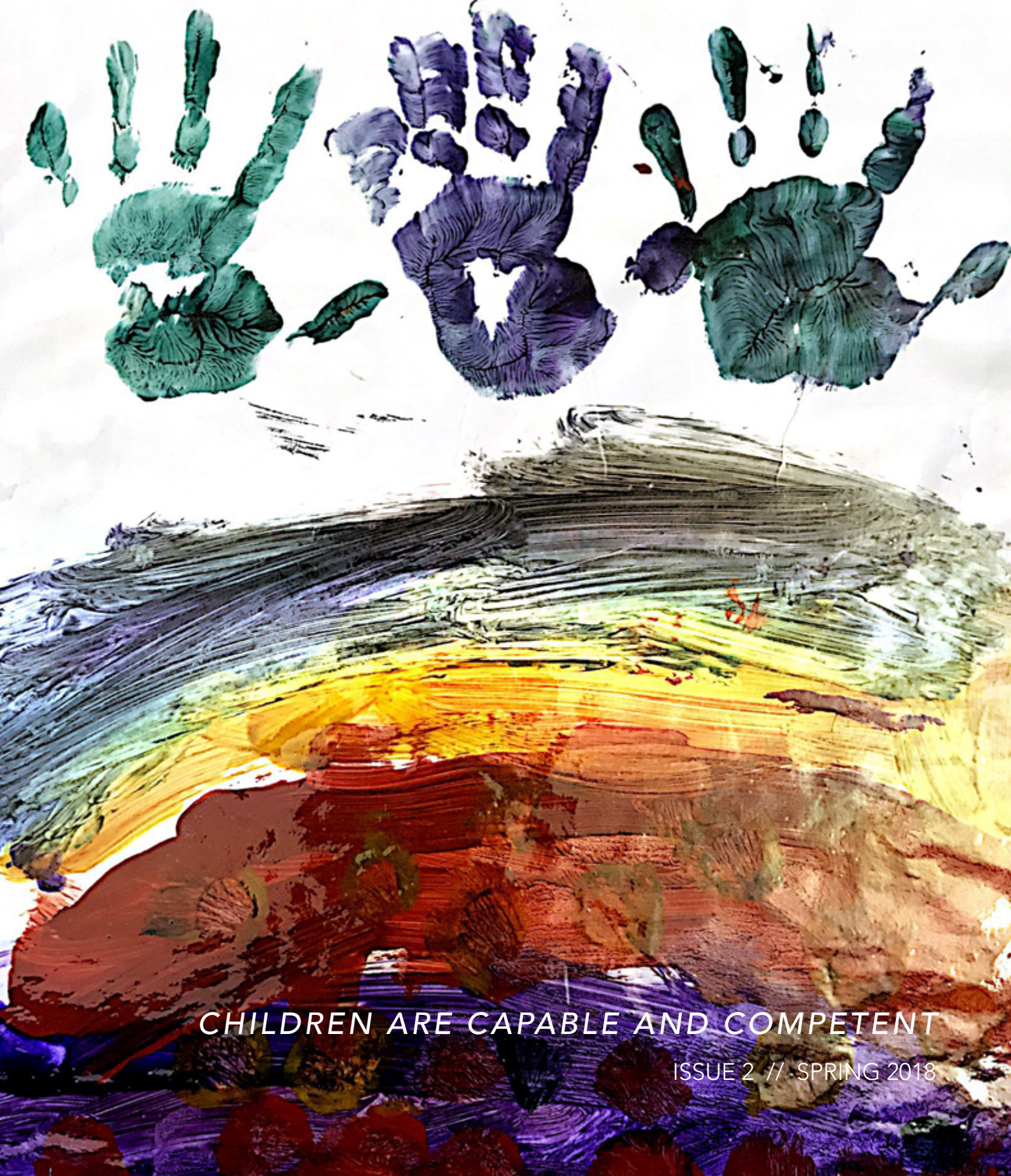


# Nature Play

THE EDUCATION WAY

*An online nature play magazine for education sites part of the Nature Play SA Collective.*



CHILDREN ARE CAPABLE AND COMPETENT

ISSUE 2 // SPRING 2018

# NO WAY. THE HUNDRED IS THERE.

The child  
is made of one hundred.  
The child has  
a hundred languages  
a hundred hands  
a hundred thoughts  
a hundred ways of thinking  
of playing, of speaking.

A hundred always a hundred  
ways of listening  
of marveling, of loving  
a hundred joys  
for singing and understanding  
a hundred worlds  
to discover  
a hundred worlds  
to invent  
a hundred worlds  
to dream.

The child has  
a hundred languages  
(and a hundred hundred hundred more)  
but they steal ninety-nine.  
The school and the culture  
separate the head from the body.  
They tell the child:  
to think without hands  
to do without head  
to listen and not to speak  
to understand without joy  
to love and to marvel  
only at Easter and Christmas.

They tell the child:  
to discover the world already there  
and of the hundred  
they steal ninety-nine.

They tell the child:  
that work and play  
reality and fantasy  
science and imagination  
sky and earth  
season and dream  
are things  
that do not belong together.

And thus they tell the child  
that the hundred is not there.  
The child says:  
No way. The hundred is there.

~ [LORIS MALAGUZZI](#) (1996)



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» Artwork kindly used with permission from Crystal Brook Kindergarten

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# CHILDREN ARE CAPABLE AND COMPETENT.

SARAH SUTTER, CEO NATURE PLAY SA

In Issue One, *Beginnings*, I encouraged you to be brave. I challenged educators to change their thinking, reflect on their practice, and create and utilise outdoor learning environments that will foster creativity, imagination and problem solving. Bravery is, after all, taking something on without knowing the outcome. In this edition I want to extend that challenge. How do you view children? Do you view them as capable and competent? Do you fully embrace the notion of children possessing a hundred languages, as beautifully expressed by Loris Malaguzzi?

I do.

I would like to share with you an experience that struck a chord with me. I recently attended a sports carnival with my son Tom, at the South Parklands. For those of you who aren't familiar with them, the South Parklands are characterised by wide-open space with beautiful, old trees – perfect for climbing and learning to assess risk and build confidence. During the day I watched the children play in these trees, climbing, making up games, negotiating, problem solving and generally having fun. As the children climbed the trees, I noticed that the more physically capable children challenged themselves to go higher while those not so confident just went to a branch where they felt comfortable – in other words, they self-managed and assessed risk. It took me back to my own childhood where climbing trees was almost a rite of passage. We all know that the benefits of climbing trees extend beyond physical development – the research tells us it is beneficial for emotional, cognitive and social development and improves the overall wellbeing of children.

I watched on as two girls carefully manoeuvred themselves up a majestic, old tree – it looked as if it were made for children to explore. It was challenging for them but, with determination and encouragement from each other, they managed to find their own way to climb to different points – I could sense their feeling of achievement. They were happily sitting in the tree, chatting to each other and observing the sports carnival – in other words, developing their social skills together and doing so in a way that felt “unsupervised”. My view of these children was as capable and confident – I didn't feel the need to interrupt them or tell them they couldn't do something for fear of injury. They had achieved something significant and they were being kids.

Ten minutes passed and I noticed an adult quickly approaching the tree where the girls were chatting quietly.

“Get down from there – it's dangerous!” she yelled.

In other words, the adult was saying, *I don't view you as capable or confident, I don't trust you and you cannot assess risk, so get down.*

The girls responded by saying they were fine and didn't want to get down (after all, it was a special place for them). However, the stern words from the adult continued and reluctantly they climbed back down to ground level.

My heart sank. What had just been taken away from them? How did they feel? How would you feel?

This situation isn't an anomaly; it occurs every day. We make decisions for children when they are more than capable of making their own. If children



are not confronted with a hazard or potential for catastrophic injury, then why do we feel the need to make decisions for them – and what is this telling them about their own capability and competence?

What if the adult in this scenario viewed the situation in a different light? Say, for example, they saw the two girls in the tree and, instead of reacting to a perceived risk, they saw the physical, social, and emotional benefits? What if they could appreciate the physical ability and decision-making it took to navigate the branches, the problem solving and social interaction that occurred as they scaled the tree and ultimately the sense of achievement and accomplishment felt by the girls at having navigated their way to the top? Or they viewed their achievement and encouragement the same way I did?

It's no secret that we are living in an era of overprotected childhood – some refer to it as “the bubble-wrap generation”. But I challenge you to change your thinking about the way you view children – or change someone else's view if you already hold a strong image of the child. In this edition we have some wonderful articles that reflect a strong image of the child: international play space designer Adam Bienenstock explores the importance of naturally designed spaces for children; leading pedagogical consultant Lisa Burman offers a fascinating insight into the ways we often view children; educator and academic Paul Johnson takes a deeper look at the importance of the environment that learners experience; leading landscape architect Pete Semple discusses the process of play space design; and Faith Lutheran College ELC (formerly Tanunda Lutheran ELC) director Marie Hage takes us on the journey of her learning from Reggio Emilia.

***It's time to change the way we view children. Children are capable and competent. They always have been and they always will be.***



The way we view children  
is one of the most important parts  
of a child's life ...

Children are  
capable <sup>and</sup>  
competent  
They always have been  
and they always will be.

# // RESEARCH AND KNOWLEDGE //

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*A conversation with Pete Semple*

## [RESEARCH AND KNOWLEDGE]

TAKING STEM OUTSIDE: Nature-based environments and the development of STEM skills

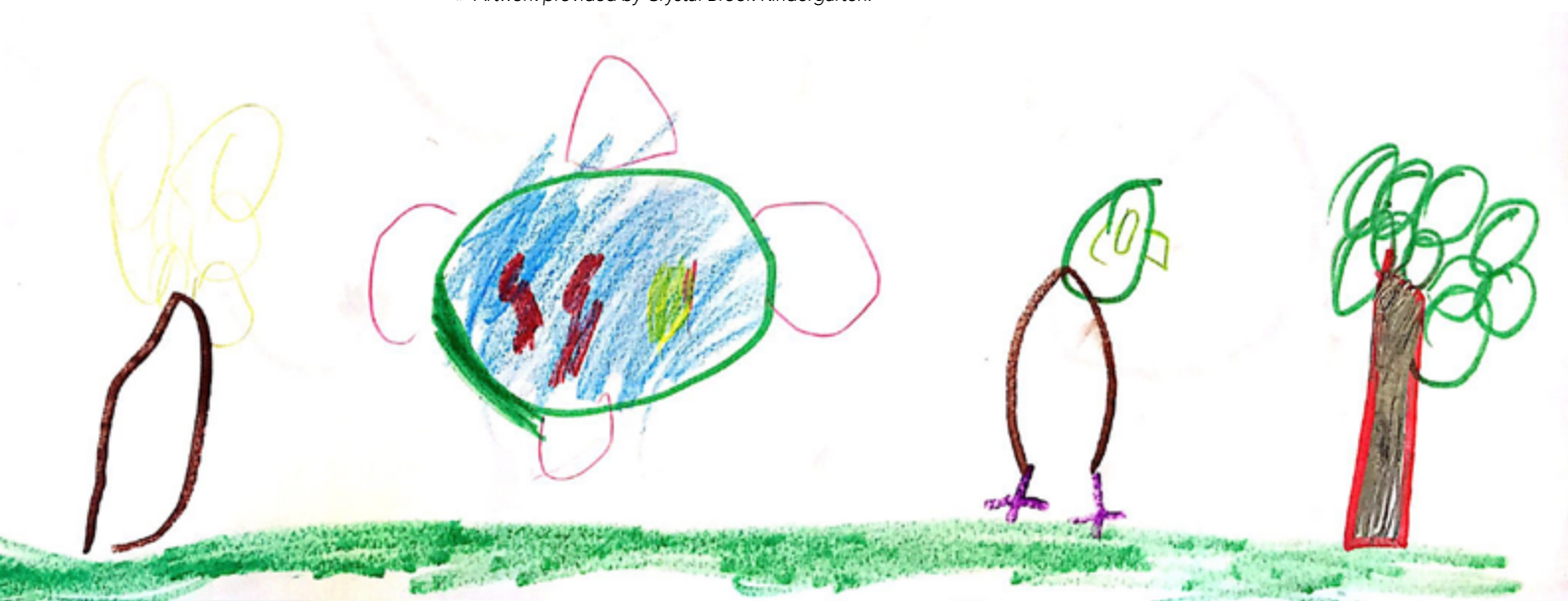
*Maria Taylor*

## [TALKING POINT]

THE LEARNING POTENTIAL OF MUD: Is it worth it?

