended area of 52m^2
- Tonal colours i.e. colours from the same colour group such as blue
- Colours were used for identification of areas such as ‘personal’ spaces
- Filtered light to avoid distraction and glare

Classrooms

- Simple layout
- Between 6-12 pupils per classroom
- Recommended area of 52m^2
- Tonal colours i.e. colours from the same colour group such as blue
- Colours were used for identification of areas such as ‘personal’ spaces
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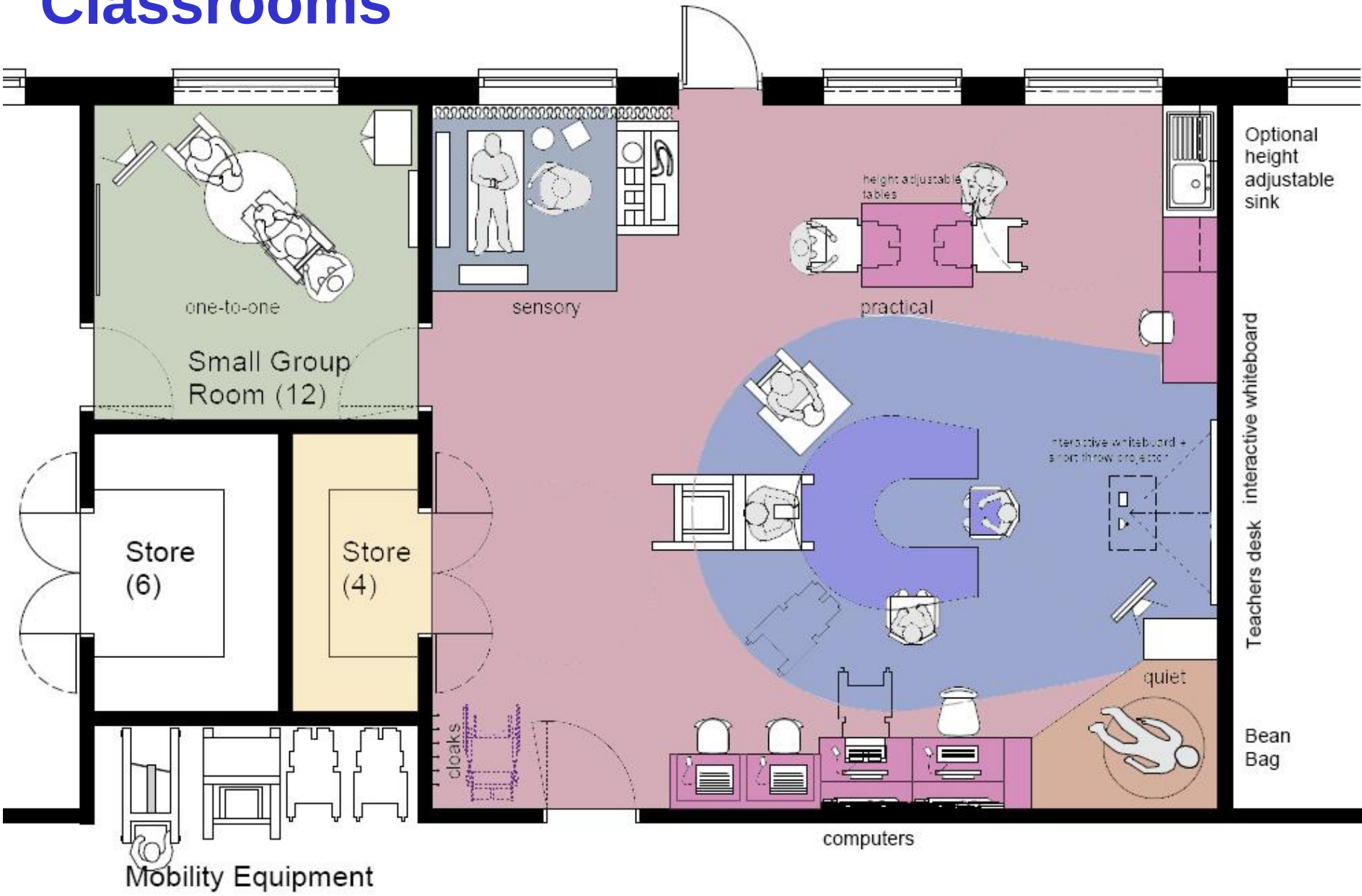
- Subdivision of areas / quiet areas

Classrooms

- Simple layout
- Between 6-12 pupils per classroom
- Recommended area of 52m^2
- Tonal colours i.e. colours from the same colour group such as blue
- Colours were used for identification of areas such as ‘personal’ spaces
- Filtered light to avoid distraction and glare
- Subdivision of areas / quiet areas
- Dedicated external areas

Classrooms


one-to-one
Small Group Room (12)
sensory
height adjustable tables
practical
Optional height adjustable sink
interactive whiteboard
Teachers desk
Store (6)
Store (4)
cloaks
quiet
Bean Bag
computers
Mobility Equipment

Conclusions

- Balance between grey and colour treatments
- Predominance of blue and green
- Lighting and shape of room can affect the colour perception
- Avoidance of stimulating colours
- Consider:
  - Proxemics
  - Way finding and circulation areas
  - Calming spaces

Designing Environments for Children and Adults with *ASD*

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