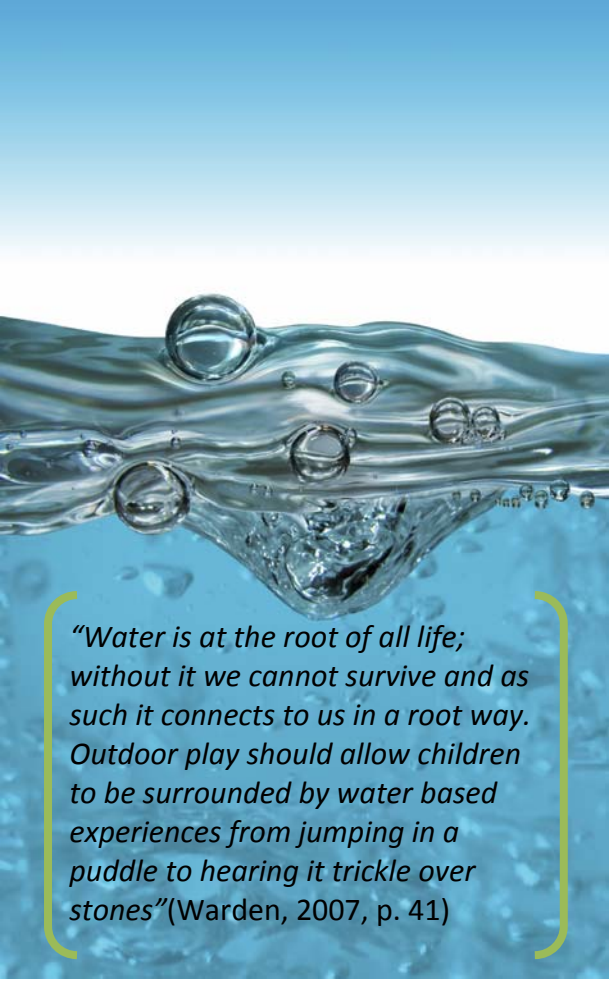
Water Play is Essential Play

Exploring water play and conservation in Early Childhood Practice

A project by Early Childhood Australia Sustainability Interest Group Victorian Branch, 2008. This poster/publication supports early childhood services to actively implement water conservation and education to reduce water consumption and improve water management.



"Water is at the root of all life; without it we cannot survive and as such it connects to us in a root way. Outdoor play should allow children to be surrounded by water based experiences from jumping in a puddle to hearing it trickle over stones"(Warden, 2007, p. 41)

The Australian Context

Australia's rainfall is the lowest of the continents (excluding Antarctica). This low rainfall combined with very high evaporation leads to low river flows. Despite this, Australia has one of the highest per capita water consumption rates in the world. While two thirds of all the people on Earth use less than 60 litres of water a day the average Australian uses 200 litres, with a 10 minute shower. In fact, Australians are among the biggest users of water in the world, especially around the home (Melbourne Water, 2008). We need to work together to improve this statistic and early childhood, where life long habits are formed, is the critical time to start.

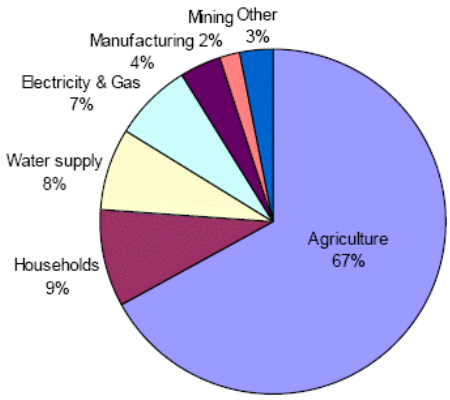
Drought

Drought is a natural occurrence that we must respect and plan for by managing our water resources with utmost care. Since 1939 restrictions have been applied in metropolitan Melbourne on 15 separate occasions to conserve water during drought (Melbourne Water, 2008). When it comes to resource planning, we need to increasingly look for innovative ways of doing more with less. The young children of today are the leaders of the future who will be responsible for adapting to, and coming up with innovative ways, to conserve water in Australia. Water is a precious resource and we have to use it more sustainably and not waste a drop.