*Jason Tyndall*

» Artwork provided by Crystal Brook Kindergarten.



# [ RESEARCH OVERVIEW ]

## LET KIDS BE KIDS

### ADVICE FROM THE WORLD ECONOMIC FORUM

WORLD ECONOMIC FORUM, JULIE SLAGHEKKE, NATURE PLAY SA

*The cut-throat world of global commerce is not where we would normally expect to find champions of unstructured nature play. But that is exactly where a powerful new lobby hails from. Julie Slaghekke explains the significance of an influential coalition to emerge from the World Economic Forum in support of what we all know is vitally important for children – play.*

In January 2018 global leaders met at the World Economic Forum in Davos, Switzerland. Four of those leaders, CEOs from Ikea, Lego, Unilever and National Geographic, used the Forum to form the Real Play Coalition. Their goal is to create a movement that prioritises the importance of play to allow children to be children and ignites the fire for their development and learning.

There has been a steady decline in independent, free and unstructured play for children over two to three decades. On average, one out of two children today worldwide spend less than one hour per day outside. A recent survey of 12,000 parents in 10 countries with children aged 5–12 found one third of children spend less than 30 minutes outside each day. Compare this to prisoners in a maximum security facility in the US who are guaranteed two hours of outdoor time daily.

The research substantiates what we already know from studies around the world: children are spending too much time indoors and on screens and are missing out on opportunities to develop skills from play that will be important for them in the future. The Coalition believes to play is to learn: to be a superhero in the playground is an opportunity to develop leadership; hosting a teddy bear picnic, organisation; building a fort, innovation; and play generally, the opportunity to learn face-to-face communication, teamwork and negotiating skills and ultimately be more resilient to life's challenges.

The [Real Play Coalition](#) believes outdoor time needs to become a "right" of all children, not



» Artwork provided by Crystal Brook Kindergarten.

limited to those whose parents have the time, resources or inclination to take them outside. This is more than corporate social responsibility or a nostalgic bid to return to the 1950s, when children had more freedom to play. This is a deeply held belief in the importance of play for children's development across social, creative, physical, spiritual and cognitive dimensions. Play encourages original thinking, one of the main cognitive processes in creativity. Construction play in early childhood correlates to the development of social visualisation skills, which are strongly connected to maths capabilities and problem-solving skills.

Play is vital in order to develop future leaders who can resolve conflict, solve problems, build socially connected communities and inspire society to thrive. But for now, and perhaps most importantly of all, play makes our children more happy, confident, independent, resilient and safe. \*

#### [ABOUT JULIE]

Julie is an advocate for Nature Play SA and contributes to various programs across the team with her knowledge and expertise.

[FEATURE]

# LEARNING OUTDOORS: BENEFITS AN OVERVIEW RISKS

JULIE SLAGHEKKE, NATURE PLAY SA

*Learning Outdoors: Benefits / Risks is a hands-on resource for supervised education sites. Developed by Nature Play SA in close collaboration with Department for Education, Catholic Education, AISSA and Kidsafe SA, it highlights the importance of rich and inspiring outdoor learning environments as places where children and young people can enjoy the benefits of taking informed and reasonable risks through meaningful play and learning opportunities, without sites having to compromise their legal and duty-of-care responsibilities.*

[Learning Outdoors: Benefits/Risks](#) uses national and international research to highlight the benefits of nature in igniting passion, inspiration and creativity and in supporting the emotional, cognitive and physical development of children. Play and learning in nature builds opportunities for powerful learning and provides the perfect platform to promote a growth mindset through risk, challenge, engagement and process-based play – the fun and learning occurs in the doing, rather than in the end result.

The resource showcases the changes that have occurred to childhood over the years and the consequences of those changes. Exposure to outdoor learning experiences is significantly less than it was generations ago, influenced by a culture of risk aversion and the ever-present and increasing access to technology. Educational sites feel pressure from parents and the fear of being blamed or sued, which has led to an over-compensation of safety and an absence of opportunities for children to experience self-exploration, discovery, risk and challenge. Setbacks, mistakes and even injuries are critical life lessons that allow children to exercise decision making, review the consequences of those decisions and learn how to

self-correct. Overcoming challenges enables them to experience a sense of achievement and satisfaction that builds self-esteem and confidence – the thrill and excitement of scaling an obstacle that has been unattainable to a child previously can't be learned from a book and can't be replicated. Not providing such opportunities for children and young people will place them at risk of never developing the skills and understanding they need to be resourceful, persistent, innovative, confident and resilient adults.

*Learning Outdoors: Benefits / Risks* draws on the experiences of a range of educational sites across South Australia (childcare, preschool, out-of-school-hours care and primary schools) which are committed to ensuring their children have broad exposure to nature-based experiences. They have adopted whole-site strategies, embedded pedagogy and adopted a balanced approach to risk so that children can benefit from the learning risky opportunities provide rather than be denied them. The sites represented showcase how they use outdoor learning to engage children in meaningful experiences such as making and managing fires, tree climbing, playing with sticks and loose parts, going barefoot, playing outdoors in all weather, handling real tools, etc. Sites share what they have done to address risk head on while still fulfilling their duty-of-care responsibilities to make opportunities as safe as necessary, not as safe as possible. This document provides tools including research, statistics, the experiences and learnings of other well-established education sites, a [Benefit/Risk Assessment Template](#), an [Outdoor Learning Standard](#) developed by Department for Education to reference, and more, that all educators can use to learn, adapt and contextualise for their own settings. ✨

## [ABOUT JULIE]

Julie is an advocate for Nature Play SA and contributes to various programs across the team with her knowledge and expertise.



Image by: Jason Tyndall

[INTERNATIONAL EXPERT]

# THE RISK DILEMMA

## UNDERSTANDING WHEN TO TAKE A STEP BACK

AN INTERVIEW WITH ADAM BIENENSTOCK, WORDS BY MICHELLE AND JASON TYNDALL



Images by: Adam Bienenstock



### [ABOUT ADAM]

Adam is an internationally acclaimed designer, builder, and researcher of nature-based play spaces, and the founder of Bienenstock Natural Playgrounds. Adam has travelled globally to advocate for children's rights and nature play and to design natural parks and playgrounds. Adam lives and works at the forefront of the movement to connect children to nature. His bold, charismatic personality sets the tone for the entire company, and he's at his happiest when he's pushing executives, municipal managers and educators out of their comfort zones. He sits on numerous advisory committees including the Canadian Standards Association Playground Safety Standard writing committee, Parliamentary Commission on Urban Conservation and the Systematic Literature Review on Risky Outdoor Play. Known for his wit and humour as a public speaker, Adam invites us to shed our inhibitions and play in the mud.

*Balancing the concerns of parents, educators, caregivers and policy makers with the childhood freedoms needed for optimal development is an ongoing dilemma, one that **Adam Bienenstock** is prepared not only to manage but to boldly confront – the fiercer the challenger, the more enjoyable the fight.*

Adam is an internationally celebrated designer, builder and researcher of nature-based play spaces. His work has had significant influence on the children-in-nature movement in his native Canada, as well as throughout the United States and other parts of the world, including here in South Australia.

As a friend, and ally, of Nature Play SA, Adam has delivered stirring presentations to government, professional and community audiences and has consulted on playground designs with local governments across the state. His input and expertise have left a lasting

footprint, with many sites attributing their inspiration to him.

When it comes to his motivation, his concerns are clear: restrictions and interference with the way children play is leading to more sedentary lifestyles, anti-social behaviour, high stress levels, and underdeveloped physical and cognitive skills.

During his 2017 visit to Adelaide, Adam sat down with Nature Play SA's General Manager Jason Tyndall to discuss his thoughts about the state of play in Australia and to consider the "why" and the "how" of taking a step back.



## CONTINUED

### ***What inspired you to head down the path of natural play spaces?***

I wish I could give you an epiphany story, but I really don't have one. I just never really understood the other stuff. I thought the steel rocket that sat outside my school was idiotic. I played at the creek that was just up the road from where I lived, so the first time I was asked to design a playground, I designed a creek with a couple of trees that were lying across it – it just made sense to me. When I showed it, they patted me on the head and said, "Well that's nice, but we were looking for a playground." It still made no sense to me because mine was more fun.

### ***What do natural play spaces offer that playgrounds don't?***

I think the thing that's missing, that these natural environments offer, is full sensory engagement. That's all five senses and more. We want kids to have their brains engaged; we want them to be cognitively engaged during play, not shutting off. We want a place of mastery for every kid. If you move away from just trying to give kids a gross motor experience and start to move into what is optimal for development, you will end up having a full sensory experience in nature. The only way to get that experience is to have more natural stuff. To me it's a no-brainer, it's just not that complicated.

### ***I've noticed when kids play in the natural world, everything becomes common ground; no one is stronger or faster. What are your thoughts on how it levels the playing field?***

Open-ended stuff really creates a place of mastery for every kid. If you provide an open-ended, unstructured, natural, sensory-rich space, no matter what it is they're good at, they find a way in. That place of mastery is something we all seek out in our lives. Even now we are seeking that out, at this age, that thing that we are good at. Once we have provided that, then they cycle through. It's really cool when you watch it. They are more concerned with each other's wellbeing and they collaborate better. The kids who are the biggest, toughest bullies of the schoolyard stop being that. They start being leaders.

That's why we see the engagement rates go from 19–22 minutes with the plastic and steel stuff to 1–1½ hours when they are left to their own devices in a space that is natural and sensory rich.

### ***We often find ourselves discussing the importance of risky play for children and at the same time we see opportunities for this type of play disappearing. What is your view on risky play?***

As one of the co-authors of the systematic literature review on this subject, I think we have moved away from it because of fear. We've stopped understanding the difference between a learning injury and a catastrophic injury. And it turns out that if you take out those bumps, bruises and scrapes, you are more likely to injure yourself catastrophically. If we take away that cognitive engagement during play, if we take away that risk assessment piece that kids need to do over and over again, there are bigger and worse injuries over time.

### ***So, what should we be looking for in a space to counter this?***

Kids really need to concentrate, very carefully, on what their next step will be. If we make it all one uniform sensory experience, if it's all





perfectly flat, and smooth, and straight, and everything is spaced exactly the same distance apart, there's no risk assessment. It comes down to muscle memory and the brain sort of shuts off. We actually need a full sensory experience every single time they are going through this. We need the bark on and the bark off the tree. We need them to be climbing trees because they have to reassess every single step. "How much do I weigh this time? I was less than this last time I went up this tree, should I be worried about this branch?" They think through this stuff. To me, risk assessment is all about cognitive engagement during play and that happens if we have an increased sensory experience.

**And I think while we're assessing the physical risks, we need to ask if there is an emotional and social risk if our children don't take those risks. Do you agree?**

I refer to it a lot in the talks that I am involved in. "Compared to what?" is the thing that I ask people to say. When someone says, "Oh I think we've gone too far, I'm worried about what's going to happen if that kid's in that situation making that assessment." Well, compared to what? If we take that risk and their ability to assess that risk away, we end up with sedentary lifestyle increases. We end up with increased screen time. We end up with lower cognitive engagement rates and higher stress. Stress is huge right now, and out of stress come behavioural issues. I can solve most of those behavioural issues by taking

them outside into a sensory-rich environment, a nature-based play space.

