

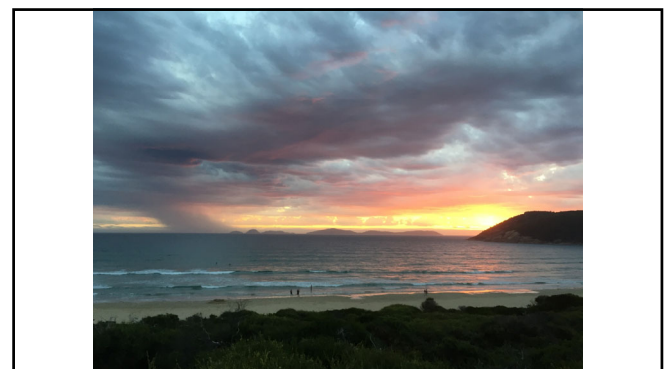
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Children value landscapes that provide opportunities for social engagement, activity, challenge and risk



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Children value landscapes that afford diversity of experiences, spaces and materials



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Children value landscapes that are child-sized, fun and where they have 'agency'



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Evidence of benefits

Food and nutrition - School kitchen garden programs = children consuming more vegetables, increased nutritional knowledge, healthier family eating and greater engagement in gardening activities ¹

More and 'better' play - Spending more time in 'greener', vegetated landscapes = increased time in play and outdoors, greater diversity in play behaviour and reduced aggressive behaviours ²

Academic outcomes - Children engaging in more nature-based environments = academic performance and behaviour improvement, more engagement in and motivation to learn and achieve, improvements in maths, reading, writing, science, social sciences and greater environmental awareness ³

¹Morris et al 2001, Heim et al 2009, Gibbs et al 2013, Newell et al 2004, Morris et al 2002

²Taylor et al 1998, Arbogast et al 2009, Dymant and Bell 2007, Moore 1989; Weinstein and Pincotti 1988

³Blair 2009, Wheeler et al 2007, Canada Council Learning 2009, Parrish et al 2009

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BUT many landscapes provide few if any opportunities for meaningful engagement with nature and plants



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And any greening can be minimal at best

GIS data from 258 school grounds in the USA found that:

- most are covered by impervious surfaces and little turf;
- tree canopy covered only 10% of total land cover (Schulman and Peters, 2008)



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Design process

Typical process includes

- Research, site inventory and program development
- Design development
- Construction documentation, cost estimating and implementation (Tai et al 2006)

Engaging with children and other stakeholders is critical



The Patch Primary School 2006-7

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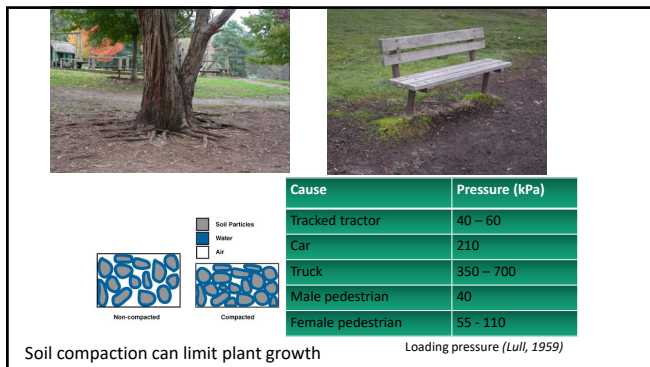
Design process – site analysis for planting

Children's landscapes can be hostile places for plants through:

- **Use!**
- Poor site preparation
- Poor establishment
- Poor maintenance
- Sustaining plant growth (over time)



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Design process – plant selection

Useful 'tolerance' and use criteria

- Tolerate the site *or* with minimal inputs (*quantify the requirements in design*)
- Easy to grow, durable, resilient (indestructible!)
- Have attractive features (to children)
- Have multi-functional outcomes (e.g. harvestable parts?)



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Design process – plant selection

Useful amenity criteria

- Shade, screening, shelter
- Definition of space
- Direct circulation, movement
- Users (ages, abilities, accessibility, etc.)

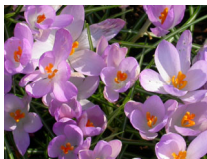


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Design process – plant selection

Avoid hazardous plants

- Poisonous plants (ingestion, inhalation, contact)
- Allergic reactions
- Sharps, spines, thorns, barbs



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Design process – project planning

Plan for plant establishment

- Growing large woody plants take time
- Maintenance (and resources) are crucial!



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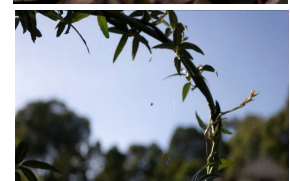
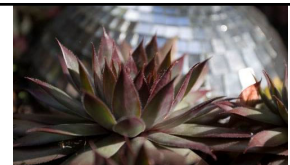


(e.g. Princess Diana Memorial Playground, Kensington Gardens, London)

Significant challenges in plant establishment and maintenance across the site because of use!



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Very young children have greater appreciation of finer textures and tactile properties

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Planting design

Plants for:

1. Retreat and enclosure
2. Patterns, shapes and levels
3. Art, sculpture and creative play
4. Sensory materials
5. Food gardens
6. Water and water features
7. Animals...big and small
8. Wildlife, habitat, everyday nature.....



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Retreat and enclosure

Plants that provide cover, shelter, screening, open/closure, height

Key plant traits include:

- 'Light' and 'shade' values
- Suckering and re-sprouts
- Robust, durable, flexible stems

Consider single use/props for play fronds, palm leaves, branches, etc.

Maintenance is crucial!



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Patterns, shapes and levels

Mazes, spirals, labyrinth

Level changes

- Mounds, depressions
- Grade changes

Height, use, wear, surfaces (turfgrass selection is crucial)

Space definition - separation and function



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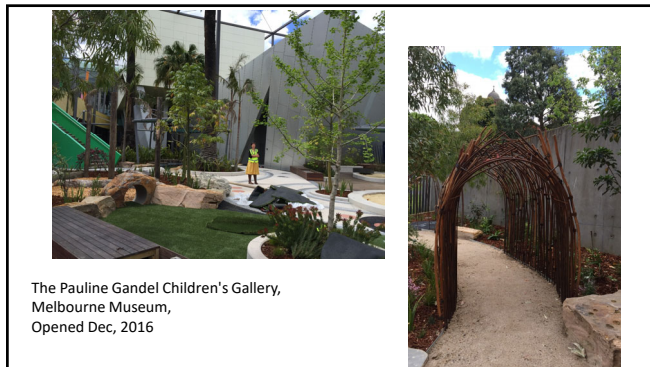
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Water features



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Water the most desired element in landscapes from children, the most feared by adults

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Food and culture



Form and texture



Aquatic environments provide multiple learning opportunities

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Animals, wildlife and habitat

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Animals, wildlife and habitat

Use what is accessible (and achievable for the site)

Design considering:

- ◆ 'Everyday nature' elements
- ◆ Remnant, perimeter and boundary vegetation
- ◆ Riparian vegetation, frog bogs and wetlands
- ◆ Ornamental ponds
- ◆ Every tree is sacred.
- ◆ **Maintenance!!**



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NATURE CONNECTIONS FOR WELLBEING

An interactive short course to better understand and create nature experiences for health and wellbeing

People bring in their own increasing disconnection... Delivery: 27-28 June, Burnley Campus

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