Should Water be used in children's play?

Thoughtful consideration and responsible use, and reuse of water are imperative when using water for play in early childhood services. It is also important to keep reflecting and debating the practice of total water use and revaluate as situations change across time and locations. Children's interests, needs and voices also need to be a part of this decision process. The amount of water used in play is however minimal compared to water use across Australia, as represented in the following graph.

"Water, in its pure form unadulterated by soap and colour, is to be appreciated and enjoyed. It is a precious substance with many interesting properties for young children to investigate"
(Elliott & Emmett, 1997, p. 46)



Source: National Water commission

More than three-quarters of Australia's water is used for irrigation to produce the food and products we consume, almost four times the volume used in households and industry (Chandler, 2008). Restricting water play in early childhood services therefore seems like an inconsequential exercise when you consider the benefits of water play and opportunities for children to learn from conserving and reusing water. Households use approximatly 9% of total water and we can assume that early childhood services fall into this category. We also know that it can be used responsibly, can include limits for play, can be reused in a multitude of ways and is a rich substance for children's play.

Why is water play essential in early childhood?

Water play offers endless enjoyment for adults and children of all ages. The phrase "being in our element", often refers to experiences with the natural elements, such as being outside exploring plants, sand, rocks and water. (Ryder, 2007) and (Woods, 2007) categorise this as "elemental play". Water play is open-ended, offering opportunities for social interactions, physical skills and concept development, including:

- Scientific investigation.
- Soothing sensory exploration.
- Connection with natural materials.
- Full body engagement.
- Hand-eye coordination and the manipulative skills of lifting, pouring, controlling.
- Mathematical and scientific concepts of heavy/light, float/sink, full/empty, shallow/deep, and learn about measuring, estimating, and conservation of volume.
- Concentration and problem solving skills.

Lady Huntingfield Children's Centre, Melbourne

"We all wonder about the elements, are in awe and have to master them to survive. Elemental play could be an instinctive, human and cultural disposition" (Woods, 2007, p. 3)

Conserving water

How can early childhood services ensure that children have adequate access to water and make connections with the water cycle, whilst developing responsible habits surrounding water use and conservation? It is vital that we take every effort to reduce water use in our services, but still enable children to use it. Play with water gives educators and children real opportunities to explore and discuss water. Where it comes from? What forms it can take? What it is used for? How much should we use? "Installing a rain water tank next to digging or sand areas for children to use, provides an opportunity for them to make a connection between the rain that falls on the roof and the water we use everyday" (Young & Elliott, 2004, p. 43). Having a rain gauge and water level indicator enables children to observe rain fall and manage water use wisely. There are many ways that water can be conserved by considering infrastructure, operational processes and educational strategies:

East Lismore Preschool, NSW

Infrastructure

- Installation of low flow taps and dual flush toilets in bathrooms.
- Installation of rain water tanks for flushing toilets, laundry and watering the garden. The tank on the right has a water indicator that enables children to see how much water is in the tank.
- Purchase low water use appliances. (Check the WELS rating)
- Conduct a water audit. These are available from water companies and sustainability shops.
- Apply for water grants for tanks and other water saving infrastructure.
- Mulch garden beds and install dripper systems.

Operational processes

- Discuss water conservation at staff and management meetings and include water conservation into a sustainable education policy.
- Use the eco cycle on dishwashers and washing machines, and only run when full.
- Reduce consumption and waste. Vast quantities of water make up every product we buy and this is often referred to as virtual water because we don't see it. This is a genuine way to save water.
- Apply for an extension to State government watering times if it is difficult to water gardens in the allocated times.