**What advice would you provide to education sites that are thinking of upgrading their grounds to incorporate natural play spaces?**

First up, do it. Richard Louv said something that I liked: "We may not know everything, but we certainly know enough to act." The loose parts in the corner of the school ground will be a success. To have a giant rotten log dropped off, you don't have to have to spend a million dollars to make this stuff happen. So first piece of advice is: do it. And secondly, I think if you plan on doing it on a bigger scale, then have that conversation with someone who really knows their stuff and has created environments that have been successful elsewhere. I think it is important to involve your community and involve your students in the conversation. I think it is important to avoid the word "playground" in the conversation as we have archetypes in our head and if you say "playground" then that is the archetype that comes through. If you start to talk about your favourite experiences outside, you will have a very different set of images that come from the conversation. Then it is a matter of reflecting that back into the space.

**One of the things I think you are saying is about educators and policy makers being creative, being a bit bold and innovative. Pushing the agenda.**

I think we all know that this is important and if you go back to that "compared to what?" conversation, whether it is behavioural issues, stress, obesity or ADHD, it's clear we are not winning this battle. I think we have to take this

*"We've stopped understanding the difference between a learning injury and a catastrophic injury. "*

ADAM BIENENSTOCK

responsibility a lot more seriously now. I think we have to become a lot less patient with people who don't say yes. As Sarah from Nature Play SA said, we need to get brave. We need to start to act and push because this is too important. \*

## [ FURTHER RESOURCES ]

[Adam's website resources page](#)

Adam's videos:

» [About Adam](#)

» [The 12 year old who wanted more](#)

» [The Hippo and the gazelle](#)

# “THE COMPETENT CHILD”

## IS IT BECOMING A SLOGAN?

LISA BURMAN, LISA BURMAN CONSULTANTS

*How do we see children? Without realising it, we carry around with us preconceived views of the child which can colour the ways in which we interact with them in different situations. In this article, educational consultant **Lisa Burman** encourages us to reassess our image of the child in a way that allows all children to be competent learners and to flourish.*

“Just Do It.”

“Ideas Worth Spreading.”

“Finger Lickin’ Good.”

Slogans stick in your head. They’re meant to. A slogan is “a short, easily remembered phrase, especially one used to advertise an idea or a product” (Cambridge Dictionary online).

Education has slogans too.

“High expectations for all.”

“The competent and capable child.”

“Flexible learning environments.”

Is this a bad thing? Maybe – if these words remain only as slogans without a depth of understanding and sound pedagogy around them, they are, in my view, potentially dangerous. At the very least, words that could hold great potential remain hollow.

“We see the child as competent and capable” and “We hold a strong image of the child” are statements that hold enormous potential in explaining rich and complex systems of beliefs and values about childhood, the role of education and the role of the educator. But I worry that too often they have become slogans – the “latest edu-speak” – and the user doesn’t hold a deep understanding of what these words mean and communicate.

One of the guiding principles of the educational project in Reggio Emilia is the image of the child as “strong, powerful and rich in potential and resources, right from the moment of birth” (Carla Rinaldi 2013, *Re-imagining Childhood*, p.15). The educators in Reggio (and most significantly the founding director and philosopher, Loris Malaguzzi) have given us both a gift and a challenge in sharing these words with the world. Personally, learning about this principle gave me new words I could use to describe my values and philosophy. They also stretched my ideas and clarified my thinking because they forced me to examine what I *really* believed and how my actions connected (or didn’t) to these words.

Our challenge as contemporary educators is to not just accept the words of others but to explore them, question them and engage with them so that they become our own – or to discard them because they do not match our beliefs, values and contexts. So, like many Australian educators, after years of exploring, examining and seeking to understand, I have accepted and integrated the words “a strong image of the child” to become part of my own language.



Images by: Jason Tyndall

### [ABOUT LISA]

Director and Principal Consultant at Lisa Burman Consultants, Lisa Burman is an educator who sees herself as an “every-day researcher”, fascinated with childhood and learning. After a number of years teaching in and leading primary schools in Australia, she consulted in and around New York for 10 years. Her highly regarded consultancy business is now based in Adelaide. Lisa’s interests include early childhood education and care, embedding the principles of the Reggio Emilia educational project within learning environments, play, literacy learning, inquiry learning and strengthening children’s connections to nature. She is passionate about pedagogies that see children as capable and competent learners who are skilled in researching life and making connections. Her favourite work is side-by-side with children and educators in their learning settings.

Lisa is a regular keynote speaker, presenter and workshop facilitator at regional, national and international conferences. She has launched three online courses and is always working on new ones. Her first book, *Are You Listening? Fostering Conversations that Help Young Children Learn*, is published by Redleaf Press.

### What does the “Image of the Child” mean in the world of nature play?

There are many constructs of childhood we could use to explore the idea of the image of the child. Historically, childhood has been viewed in many different ways. Culturally, there are also different views of the child. For our purposes, we’ll use four common views of the child within education and reflect on how these views could be interpreted in a nature play context.

These views are not finite and discrete; it’s never as simple as that. They are not about assessing ourselves against each view. What they offer me, in my teaching, is a tool for reflection. I can ask myself:

“What view of the child is strongest here?”

“Does this context allow the child to use his/her full potential or am I taking some of that away?”

“Is the child capable of more than this context allows?”

### **The Innocent or Fragile Child**

When children are largely seen as fragile, we feel the need to protect them. This does not mean there aren't some children in the world who benefit from our protection, of course. But if we operate only from this view, we run the risk of wrapping children in cotton wool and not allowing them to do things they could do for themselves – in case they get hurt, physically or emotionally.

- » *I'm visiting a suburban preschool and hear the teacher yelling out to two children, "Get out of that tree. We don't climb trees at kindy!"*
- » *A primary school replaces its bush garden beds with artificial turf because children might get splinters or be bitten by ants.*
- » *A childcare centre has a policy of not playing outside if it is raining or the temperature is below 10°C. Their rationale is that children will get sick when it's cold (rather than having warm- and wet-weather clothing available).*
- » *A teacher is wary of supporting barefoot play because he thinks the children will hurt themselves.*

### **The Threatening Child**

This view isn't about the child threatening us. It reflects an unconscious view of feeling threatened or at risk ourselves in a certain situation with children. When we feel even a little under threat, it usually results in us wanting to control the child or the situation.

In reality, sometimes it is important for us step in and stop a behaviour because the risk is real. To understand this view of the child, it's necessary to dig deep and ask ourselves if the risk is indeed real, or in fact only perceived because we don't like or value it ourselves. Will the children actually be able to handle this situation?

- » *I visit a childcare centre and watch as a group of three-year-olds transport water in small buckets from the tap to the sand pit. The educator doesn't want them to do this. He feels threatened because he doesn't want the sand to turn to mud and make the children dirty, and because he knows their parents will not like it.*
- » *A Year 3/4 class is on excursion to the Botanic Gardens. They get off the bus and run around the open space. One educator calls them back and tells them to sit in one place until they are told they are allowed to go. Underneath this decision (hidden) is her concern that the group might be judged by members of the public and that she will be seen by her colleagues as not being able to control the children.*
- » *Another teacher is wary of introducing whittling because she knows she'll need to be watching like a hawk for someone using the knives incorrectly and it will be a lot of pressure.*



### **The Empty Child**

This image is of a child who comes to us with no valuable experience or knowledge to build on. When we see children largely from this view, we feel we need to teach them everything. We assume they have no experiences that are of value to what we are doing. Educators can unconsciously hold this view about all children (“They didn't learn anything in Year 1!”) or for certain children (“Oh, he won't be able to do that because he has autism/ language delay/home background...”). This image of the child begins with a deficit view of the child – of what they can't do rather than what they can do. We need to guard vigilantly against this attitude creeping into our teaching by not making assumptions and by seeing the child from a strengths-based viewpoint.

- » *A preschool does not allow children to use water in the dry creek bed because “in the culture of our families, parents do not like their children to get wet”. This assumes all families believe this and so also creates a deficit view of families. It also unconsciously says that the families are not capable of learning about the value of playing with water.*
- » *A teacher in a primary school doesn't support open-ended cubby building with loose parts such as branches and crates because he thinks it is important to teach children explicitly how to build a structure before they can start.*

### **The Competent Child**

This view sees the child as full of potential and already rich in resources and strategies for learning. It acknowledges that children are able to do more than many of our education systems and procedures allow. It does not see that all children have the same competencies. It does not negate our duty of care when there is a real risk and boundaries are called for. It does,



however, challenge us to ask, “Are the children capable of more than I’m allowing?” and, “Does this learning context offer children ways to think and act on their own?”

- » *I visit a preschool and observe the educator leading a small group of children in a conversation about how to use hot glue guns safely. The children write a benefit/risk and risk analysis in their own words. They are seen as capable of making these safety decisions once they have been given accurate information.*
- » *A team of preschool educators spend time patiently explaining to parents the benefits and importance of mud play for their children. They believe mud play is the child’s right. They also believe that, with the right information, families will see how important it is and not want their child to miss the opportunity because they love their children.*
- » *A childcare centre has a climbing tree, and the adults understand that the children are capable of assessing their own ability to climb it. The teachers talk to the children about how to recognise when they have reached the height to which they can climb confidently and therefore not go any higher until they (the children) feel confident. The teachers trust – and empower – the children to make this decision rather than having a set “climbing line”.*
- » *I visit a multi-age group of seven- to twelve-year-olds and their educators. The group has engaged in discussion about when it might be safe or unsafe to go barefoot when they are playing in their nature playground. The children are trusted to make the decision about whether or not to wear shoes when they are outside.*
- » *A group of three- and four-year-olds and their educators have worked through a process of benefit/risk and risk assessment when using real*

*tools in their garden. The words of the children are displayed for other children, families and educators to read. The children involved in this process also confidently explain their rationale to any visitor or new child and family to their children’s centre.*

- » *A primary school includes very large and heavy rocks and logs in their loose parts materials because the educators understand how these materials offer different opportunities for learner-agency, collaboration and thinking. They do not want to limit the children’s potential for thinking by limiting the loose parts to small materials that are easy to store and pack away.*

These views of the child offer just one framework for reflection and decision making. It is my hope that, as they have for me, they will give you a tool for thinking more deeply and critically about the way you design learning for all the competent children you work alongside each day. \*

*(Many thanks to Amanda Bartram for contributing her thinking to this article.)*

# ENVIRONMENTS TEACH

## WHAT, HOW AND WHERE TO

PAUL JOHNSON, ARBURY PARK OUTDOOR SCHOOL

*When is a play space not just a play space? When it is a teacher? In this expert opinion piece, Paul Johnson challenges us to see our play spaces not just as environments but as educators that guide, shape and stimulate in their own right.*



### [ABOUT PAUL]

Paul's 30-year career spans early childhood to tertiary education contexts in rural and urban areas. From 2007 Paul taught and researched at Galilee Catholic Learning Community where he played a formative role shaping and growing the school's learning environments. His Ph.D. thesis, *Grounds for Learning: Schoolyard activities and provocations, scaffolds and mediators for childhood learning*, presents a synthesis of social constructivism and ecological psychology to describe how schoolyard activities influence learning. Paul has presented, written and consulted on schoolyard design and professional learning. He is currently Curriculum Coordinator at Department for Education's Arbury Park Outdoor School.

### WHAT

Contemporary research tells us that learners' perceptions, actions and thoughts emerge from their interactions with the environment (Plumert 2008), but this isn't news for practising educators. One hundred years ago the famous writer and educator John Dewey (1916/1964, p.22) explained, "We never educate directly, but indirectly by means of environment." He went on to state that "whether we permit chance environments to educate, or whether we design environments for the purpose" really does "make a difference". Today, many educators ensure that indoor learning environments make a difference: Multi-base Arithmetic Blocks help children learn how the number system works, grouped desks teach that knowledge is a social product, and peaceful reading corners communicate how to approach texts.

In Dewey's time playgrounds were also designed to communicate messages about what was valued. For example, climbing frames, horizontal ladders and sports fields were designed as places where boys would learn to be strong and courageous (Aitken 2001).

Educators who have taken an interest in nature play are most likely familiar with the idea that playgrounds mould players. Many articles suggest that natural places offer learners opportunities to:

- practise specific skills. For example, video observations made during my Ph.D. research (Johnson 2015) show that Year 5s who played in a naturalised schoolyard generated alternatives, explained intentions and then identified and justified their thinking at Year 8 and Year 6 levels of the Australian Curriculum's Critical and Creative Thinking Learning Continuum.
- pick up knowledge or skills through observation and experience. Researchers Challie and Tian (2005) explain that moving, changing, experiencing and closely observing the natural world encourages the kind of theory building that is essential for an understanding of physics and which enables construction of more complex meaning in geography, science and art, for example.

- learn by exchanging with others. A well-developed literature discusses peer-to-peer learning through social interactions (e.g. Bandura 1989, Newton & Jenvey 2011).
- burn off energy and restore attention. The 140-year-old Surplus Energy Theory (Spencer 1873), which says that children sometimes need to burn off energy, is largely debunked (Pellegrini 2005). However, reliable studies do find that greener surroundings are associated with attention restoration and improved cognitive learning (e.g. Bagot, Allen & Kuo 2008, Dadvand et al. 2015).



Educators who set out concrete resources as an aide to learning clearly understand that thinking emerges out of interactions with the learning environment.

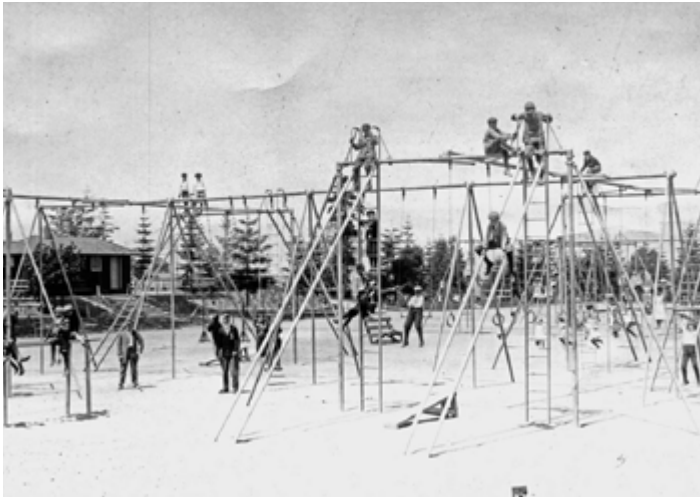


Image 1. Historically it was intended that playgrounds like this outdoor gymnasium would instil warrior qualities in boys (Johnson 1911). Image sourced from <https://rarehistoricalphotos.com/dangerous-playgrounds-1900s/>

These and similar findings lead to the reasonable conclusion that what educators put into playgrounds can be important for the learning it supports. Personally, though, I sometimes feel frustration when I hear schools only considering what to include in their playgrounds, not because objects are necessarily bad but because thinking of playgrounds only as containers (Wachs 2000) where children practise, exchange or pick up learning may limit other levels of learning.

## HOW

All learning environments, including school grounds, (i) communicate what may or may not be done, and (ii) scaffold how people relate to others, objects and processes (e.g. Baines & Blatchford 2011). One hundred years ago, outdoor gymnasias were designed to prioritise courage and competition with the idea that boys would take on the ideals of a warrior (back then girls were designated different playgrounds). I believe that today, when educators are thinking about enhancing possibilities for nature play (or any other activity), we should be creating environments that provoke and scaffold the types of learning described in the Early Years Learning Framework, the Australian Curriculum's General Capabilities and Teaching for Effective Learning. In short, we are thinking about the dispositions that activate students' "capacity and confidence to engage in lifelong learning" (Carr & Claxton 2002, p.9).

When educators begin thinking about schoolyards as environments that scaffold deeper learning we will come to understand that before naturalising, before re-surfacing, before installing new equipment, we will have to change what we think and do. We will realise that critical elements making any playground educative include how we encourage learners to imagine, adapt and add layers of meaning to physical environments.

For example, consider image 2 showing four logs that a child has arranged in a rectangle. As an educator you will notice that the learner has been playing with the idea of enclosure. Now imagine you are a learner experiencing an artefact like this for the first time. Noticing that it was made by someone like you, you may walk around it. You may approach and even step into it. As yet you have not consolidated a concept of enclosure, but, stepping around and into it, the artefact becomes a psychological tool that gives you opportunities to experience the concept. Miller (2003, p.10) describes the processes that emerge

from experiencing such higher-level learning environments not as "a steady accretion of knowledge ... [but instead as] a shift in one's basic understanding". The Russian school of psychology that elaborates Vygotsky's (1934/1978) social-constructivism would say the artefact "mediates" a concept. More generally, when educators think like this we (i) acknowledge that concepts are embedded in the environment, and (ii) are considering the environment as if it is a teacher.

Next imagine what happens when students at your school are allowed to turn all sorts of objects and practices into embodiments of their concepts. Clearly the schoolyard will soon contain many student-made artefacts. As we have seen, the artefacts will embed what the students were thinking and they will make that thinking available to learners (Rinaldi 2001). But there will also be constant change. Learners will adapt their creations to suit their emerging ideas and concepts. So, just as flowing water differentiates rivers from lakes, free play in your naturalised schoolyard will be defined by constant flows of imagination and renegotiations of meaning. You will see constant change in your educative playground.

Thus, when learners step into the flow of what may or may not be done and what something may mean, at a deeper level they are actually immersed in histories of how people do things and understand things in their environment. Whilst there is constant change in educative playgrounds, deeper down there is continuity in liberated play – the environment provokes and scaffolds learners to be imaginative, to read contexts, to make sense and to make meaning of experiences.

## WHERE TO

At the surface level, the objects, places and practices educators allow in schoolyards communicate what may and may not be done in that environment.

At the next level, free activity in enriched environments prioritises working with meaning and communicates how to be successful. Back in 1949 Harlow (p.51) coined the term "learning to learn" to describe the results of learning through such processes.

Deeper still, and at the most fundamental level, learners may sometimes encounter contradictions in the flow of their experiences – "significant and noticeable departures from previous patterns" (Aitken 1992, p.557) that provoke reflection. What is significant here is that, during such encounters, learners reconcile contradictions by transforming their thoughts, actions and contexts. At my last school, for example, students were familiar with what was required to collect butterfly eggs and caterpillars from the schoolyard and what to do when "farming" them. At one stage, however, farming caterpillars became so popular that the activity itself threatened the survival of the few plants on which farming depended. In this context one Year 4 boy saw that there was an imminent problem. He asked others to stop harvesting plants but no one complied – after all, how else could they keep their caterpillars alive? So the environment provided the boy with what Bateson (1972) calls a double bind: that is, if the boy gave up harvesting plants his caterpillars would die, but an identical fate was likely if everyone continued harvesting the plants. The boy realised that existing patterns of what to do provided no resolution to the double bind. Nevertheless, his playground experiences had consistently provoked and scaffolded how to be imaginative, how to read contexts, how to make sense and how to make meaning of experience so that is where his thinking went. When I saw him the next



Image 2. Four logs that a young child has arranged in a rectangle.

day he no longer thought of himself as a farmer-consumer but instead he had transformed himself into a creator: he was going to establish cuttings of the plants so he could “save a species”. The double bind had, in the language of education, helped him expand understandings of himself and his existing conceptual system.

The butterfly example is not offered as advice on how to grow caterpillar host plants. Rather, it serves the purpose to suggest, first, that schools design playgrounds (and buildings, for that matter) that embody and enable a curriculum of how to learn. Second, the example indicates that when contradictions arise, students who have learned how to learn will reflect on and expand their knowledge, actions and conceptual understandings.

## CONCLUSION

In this and my previous article in the first issue of *Nature Play the Education Way* I hope to have shown that what matters for learning and development is not what an environment contains but the environment that learners experience. When all is said and done, it is experiences of responding to and changing environments that allow learners to transform understandings. Furthermore, it is this author's contention that liberated learning, activity generally, and more particularly activity in naturalised settings, can address the highest-level educative purposes and outcomes.

Educators who develop and maintain quality learning environments understand that objects, places and practices can help students move through what may or may not be done, into how to learn, and beyond that into their preferred futures. Allowing learners time, permission and places to work with meanings that they value (when young learners pick flowers for perfume making, for example) may seem to suggest that educators don't mind what children do or learn, but it is in fact quite the opposite. Time, permission and place are the elements with which we design, create and maintain ecologies of learning that support learners to develop their capacity to choose lives they have reason to value. \*

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# POWERFUL PLAYGROUNDS

## THE THIRD TEACHER

JOSH ANDERSON, CLARENDON PRIMARY SCHOOL

Image by: Josh Anderson



### [ ABOUT JOSH ]

Josh Anderson is currently Principal of Clarendon Primary School, a small community school in the Adelaide Hills. As an educator he has nearly 20 years' experience from Reception to Year 7. Josh has been involved with the ECHO Re-imagining Childhood Project over the last two years and is a strong advocate for lifelong play. He has been closely involved with the Stephanie Alexander Kitchen Garden Program since its inception and considers gardens to be almost the ultimate classroom! Josh has a keen and active interest in bringing natural play spaces into education settings and has been collaborating on play space and school landscape design, construction and evaluation (playing) for a number of years in order to enhance and promote wellness, risk, achievement, engagement with nature and most of all lifelong learning in educational settings. He also advocates and enjoys playing with sticks, mud, rocks, branches and dirt.

*We know that research attests the benefits of nature play in terms of children's wellbeing. However, pedagogical experts challenge us to take this a step further and see our outdoor environments as a third teacher enabling powerful learning in our students. Clarendon Primary School principal Josh Anderson takes us on his own professional – and personal – journey of discovery of the potential of nature as the third teacher.*

As a school leader, classroom practitioner, teaching "nerd" and parent of three young children, I inevitably invest much time exploring the early childhood and primary educational zeitgeist in both theory and practice. One tangent of this exploration, drip-fed by an emerging interest in the provocations of Carla Rinaldi and research of Guy Claxton, has been much recent pondering on and research into the idea of powerful learners. Combining my nascent thinking with our school's involvement in the ECHO Re-imagining Childhood Project and a long-standing interest in the way learning and play interact, I have come to believe that it is powerful play which forms the genesis of, and ultimately lies at the heart of, powerful learning and creates a solid foundation for [building learning power](#).

I also came to form the opinion that we can build learning power equally well outside of the classroom as in it, as well as potentially increase the learning power of students through the quality of the outside play spaces we provide for them. The notion of environment as a third teacher was being crystallised for me, and I embarked upon a deeper, personal exploration of the concept of powerful playgrounds. I went from initially being a loose advocate for free-range nature play and bespoke playgrounds to someone totally committed to the idea of outdoor play spaces being vital, powerful and important learning spaces for children.

In order to test and even expand my personal theory that powerful playgrounds create powerful learners, I had to take on the role of teacher as researcher and start observing and collecting evidence that would back this idea up. This was the fun part (for the teacher nerd and playground fanatic in me), and my ideas were galvanised as I started pulling together

the work of many people – Carol Dweck, Guy Claxton, Tim Gill, Adam Bienenstock, Evette Sunset, John Hattie, Sir Ken Robinson, Po Bronson, Jo Boaler, Pete Semple, Carla Rinaldi, Helle Nebelong, [Loris Malaguzzi](#), Rudolf Steiner, Richard Louv, Wilson McCaskill, Bruno Bettelheim, Jean Piaget – and explore the threads that exist between the work and philosophies of these academics, writers, landscape architects, artists, thinkers, designers, educators and doers and how they had influenced my own work as a teacher, parent and advocate for play. I realised that much of what we say about the preferred requirements for quality learning outcomes in curriculum and pedagogy for 21st century learners is just as relevant when we look at playgrounds, the pedagogy of play and the need for high-quality play spaces, especially outside ones.

Along the way I discovered a German word I like: *spielraum*, meaning "playroom" or, more precisely, the room to move your body and mind – a place to play around with ideas and provocations and take them somewhere. I came to believe that good learning environments, especially outside ones, provide *spielraum*, as do good curricula – space to stretch, explore and process new things and make meaning of them. Outside play also provokes all five senses, and I was soon seeing that kids who play naturally could potentially learn and play better as they have to constantly adapt and learn about their world. Play is how children make the imagined real; their play is a process of "realisation" – simply, the making real of the world around them.