Educational strategies:

- Discuss water saving strategies and ask questions about why children think we need to save water. As stated by a kindergarten child who had turned the tap on to full pressure, " The water does not have to be loud!"
- Raise issues such as turning off taps after washing hands and pressing half flush on the toilet and demonstrate. Brown and yellow stickers can help children differentiate.
- Install a water tank with a gauge and hand pump (if possible) to observe water levels, and use real work to access the water.
- Limit water use and discuss with children i.e. "only one water barrel in the sand pit that has to be used carefully" or "when the rain tank is low we need to use less water until it rains again".
- However, some water play is important for children to utilise their senses and engage in legitimate elemental play. Water can be recycled onto the garden by the children after use.
- Include tips and information for parents in newsletters.
- Use of recycled milk cartons and bottles for paint pots (do not require washing).
- Tubs in sink so that art supplies can be soaked.
- Empty cups and drink bottles onto the garden.
- Create a roster for children to be water monitors (also waste, energy and paper).
- Role model practices to infants and toddlers and talk through what you are doing.
- Contact your local water company to seek information and support. If they do not have an early childhood program, ask them why, and advocate for the introduction of a water education and conservation program.

Reusing water

Water play experiences can be recycled onto the garden and plants. Children can take an active role in this practice, learning to appreciate the importance of water and the cycle of its use. Waste water can also be collected throughout the day from drink stations and taps. Children can be allocated roles as water monitors to keep a check on water use.

> "Installing drainage that takes all the natural water off site and into the storm water system can be counter productive to the ongoing viability of the site and be a missed opportunity for responsible re-use of a precious resource. (McConaghy, 2008, p. 32)

Earlwood Children's Centre, Sydney

Water play ideas

Can be small or large scale, take place inside or outside, in summer or winter. Ideas include:

- Puddles (children can experience with bare feet or have boots available).
- Water tray with animals, jugs, bottles, funnels.
- In the sand pit or mud patch for cooking or with plastic plumbing pipes.
- Include assorted containers, funnels, and plastic tubes that help children learn to measure, and develop skills and dispositions for the early development of maths and science skills. Curiosity leads to experimentation:
- Trickle stream with a reticulated water pump to recycle the water or with drainage that flows onto plants, as illustrated in the photo above

Water concepts to explore

- Water is found as: solid (ice, hail, snow or frost), liquid (in lakes, oceans, rain, dew, fog or mist) and a gas (steam or water vapour - "invisible" water in the air). Almost 70% of the earth is covered in water and it is found all around us in the air and on and under the ground.
- The Water cycle and how water gets to our homes, children's centres and arrives at our taps.
- More than half of the world's animal and plant species live in the water.
- The human body is composed of 55% water and needs 2 litres of water a day in our climate; we can last only a few days without water.
- Most of our food is water: tomatoes (95%), spinach (91%), milk (90%), apples (85%), potatoes (80%), beef (61%).
- Discuss the uses of water and how plants, animals and people need to share water. What do plants and animals do in a drought?
- How we use water to wash things, for drinking, growing food, cooking, swimming, putting out fires etc.

Dame Nellie Melba Kindergarten, Melbourne.

Resources and Web Sites

- Range of books and information about water from The Gould Group, Melbourne. http://www.gould.edu.au/
- Water/food story set from Banglades**h,** a purple bag with 2 dolls and 6 stories that highlight the precious nature of water and how difficult this is to access in some countries. From Earthlink Handcrafts www.earthlinkhandcrafts.com
- Waterwise Starters Package Workbook and poster set. Waterwise School Program, WA Water Corporation, 2005. http://www.waterwisewaysforwa.com.au/go/schools
- Securing Water for Life Dominoes, Produced by Sydney Water for Sydney Preschools but not available elsewhere. http://www.sydneywater.com.au/EnsuringtheFuture/WaterSchool/EducationResources/primary.cfm
- Rous water, in New South Wales has one of the few early childhood water education programs in Australia. http://www.rouswater.nsw.gov.au/

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Photographs for poster taken at Swinburne Community Children's Centre, Lady Huntingfield Children's Centre and Len Jeffrey Memorial Pre-school.

Poster and fact sheet printed on recycled paper with soy based inks.

PDF of fact sheet will be available on ECA Vic web site.

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