It also came to mind that in the last five years, amongst a sea of plastic, metal and tacky primary colours (where the "stepping stones" are the same distance apart, never slippery, and always less than 300mm above ground level), we have begun to see an emergence of educational and public play spaces inspired by their local surroundings, featuring natural objects in naturalised spaces where children can embrace challenges, be self-directed and take risks, where the process of creation and destruction is important and where resilience is built. Why is this so? Because we are seeing that children actually love playing in them. Because children's voices are being heard in their design and construction. Because they promote learning in many ways, in environments children enjoy interacting with. Because they help build learning power. While there have been many stalwarts for outside nature play over the years,

particularly in the Steiner movement, it is pretty evident that the thinking in residence of Carla Rinaldi can be credited with inspiring much rethinking about our play spaces. In addition, the influence of the Reggio Emilia Approach has also empowered many education sites in South Australia to embrace the concept of nature play to the growing benefit of children who are being regarded as more capable and competent by those who are designing and building their play spaces. Thankfully, we have begun to see the return of the powerful playgrounds – places for children where their voices are heard.

It has become evident that things are moving in the right direction when we look at contemporary outdoor play spaces for kids, but why they had seemingly vanished for 20 years was a question I began to seek answers to. Reflecting on my own childhood provided an insight into where I want the future of childhood to go.

A generation ago, children's powerful playgrounds – my playgrounds – were the creeks, quarries, gullies, beaches, scrub, forest, junkyards and vacant blocks within a child's neighbourhood, which provided the loose parts, opportunities to build resilience and exercise autonomy and allowed for the experience and assessment of risk. The modern age has seen play radii for children shrink dramatically and the opportunities to experience free and powerful outdoor play spaces diminish accordingly, and this gap in the market is now increasingly being filled by schools, centres and public spaces which choose to provide for children and their need to play powerfully outside, consciously supporting the development of powerful learners.

[Guy Claxton](#), whose work lies at the heart of the powerful learning curve, talks about powerful learning as mind stretching, not mind filling. Learning power relates to:

- feeling – the absorption, noticing, perseverance and perceiving in learning
- thinking – the questioning, connecting, capitalising and resourcefulness in learning
- strategising – the planning, revising, distilling and reflectiveness in learning
- the relating/social – the inter-dependence, collaboration, empathy, imitation and reciprocity in learning

In the classroom, powerful learning values the process, not the results. So why not in the schoolyard as well? If you have ever built a cubby or played in the sand pit, you will know that the fun is in the doing! But a question has to be asked here: how many of our play spaces for children offer a process? How much process was available to children in the grounds of my own school setting at Clarendon?

When we observe our children playing freely, notably in natural settings and particularly when engaged with loose parts play, we see many of the powerful learning actions listed above occurring. Collaborative play that involves building shelters and cubbies and the like offers these opportunities in so many ways. Powerful learners have resilience and resourcefulness which enable them to respond to real-world pressures and uncertainty. Good school curricula and pedagogy build resilience and resourcefulness – and so do good playgrounds. I had instinctively known for a long time that good play spaces were critical for the good development of children, and my understanding of why this was the case was starting to grow.

To me, good play spaces that allow children to be autonomous, take risks, be in charge, construct and deconstruct, collaborate, wonder and reflect not only help build learning power but offer the opportunity for the child to be respected as competent and capable. Many modern, "post-and-panel"-



Image by: Jason Tyndall

style, prefabricated playgrounds are one dimensional in the opportunities they offer. Their strictly foolproof (or fallproof) design does not always respect the competencies of children and can undermine the autonomy of children at play through their prescriptive scope for play. They often lack the graduated challenges that keep children working harder and harder for success, and as a result are often mastered once and ignored thereafter. Standardised to the point that boredom arrives sooner, they offer limited scope for anything other than physical, active play and children will often start to find their own ways to interact with them – think about the children underneath or on the roof of the prefabricated cubby house after quickly tiring of its uninspiring, prescriptive interior. Powerful playgrounds respect the competencies and capabilities of children. They ask of children; rather than just "giving" the user immediate success, they offer opportunity to expel effort and be rewarded. Powerful playgrounds encourage risk assessment before risk taking; they let kids test their boundaries in a safer and moderated fashion.

Good play spaces, both inside and out, should be provocative, not prescriptive: they give suggestions for play and use but are open ended. They seem to have more than one way to play with them and allow accessibility to people at different levels. They also let children of different ages play together. Powerful play spaces are often those that are bespoke and provide a range of play opportunities, including physical, gross motor, fine motor, artistic, active, passive, dramatic, imaginative, creative, large group, small group, solo and collaborative play. When we have playgrounds that only cater for children with an interest in organised ball games, like many schools do, we ignore and devalue the multitude of other ways children like to play. It is like a classroom that only ever does reading and maths – great for those kids that love reading and maths but not so engaging for those that like drama, science, music, visual arts, physical education, computing or writing. We need varied curricula so that children from a broad range of backgrounds can feel successful and excel. Playgrounds need to be the same.

Powerful playgrounds are provocative places that demand rigour but allow the learner to explore, tinker, adjust, reflect and revise. Powerful

playgrounds should be seen as learning areas. Loris Malaguzzi declared that children have a right to a quality environment which can do the work of the third teacher. He described the schoolyard as a pedagogical project – a dialogue between pedagogy and landscape architecture.

So how has all this thinking, observing, learning and dialogue influenced our journey at Clarendon Primary School? We have begun to embrace and plan for the further evolution of our playground into a powerful one with spaces for children to be all sorts of things, not just athletes. As all schools need to, we asked ourselves: beyond a supply of sand pit toys and sports gear, what loose parts do we provide? We now use everything from chalk, huge cardboard boxes, cloths, pallets, painting drop sheets, timber offcuts, milk crates and bricks to pavers, besser blocks, logs, branches, string, ropes, gum nuts, polished stones and rocks, soft coloured rocks for crushing, wax, water (the best loose part there is!), cans, pots and pans, plywood panels and even sticks. Yes, our children are allowed to play with sticks, but the key is playing safely. Our two main yard rules are:

1. "Play in such a way that everyone has fun," and
2. "Everyone is welcome."

Sometimes we have children pretending their sticks are guns or swords, opening another can of philosophical worms, but one worth grappling with: the issue of gender stereotyping and whether we have the right to exclude types of play that tend to be gender specific – should one child be allowed to pretend a stick is a magic wand in a make-believe fairy game but another not be allowed to pretend a stick is a gun in a make-believe army game? There is much that could be discussed about the need for children to have an outlet to make meaning of the vast amount of violence they are exposed to in their media worlds, especially in cartoons. Play can be a benign way to do this, if we have the confidence to allow it and the knowledge to support and manage it.

Being less prescriptive is part our emerging philosophy on outdoor play at Clarendon: we try not to dictate how our children play with the equipment they find but instead let them problem solve, process and produce ideas for their own play. The children are autonomous in how they interpret and interact with equipment and space – they need creativity to use these things and we let them exercise that creativity. As educators we intervene only if and when required to preserve the safety and inclusion rules.

So I advocate keeping your play spaces as natural as you can and ensuring there are loose parts. I advocate planting more trees, shrubs, herbs and flowers that will provide these loose parts and interesting objects. I advocate the ongoing assessment, evaluation and justification of the play spaces we provide in our schools and centres for the whole child. I advocate deep reflection about the quality of play we allow for. And I offer these ideas and questions learned from our own journey.

Perhaps most importantly, be okay with a bit of mess. See it as not really mess but a process, the eggshells and beaten eggs before the omelette – but designate areas in which children can do the messy stuff. Keep your local context in mind: what is doable; what can you leave outside and what needs to be packed away? Observe the end users in spaces they

already have: how are these spaces used? If we value a yard as a learning space, do we need more educators in it as observers, provocateurs and facilitators? Sometimes children are attracted to the quieter, more out-of-the-way places because they need some respite, so allowing for a number of tucked-away places, which seem private but are in fact still readily "supervised", is invaluable for certain children's wellbeing. Playing freely at lunch and recess time is sometimes the only time in a child's day where they are totally autonomous and in control – they can call the shots, set the tone, and be Wonder Woman for 30 minutes if they so desire.

I suppose my own learning journey has led me to understand that our play spaces have so much to offer our children in terms of building learning power and can be so much more than just practical, low-maintenance or attractive. They can be landscapes where innovation is encouraged

and minds are stretched, if we can only stretch our own minds and develop a new playground paradigm whereby we see the environment not as peripheral but as an essential element of a powerful learning space. Powerful play spaces foster growth mindsets and build resilience, as do powerful classrooms, pedagogy and curricula. They

encourage effort and risk taking through posing challenges and rewards, as do powerful classrooms, pedagogy and curricula. They encourage reflection, adaptability, flexible thinking, resilience, problem solving, patience and perseverance and they value process over results – as do powerful classrooms, pedagogy and curricula. In powerful classrooms and playgrounds, the learners are the protagonists. The journey towards these kinds of play spaces is an ongoing one in which schools and prior-to-school settings can play an active role. As Carla Rinaldi sagely points out, schools do not just transmit culture, they create it. ★

*"Powerful play spaces foster growth mindsets and build resilience, as do powerful classrooms, pedagogy and curricula. "*

JOSH ANDERSON

## FURTHER INFORMATION:

[Re-imagining Childhood: The inspiration of Reggio Emilia education principles in South Australia](#) Carla Rinaldi, Adelaide Thinker in Residence 2012–2013

[Dr. Dweck's discovery of fixed and growth mindsets have shaped our understanding of learning](#) Dr Carol Dweck

[Building Learning Power website](#) Guy Claxton, Professor of the Learning Sciences at the University of Winchester

[Building Learning Power](#) Professor Guy Claxton

Tim Gill's blog [rethinkingchildhood.com](#) and his publication [No Fear](#)

[John Hattie's High Impact Strategies for Teachers](#) via [evidence-basedteaching.org.au](#)

[Piaget's Cognitive Theory](#) explained via [simplypsychology.org](#)

# GRAND DESIGNS

## Effective planning of natural play spaces

A CONVERSATION WITH PETER SEMPLE, PSLA (PETER SEMPLE LANDSCAPE ARCHITECT) .....



*As with so many things in life, effective planning is key to the success of natural play spaces. In this interview, experienced landscape architect and play space designer **Pete Semple** shares his knowledge and experience on how to achieve the best learning and developmental outcomes, as well as recreational fun and wonder, through thoughtful planning and design.*

that time a common observation I recall is how many of us kids, and adults for that matter, gravitated towards the natural areas around us. The research today is telling us that kids need nature as a form of anxiety and stress release – I can certainly see, from my experience, how this is the case. Although I grew up in another part of the world, there were universal traits that formed the basis of my play there that reign true today everywhere: adventure, imagination, risk taking, independence and freedom.

My career has very much been about landscape architecture – my focus was creating landscapes for people that foster social connection and a greater sense of place and community. But in recent times my view of the types of landscapes that I was designing took a change for the better. To be honest, it all started when I had my two beautiful children, which coincided with visits to Adelaide from two leading experts in the fields of childhood development – [Tim Gill](#) – and play space design – [Adam Bienenstock](#). I started to reflect on my own memories and childhood experiences, and the question dawned on me: what will my children's memories be? And so my professional transformation began.

As an architect who focused on creating landscapes for people, I found that the reflection enabled me to extend my direction to a greater focus on spaces for children, spaces

**Pete, can you tell us where your nature play journey began?**

Like many of us, I have a childhood connection with play. I grew up in a small town in Northern Ireland with a backdrop of rivers, mountains, forests and the Irish Sea. These places were accessible and as a child I was drawn to them. We also had a big backyard. I have fond memories of climbing our old cherry tree, with a rope ladder and tree house – and the cherries, we ate them and used them for ammunition in the games we used to invent. The games were based on the things that were happening around us; they were our self-expression. I grew up in an interesting time when sectarian conflict in Northern Ireland caused a lot of anxiety within our community. Throughout

### [ABOUT PETE]

Pete is a registered landscape architect and nature play designer with over 15 years' experience, and owner and Director of PSLA (Peter Semple Landscape Architect – <https://www.psla.com.au/>). He has designed and project-managed award-winning nature play spaces and outdoor learning environments within early years settings, primary schools and in the public realm for councils and state government. His success is based upon a tried and tested set of nature play design principles that are embedded into his design approach. He also is a renowned collaborator who focuses on encouraging active participation from educators and capturing children's voice at all stages of the design and construction process. In 2013 Pete established a community nature play Facebook page called Nature Play Design that continues to advocate and share Australian and international precedents and resources. Pete is also a serving committee member for Play Australia South Australia. Pete is a father of two children aged five and four with contrasting personalities who engage in a range of creative and adventurous endeavours. To sum it up, mess is a good thing in their household.



Images by: Jason Tyndall



## CONTINUED .....

principles that can galvanise thoughts and aid in further discussions and decisions.

Empowering stakeholders in the decision-making process to include all generations will lead to strong and authentic outcomes and ensure continuity of support, participation and stewardship. In many circumstances, nature play is well supported with passionate nature play champions contributing to a site's overall vision. But it can be common to encounter individuals who are very risk averse and conservative in their thinking. Finding a way to involve all individuals will ensure whole-site support. For example, I have seen a site's groundsperson initially oppose loose parts and water play; however, a line of communication was established to ensure they were given a platform to voice their concerns. Giving them a voice made them feel valued. It also provided an opportunity to have an open discussion about the benefits of nature play, and by reflecting on their own childhood experiences, common ground was established and perspectives started to change.

From a design perspective, spaces for outdoor learning and play should reflect and celebrate the diversity of our identities, cultures, environments and physiological and psychological needs. To ensure these parameters are considered, we need to take a close look at our plan. Often a plan represents a one-dimensional view, and consequently some of the key components often get overlooked. Some of these include opportunities for sensory richness, exploration, risk and mastery. My advice would be to get out into the space and visualise where these elements will be or could have the greatest impact. Immerse yourself in the space and consider environmental and sensory affordances (opportunities) and how they can give life to a space and make it comfortable for play and learning. Consider how the location of experiences can impact and ripple across the learning environment through sight, sound, light and vibration. And most importantly, make sure that this is equally considered from a child's sensory perspective.

***From a landscape perspective, what are some of the considerations for education sites that are looking to build a nature play space?***

I utilise my nature play design principles to illustrate key considerations when designing a nature play space. My number one design principle is Sense of Place. A nature play space

that enable experiences of risk, adventure, opportunities to connect with the natural world, achievement, and joy. Since expanding, I now work across the state with education sites and councils and more recently have co-designed Mukanthi, the play space in [Moriahta Conservation Park](#).

***What does nature play mean to you as an architect and parent?***

Broadly speaking I believe nature play is a movement that instils a passion to make tangible changes in the way our children interact with nature. It is my view that we need our current, and future, generations exposed to childhood memories like the ones we had as children. The research tells us that these types of experiences provide us with the mental, cognitive and physical resilience that has served us well in our own adulthood. From all this I believe children can develop understanding and empathy for their local environments

and ecosystems, securing a better and more sustainable future.

From a professional perspective, the way we design our spaces, and involve and encourage children to use them, is critical to their development and wellbeing today and into the future. And personally, as a parent I recognise the technological era we live in and the need to seek balance in our children's lives. I see that the onus is on us as parents to provide play opportunities for our children – particularly in our own backyards, regardless of their size.

***For a site that is considering investing time and money into a nature play space, what initial advice do you have?***

It's important to recognise that no one can do it on their own, at least not easily. Establishing a committee with a core group of like-minded visionaries will set a site's journey in good stead. It's important to establish a written vision with

## PETE'S NATURE PLAY PRINCIPLES

**Sense of place** – *celebrate what makes your place special*

**Engage with the children** – *listen intently and translate into reality*

**Landform and natural features** – *integrate micro eco-worlds to explore and challenge*

**Greening the play space** – *soften the play environment to create comfort and support play ambience*

**Sensory experiences** – *use multiple natural elements to educate and to stimulate the senses*

**Sustainable practice** – *use local material resources and provide for sustainable education*

**Embrace risky play** – *allow kids to experience and evaluate challenges so it becomes second nature*

**Incorporate multiple play styles** – *provide a diversity of play opportunities to diversify developmental outcomes*

**Integrate with the wider landscape** – *create connections to encourage exploration and query observations*

**Comfort & accessibility** – *facilitate extension of play and opportunities for all abilities*

These principles are the building blocks with which to provide a solid foundation for creating a play space and learning environment that offers developmental benefits and a place that instils a sense of belonging and community.

needs to be a reflection of the site's values, history, culture, geology, fauna and flora. We all want to have a sense of belonging and this can only occur if we have an understanding of and connection to the land, our own identity, and the context of the site. For me this is the underlying principle that inspires the creation of a meaningful play space.

There are many considerations but one of the keys to naturalising a space and providing sensory and tactile experiences is plants. In addition to the many sensory benefits they offer, plants provide an opportunity to reflect the local identity of place. Survival rates of

plants in play spaces can be quite low if you don't consider foot traffic and movement and flow of play through a space. Finding ways to allow plants to reach a decent size is important – if budget allows then established plants are the best way to go (at least above knee height).

### **From a practical perspective, what does a nature play space look like?**

A nature play space is a complete divergence from the traditional playgrounds that are safe at all costs, require minimal maintenance, are grossly motorised, and are designed for containment and surveillance. Playgrounds in the traditional sense have been primarily designed to be active gross motor environments that can be associated with aggressive behaviour, whereas free play in more naturalised environments can actually see a reduction in aggression and a range of other benefits. We are looking to enrich play and learning opportunities with a diversity of experiences that support playful collaboration and encourage quiet, creative and therapeutic play outcomes.

Key factors to consider include the following:

- **Topography** creates depth, defines spaces and transitions, and provides unlimited play value with a minimal cost.

- **Loose materials** provide a creative palette that facilitates open-ended creation and construction. It allows play themes and dynamic roles to evolve which can only be limited by adult interruption.
- **Refuge spaces** allow children to retract from the active play areas and find sensory and creative niches to find solitude and reflective experiences. For me a play space needs to have 20% of space dedicated to refuge spaces.
- A **hierarchy of paths** allows for a range of experiences: some paths can direct from one place to another (from building to

building) while others lead to adventure and discovery with the potential for playful interventions.

- **Graduated risk** provides rich opportunities for risky challenges that are acceptable and developmental, ensuring children are allowed experiences to test limitations and

build resilience. Humans have evolved from their environmental conditions and we have continually been removing hazards from our everyday lives to aid our evolution and survival. But we have also over-sanitised our environments to the point that everyday challenges are limited. In adulthood we compensate for this with extreme pursuits and thrill seeking of our own choice. For children it's even more diluted and

"... free play in more naturalised environments can actually see a reduction in aggression and a range of other benefits."

PETER SEMPLE





they don't have the opportunity to seek it elsewhere. It is therefore fundamental that we find ways to incorporate risk into children's play spaces.

- **Comfortable play spaces** can extend the play time. This is one of my key anecdotes to creating a successful play space. A lot of attention and effort is placed on getting the selection of play provision right but it is only successful if the environment within which it is located provides comfort that may lead to an extension of play. This is equally applicable to the children at play and the parent or carer who makes the ultimate decision on the duration of the playtime.

***In your experience, what are some of the challenges that education sites come up against and how do they overcome or prepare for them?***

Most issues occur if a site doesn't establish a clear project plan and consultation strategy. If participation or ownership is not felt across the site opportunities can be missed, unheard, or misinterpreted. Developing a common language and set of objectives is incredibly important to ensure your vision and outcome is resilient and can overcome challenges and hurdles.

Recently an education site engaged my team to do a redesign of a nature play space. I could sense that the steering group representing the site and parents had recently been challenged on the direction of the previous project and

with this. A project plan is a short and clear reference guide to the communication, planning and implementation of a project. It identifies components for approval and endorsement (a committee can compose the guide). This type

*"Developing a common language and set of objectives is incredibly important to ensure your vision and outcome is resilient..."*

PETER SEMPLE

on how key themes that were valued within the school community had got lost along the way. They had held an initial consultation with the wider school community but didn't provide additional opportunities beyond that to allow feedback. As a result key opportunities were lost and future projects were potentially compromised due to lack of support. I therefore recognised there was a need for a carefully considered approach to involving all interested parties. Communication is paramount as a project's momentum can be easily lost if everyone isn't fully supportive.

The development of a project plan can assist

of plan can set a solid foundation to ensure your project, and those involved, maintain their momentum and commitment.

Major upgrades to naturalise play spaces are significant investments with a lifespan of 10–15 plus years and therefore the more prepared you are, the more successful and long-lasting your project will be. To minimise, and be ready for, any challenges I would recommend, as a starting point, to have a core project team, solid values, agreed principles, and indicative budgets and timelines before any ideas are developed, so as to avoid budgetary hurdles and limitations.

**From a budgetary perspective, where are the costs in developing natural play spaces?**

Firstly, educators should be prepared to be challenged and to learn new things when entering into a project management mindset within their role (of course it can be contracted out to make things easier).

The budget question is a very common question that depends on a number of variables. It all comes down to how extensive your shopping list is and also how you wish to reduce your project responsibilities.

Budgets are broken down into design and project management fees and construction budgets. With sites that are only looking to add small improvements such as outdoor kitchens and digging pits, the budget side of things will be a lot easier to manage and, depending on the expertise across your school community, you may be able to avoid design fees.

For sites that want a more strategic approach that has a greater impact to change the play and learning environment, you will certainly need professional support in design and project management to provide guidance, facilitation and expertise through the key project steps. Design fees can range from 6–10% of the overall project budget and would depend on the level of service required, and can reflect complexity specific to your site.

To gauge construction budgets for a holistic change, I generally advise a very rough metre-squared cost of \$160–250. But it is important to re-evaluate once your initial consultation has been completed.

**From a maintenance perspective, what should sites be conscious of?**

I would encourage sites to use the general maintenance of a play and learning site as a potential learning and stewardship opportunity to incorporate into the weekly curriculum for students. Establishing a team of student caretakers that can undertake weekly checks and tidy-ups can pass on valuable team-building skills and provide them with a greater appreciation of their outdoor spaces and how to care for them.

One of the things to expect is some mess (as perceived by adults), particularly when using loose parts. Providing a physical buffer can partially contain any loose materials so they don't directly migrate onto your primary paths

or other areas of high traffic. In the absence of trees dropping seed pods and debris, having a schedule to restock loose parts will also provide longevity in your space.

*"Communication is paramount as a project's momentum can be easily lost if everyone isn't fully supportive."*

PETER SEMPLE

Establishing turf areas can be difficult in smaller, high-traffic spaces. Resting areas or replacing turf annually requires patience and budget – while at times this can be worthwhile, there may be a need to assess what the space is used for and whether another natural material can be

used. Grass grown in shady areas is also difficult to maintain as most turf species require over four hours of direct sunshine to establish, so placement should be carefully considered to ensure optimal growing results.

**What role does risk have when designing a new play space?**

Children taking risks is what they are programmed to do. It's how they advance their knowledge of the world around them and how they understand and develop the capabilities of their own bodies. When the playground safety standards were introduced in the latter half of the last century, they were welcomed because we had unacceptable rates of serious injuries. Poor interpretation by risk assessors unaware of the benefits of play greatly diluted and restricted what designers and providers could achieve. This ultimately sanitised playgrounds in educational settings and public spaces. If you correctly interpret the standards as they are written, you are well placed to counter any concerns associated with



providing risky play opportunities. To extract a line from the introduction of AS 4685.1.2014, “Children need to learn to cope with risk and this may lead to bumps and bruises and even occasionally a broken limb.” The aim of the standards is first and foremost to prevent accidents with a disabling or fatal consequence. Removing hazards that children would be unaware of is essential, but the introduction of challenges that provide acceptable risks are equally essential. Department for Education has really embraced the notion of risk as a part of children’s play in educational settings through their benefit/risk assessment approach. But risk is more than paperwork – it’s an opportunity to learn and grow together – to provide children with their own space to show us how competent they truly are.

***For sites who have developed natural play spaces coupled with rich pedagogy, what role to do they play in strengthening the movement?***

The power of combining the environment with pedagogical practice provides the greatest learning outcomes and should not be undervalued. As a designer, I recognise that my work is to design a film set, the actors being the children and the producers being the educators. The educators tactfully direct and can create

open-ended possibilities within that scene. To predict multiple educational opportunities I collaborate with educators to ensure that the environment is incorporated as a natural and fundamental part of teaching and learning.

In my experience, early years settings tend to be better equipped when configuring their spaces and aligning their pedagogical thinking within a nature play context. The important element we need to consider is the continuity to primary education where a predominantly results-driven environment in a traditional format presents some unique challenges. There are many primary school settings leading the way, and as the movement strengthens they will play an important role in sharing and advocating more spaces across the state. In my view, we need strategic direction and strong leadership across all sectors to legitimise outdoor learning as an essential everyday component for children’s development and overall wellbeing. Only then can nature play and pedagogy begin to truly benefit future generations and strengthen the movement further.

***What would be the one thing you would like to convey to educators?***

As educators you are in a very special position to provide children with amazing spaces

and opportunities that provide a sense of belonging, provide opportunities for awe and wonder that foster a deep-rooted connection to our natural world, strengthen social outcomes, nurture curiosity and imagination, and provide a rich learning platform for confident and capable learners to reach their full potential.

I encourage sites to evaluate and reflect upon what their play and learning environment says about their pedagogical values and sense of place and more importantly how it represents the image of a child. Take time to document how your community of learners interpret your outdoor spaces. How do those spaces make them feel? Is the play and learning potential fully utilised? Do those spaces represent a sense of place and community and what sensory experiences are offered? These questions are just the start. But ultimately, as a site you will begin to get a deeper understanding of how the environment may enhance or impact your site’s aspirations for play and learning. Together you will be able to identify strategic solutions big and small that can further enhance your growth in establishing a community that values nature play and pedagogy. \*



Image by: Pete Semple



Children learn  
to manage, control and  
even overcome their fears  
by taking risks

ANGELA HANSCOM

# TAKING STEM OUTSIDE

## NATURE-BASED ENVIRONMENTS AND THE DEVELOPMENT OF STEM SKILLS

MARIA TAYLOR, NATURE PLAY SA

Images by: Jason Tyndall



### [ ABOUT MARIA ]

Maria has 20 years teaching experience and a Master's in Education. She has worked in a range of local and international educational settings within early learning and primary education. Her teaching career has seen her travel the globe to explore ways educators from all walks of life inspire and connect with students. Maria is passionate about educational research and sharing evidence of great practice in education, inspiring and supporting others to connect with nature, and facilitating authentic outdoor learning opportunities for all students.

*If there's an educational buzzword at the moment, then arguably it is STEM. Nature Play SA's Maria Taylor delves into the myriad possibilities in the natural world to access this vital part of the curriculum and encourages us to get outside and embrace the STEM learning potential that nature has to offer.*

There is a clear understanding and acceptance that students of today will need to be prepared for a future that we can only begin to imagine. There is no question that students of today need to be global players in innovation, design and discoveries of the future. They need to be critical and creative thinkers, problem solvers, innovators and masters of change.

The current direction of STEM education, driven by national targets and in response to our changing environment, leads us to consider the role that nature-based environments can play in developing core STEM skills.

In this issue's Curriculum Connections, we shine a light on the opportunities and relevance of connecting outdoor learning environments and nature-based learning to support our [South Australian STEM strategy](#). More importantly, we consider how a connection with nature through learning in the outdoors provides an ideal platform to develop 21st century learning skills and foster stewardship in our students.

### NATURE-BASED INVESTIGATIONS

Whether it be through unstructured or structured opportunities, natural settings offer students unlimited opportunities to explore and investigate, thus building "STEM skills that create a solid foundation for future learning". (Sneidman 2013)

Consider a student's interaction with natural elements such as mud, water, sand, leaves and sticks. These learning experiences are invariably hands-on, tactile, dynamic and open-ended, and learners are active, engaged and self-directed. Furthermore, learning dispositions such as creativity, problem solving, inventiveness, persistence and innovation are acquired and supported.

### DYNAMIC ENVIRONMENTS

Outdoor learning environments are dynamic spaces: no two days are ever the same; the sky above, the ground below and the air around is ever changing. Guiding investigations in nature, learning with nature and making meaning from nature encourages children to develop and ask "big questions" about the world around them and their place within it.

It is in this "finding out" phase that children are developing crucial and critical dispositions of learning where the process is often more important than the product and the questions are more important than the answers!

*"Nature-based environments have three qualities that are unique and appealing to children as play environments – their unending diversity; the fact that they are not created by adults; and their feeling of timelessness – the landscapes, trees, rivers described in fairy tales and myths still exist today."*

PRESCOTT, 1987

### EVERYDAY OPPORTUNITIES

Children are involved in STEM inquiry every day. As they explore natural environments and engage in unstructured, nature-based play scenarios, they are often creating and refining mathematical understandings, scientific skills and engaging in a process of design and engineering to achieve a goal through play and exploration.



## STEM AND STEWARDSHIP

*“Solutions to 21st century environmental challenges often result from STEM knowledge and skills. Hands-on environmental education projects enrich STEM learning and offer an exciting opportunity to engage more students in STEM. The possibilities are endless – from calculating school water usage to observing, documenting and protecting wildlife populations in the schoolyard.”*

NATIONAL EARTH SCIENCE  
TEACHERS ASSOCIATION, 2013

It is critical that middle and upper primary students see the relevance for their learning and are encouraged to consider how skills and concepts learnt inside the classroom can be applied and developed in a real-world context. This is an area that practical, nature-based learning is able to address with ease. A high-performing STEM program will integrate the development of science, mathematics and engineering skills by addressing problems that have real-world applications.

### CURIOSITY

Learners in the 21st century need to be innovators; they need not to think and do but instead ask *why*.

Curiosity is a strong motivator for learning. When children are given the opportunity to explore their own wonderings, they are more likely to be engaged in the process and invested in finding out. Develop curiosity by providing students with diverse experiences, giving them time to ask questions and investigate.

History tells us that some of the formative names in science, engineering and technology were masters of innovation and creativity and were driven by curiosity. Steven Hawking, Albert Einstein and even Walt Disney all identified curiosity as key to learning. Disney coined his own word for it: “*imagineering*, – the blending of creative imagination with technical know-how”.

Consider some of the greatest scientists throughout history and how they connected science, engineering, design and mathematics. Galileo was an astronomer, engineer, mathematician and philosopher, and his curiosity about the natural world led to him ultimately becoming known as “the father of modern science”. Galileo notoriously claimed that the “*book of nature*” was written in the language of mathematics. His life’s work could not have happened indoors.

Leonardo Da Vinci was an artist, scientist and inventor whose drawings and journals “were made in the pursuit of scientific knowledge, discoveries and inventions. His journals were filled with over 13,000 pages of his observations of the world.” (Nelson, 2018) While he drew machines, bridges, barricades, instruments and flying machines, his observations of the natural world around him were integral to his discoveries.

If we can connect our students with the natural world around them, allowing them to notice the detail in the world they live in, understand cause and effect, observe relationships and be somewhat invested in and connected to the awe in nature, we offer the platform and possibility for them to inquire into and realise an intrinsic motivation to create a better world. We open the door for them to consider the potential and possibilities for them to use their STEM knowledge and skills to address problems of the future, promote and model sustainable practice and create better places and spaces near and far.

Imagine the possibilities of ensuring that, alongside developing these skills and dispositions, we give children the opportunity to connect with *why* they are more important than ever. It’s great to consider what technology will look like, but what will that technology be used for? How will it ensure we are working towards a better life and a cleaner planet?

One Australian example of where STEM and stewardship meet is the [Seabin Project](#). Two Australian surfers, sick of seeing the amount of rubbish in the ocean, quit their jobs and set about creating a sustainable solution. Their motivation came from seeing it first hand; the problem was real and the grit and determination to make a solution a reality was held up by a fierce belief in the need to make it work. There was “*buy in*”, the challenge was real and they didn’t give up.

*“Exploration of the natural world begins in early childhood, flourishes in middle childhood, and continues in adolescence as a pleasure and a source of strength for social action.” (David Sobel)*

### NATURE-BASED STEM INQUIRY – EXPLORING IDEAS TO CONNECT WITH LEARNING

Spending time in nature-based learning environments where students can explore, create, inquire, observe relationships, predict outcomes and find solutions to problems promotes critical thought processes and utilises children’s natural curiosity.



## INVESTIGATE

*“Children view nature not as the backdrop to their activities but as a stimulator and experiential component of their activities.”*

SEBBA, 1991

The opportunities to investigate in nature can begin with simply spending time in nature. The more time children spend in natural settings, the more they come to understand how to exist in that space and to tune in to the world literally at their feet. This is also true for educators.

### STEM INVESTIGATION IDEAS AND INSPIRATION

#### **Investigate soil**

- Dig up a patch of dirt, spread it out and examine the soil and what is in it.
- Try looking at soil samples from a couple of different locations.
- What does one patch of soil look like over a number of weeks or days?
- How does the weather or location affect the soil that you are studying?
- Have a look at this [Soil Solution](#) unit of work for more inspiration and ideas.

#### **Study and track the weather**

- What kinds of weather patterns does your area experience?
- What types of weather are most common?
- Graph the daily temperature.
- Design and build a working weather station.
- Engineer and experiment with this easy-to-follow and comprehensive collection of [Extreme Weather Activities](#).

#### **Investigate fire**

- If possible, and with plenty of adult supervision, build a campfire or fire pit.
- Learn about fire safety, what a fire needs and how to extinguish a fire.
- Cook on the fire and investigate the science of cooking.
- [Learn](#) about one way that a STEM solution is working to develop new household fire-safety devices (see section 6.10 of [Department for Education's Outdoor Learning Environments Standard](#) for guidance).

## PROBLEM SOLVE

*“Working on solutions to real-world problems is the heart of any STEM investigation. These solutions may include devices and designs that improve our lives, fulfil our needs or wants, and make our world better. Perhaps the most important consequence of students working on real problems is that they begin to develop empathy — a sense that there is something worth dedicating their efforts to outside of themselves. We need to grow a savvy, ethical workforce to solve looming issues such as air pollution, fresh-water shortages, and crumbling infrastructure.”*

JOLLY, 2017

### STEM PROBLEM-SOLVING IDEAS AND INSPIRATION

The Search for Real-World STEM Problems [article](#) offers a great snapshot of how real-world problems can be used to great effect and the elements to consider when selecting a “problem”. The key points from this article have been summarised below.

Suggestions for criteria for selecting real-world problems:

- The problem must be real.
- Students must be able to relate to the problem.
- The solution to the problem needs to be within the capabilities of the students and realistic.
- The problem must be open-ended.
- Students should use an engineering design process drawing on interdisciplinary skills and knowledge.
- Encourage students to identify problems that affect their daily lives.

Potential problems to solve that are relevant to students are easily drawn out of their natural environments, local communities, pollution, waste, animal homes and habitats or solar energy.

[Click here](#) to join a collaborative, worldwide project to compare water consumption with students from all over the world.

[Click here](#) to access STEM Challenge activities that use elements of the natural world to explore design and engineering solutions to everyday problems. Learn about industry leaders who are doing just that!

## CREATE AND CONSTRUCT

### STEM CREATING AND CONSTRUCTION IDEAS AND INSPIRATION

*“As long as materials can be moved, redesigned, put together, and taken apart in a variety of ways, they are classified as loose parts.”*

SIMON NICHOLSON, 1971,  
FOUNDER OF THE IDEA OF LOOSE PARTS

The use of loose parts encourages children to make, create, problem solve and hypothesise. Loose parts have no instructions or predetermined rules. When children engage in loose parts play, sustained and focused learning is often observed, and the agency of the child is clear.

Loose parts and unstructured play provide students with the opportunity to apply an engineering design process in a contextual and meaningful way. There are many variations of the engineering design process. The

one below, as identified by Teach Engineering (STEM Curriculum for K–12) outlines the process as follows:

**Ask:** identify the need and constraints

**Research the Problem**

**Imagine:** develop possible solutions

**Plan:** select a promising solution

**Create:** build a prototype

**Test and Evaluate Prototype**

**Improve:** redesign as needed

A construction challenge can be an excellent project for encouraging children to think creatively, solve problems and express their own ideas using a range of practical materials. Construction challenges provide a platform for the development of a range of important study, work and life skills. Students are engaged in the engineering design process when they create and construct bridges, forts and dams, to name just a few. A couple of ideas for STEM-inspired loose parts challenges are to construct small worlds that need to be connected or to build a shelter designed to keep water out.

Guiding students to understand the design and engineering process enables them to make a clear link between their play and exploration and the rich STEM skills being developed throughout.

Andrea Beatty's books *Iggy Peck Architect*, *Ada Twist Scientist* and *Rosie Revere Engineer* (available [here](#) in the NPSA online shop) all offer great inspiration for loose parts play with an engineering focus. The amazing illustrations within these books inspire students to consider sketches and blueprint plans as a form of recording and expressing great ideas.

The [Loose Parts Play Toolkit](#) by Theresa Casey and Juliet Robinson is an excellent free resource worth downloading in order to delve a little deeper into the wonderful world of loose parts.





## OBSERVE RELATIONSHIPS AND MAKE PREDICTIONS

### STEM OBSERVATION AND MAKING PREDICTIONS IDEAS AND INSPIRATION

Spending time in nature will amplify and concentrate experiences in understanding and observing relationships. Environments and situations that reflect the relationships between cause and effect, trial and error, supply and demand, people and nature, and animals and their habitats (to name a few) afford authentic opportunity for inquiry.

These relationships have a direct impact on students and are therefore meaningful opportunities for learning.

#### **Watch the Weather**

Watching the weather and making observations and predictions about it is something that many students are in tune with and feel confident about and able to do. This could be taken further with an investigation into ways to record weather data and observing the relationship between the natural environment and patterns in weather.

A child who makes predictions is making connections, and making predictions leads to "needs to find out".

As Albert Einstein said, "The important thing is to not stop questioning. Curiosity has its own reason for existing."

#### **Bird watching**

Bird watching is a great way to make observations. Try the following:

- Set up a bird feeder, grab a book, and identify the birds around your school or classroom.
- Make a bird-watching basket, complete with binoculars and a chart of common birds for your area, and keep it handy (See NRM Education for Bird ID charts).
- Consider the needs of birds in your local area and what they need to flourish.
- Explore the ways that online communities such as the [Atlas of Living Australia](#) and [Citizen Science](#) contribute to the collection of data and investigations that go beyond the school gate.
- Observe bird nest or animal shelters and hypothesise about how they were built. Can students design or reconstruct these structures?

## INQUIRE

*"Curriculum is emergent when it evolves, diverging along new paths as children make choices and connections with their lived experiences."*

KASHIN, 2018

#### **Look for the opportunities**

Affordance theory refers to the idea that clues in the environment indicate possibilities for action (Gibson 2014). The affordances of the space or object are all the things that it has the potential to do or be. Each season and each object has its own affordances.

Curriculum can and should emerge from nature. It is in nature that children's interests will be heightened. Whether it be building shelters in winter, puddle jumping in spring, looking for insects in summer or chasing leaves in autumn, each season offers different invitations or affordances.

Inquiry can and will emerge from simply spending time in nature and can be transformative for some students.

#### **Consider how the changing seasons offer invitations for learning that cannot be duplicated indoors**

- What happens to the ground when it rains?
- Where does all the water go?
- How are shadows made?
- Why do shadows move?

#### **Study the stars**

Take up star gazing!

- Grab a book of constellations and see which ones you can find.
- Use some [fun star gazing apps](#) to learn more about the night sky.

Investigate how Indigenous Australians traditionally used stars for navigation, to ensure a seasonal supply of food, to know when to plant and to reflect and consider patterns in weather.

## IN CONCLUSION

STEM skills and 21st century learning skills are vital to ensure our students are given every opportunity to participate and thrive in the ever-changing world. There is no doubt that the challenges that await our children in the future will mean that creativity, curiosity, innovation and perseverance are more important than ever.

Our children are capable and competent and need to be challenged. STEM in an outdoor setting can provide authentic, stimulating, challenging and at times spontaneous real-world experiences. What more could we hope for? ★



Our greatest  
natural resource  
is the minds  
of our children

WALT ELIAS DISNEY

[TALKING POINT]

# THE LEARNING POTENTIAL OF MUD IS IT WORTH IT?

JASON TYNDALL, NATURE PLAY SA

*Nature Play SA's General Manager Jason Tyndall presents regularly to educators, students and parents on the benefits of nature play and on how to incorporate it in to everyday life at school and at home. Jason explores the benefits of mud play and celebrates the wealth of learning potential this sensory-rich medium has to offer.*

Mud.

If I were to say it out loud, what would be the first words that come to mind?

Messy?

Dirty?

Inconvenient?

Based on the above, your over-riding conclusion about mud play may be that it's just not worth the hassle...

Let's rewind back to your childhood. You are confronted with mud. What would be the first few words that come to mind?

Fun?

Exciting?

Joy?

For our kids, maybe it *is* worth the hassle.

Firstly, it is important to understand the sensory issues of our current generation. In her book *Balanced and Barefoot*, leading US paediatric occupational therapist Angela Hanscom notes that sensory issues for children have rapidly increased. She believes these issues among children today can arise from a lack of exposure to a variety of sensory experiences such as playing in the mud. She says, "The sensations of getting dirty and messy in real mud offer children an invaluable rich and tactile experience." Informed by her work, she believes it is vital not just to expose children to sensory opportunities but to do so in an outdoor environment where they can increase their sensory tolerance to a range of tactile objects.

Further to Angela's observations, there are many bodies of research that convey the benefits



Images by: Jason Tyndall

of mud play for children which, once you are familiar with, you can share with others within your school community:

## HAPPINESS AND WELLBEING

In addition to mud being a source of childhood joy, [research](#) has demonstrated that exposure to friendly bacteria in soil can assist the brain to release serotonin, the endorphin used to regulate mood. A deficit of serotonin can lead to depression and therefore anything that releases this endorphin contributes to our overall happiness. Furthermore, [several studies](#) indicate that spending time outside in nature has been shown to decrease anxiety and stress levels and reduce symptoms of ADHD.

## IMMUNITY AND OVERALL HEALTH

[Studies](#) are now indicating that the cleanliness of our society is reducing exposure to important bacteria, resulting in increased levels of immune disorders and allergies (known as the [Hygiene Hypothesis](#)). In addition, when children are

interacting in the natural environment they are being active, which aids in the prevention of obesity and cardiovascular-related illness.

## CRITICAL THINKING AND PROBLEM SOLVING

Mud is an unstructured element of play with no prescribed use, providing children with full creative power. Whether determining texture, consistency, quantities, what to mould, how to decorate, what to create, what language to use to describe the properties of mud, there are many opportunities that encourage problem solving and critical thinking. In addition, sensory awareness, fine motor skills, resourcefulness, inventiveness, and other lifelong skills can be associated with mud play.

## STRESS REDUCTION

As adults, we will often turn to nature in search of calmness and remedies to control our stress. For some, sitting down listening to birds or feeling the wind on your skin overlooking a natural setting can be enough to have an effect. For children, feelings of stress or anxiety



are amplified. In some education and home settings there are few places or activities that can have meaningful, positive impacts on stress levels for children. A therapeutic and sensory solution can often be found in quiet play with things such as mud, natural loose parts, and items such as pots, measuring and cooking utensils. Recent findings by [Beyond Blue](#) in 2017 found 1 in 7 (14%) young people aged 4–17 experience a mental health condition in any given year. The research highlights the importance of providing children with activities and spaces conducive to reducing and controlling stress and other emotions which they need time and space to regulate.

When talking about mud play with parents (or with staff who are tentative about the concept of children getting dirty), there are some important points to consider:

### **1. Understand the benefits before communicating with parents**

If your team of educators is familiar with the benefits of the sensory-rich nature of mud, you will be well equipped with the knowledge needed to confidently convey the “why”. You will also need to be prepared to document the learning potential that you observe (and later share it). By being familiar with the benefits you can also develop a common language with staff and parents that will continually show the value of mud play and other sensory outdoor experiences.

### **2. Frame mud as an important learning tool rather than a mode of play**

If you simply say to your parent community that

you are going to introduce mud play at your site, you are neither conveying the benefits of mud play nor providing positive dialogue around the “why”. How much more effective to say something along the lines of: “This term our site is going to explore sensory integration which is vital for our children’s development and wellbeing. We will be exploring a number of natural mediums that are ideal platforms for building and enhancing the sensory experiences of our children. Some of the items to support exploration are sand, dirt and water (mud), and natural items such as twigs and flowers.” You can go on to say that as part of exploring sensory activities children are likely to get dirty and should have a spare set of clothes, etc. You can also begin to distribute ongoing information about the benefits of nature play and in particular mud. Or, as many education sites have done, you could celebrate International Mud Day on 29 June and invite parents to get muddy for a day with their children so they can experience the benefits for themselves.

### **3. Document and celebrate your observations**

Documentation enables strong reflective practice about the way children engage in play and is an important tool for conveying benefits to the parent community. Visual stories in particular are a powerful means to bring learning to life – especially when you are seeing the outcomes associated with open-ended objects. Documentation can also lead to further professional development opportunities such as floor books and a desire to understand and

incorporate nature pedagogy into your site’s culture and Site Improvement Plan.. Displaying stories, creations and other artistic expressions through mud can provide a powerful platform to demonstrate children’s learning in line with the Australian Curriculum or Early Years Framework.

In short, the benefits of mud play far outweigh the mess. The challenge is how we convey mud, beyond a messy form of play into a developmentally crucial one that all children have the right to access. \*

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## **[ABOUT JASON]**

Jason Tyndall is General Manager of Nature Play SA. He coordinates the Nature Play SA Collective membership initiatives, presents regularly at workshops and conferences, and delivers tailored professional development for educators and parent groups on the benefits of nature play and how to incorporate it into school and home life.

Nature Play SA also offers a range of services for educators such as AGM keynotes, parent information sessions and workshops for educators (discounted rates for members).

## **[ FURTHER RESOURCES ]**

Nature Play SA’s [25 things to do in winter](#)  
[Dirt + Water = Childhood](#) info sheet

# // IDEAS AND INSPIRATION //

## [IDEAS AND INSPIRATION]

DEFINING AND DESIGNING: Where to start and how to make the most of a natural play space

*Jason Tyndall*

## [IDEAS AND INSPIRATION]

DISCOVERING THE WONDERS OF NATIVE GARDENS: How your school can benefit from creating a native garden

*Julian Marchant, with a curriculum overview by Maria Taylor*

## [TALKING POINT]

REFLECTIONS FROM REGGIO EMILIA: An insight into the languages of the atelierista

*Marie Hage*

## [TALKING POINT]

OCEAN LITERACY: Why we should learn about the sea

*Janine Baker*



» Artwork provided by Crystal Brook Kindergarten.

# DEFINING AND DESIGNING

## WHERE TO START AND HOW TO MAKE THE MOST OF A NATURAL PLAY SPACE

JASON TYNDALL, NATURE PLAY SA



Images by: Jason Tyndall

*In our previous edition of Nature Play the Education Way, we explored a set of nature play principles that were developed by the Nature Play SA team in conjunction with a range of experts. Here, Nature Play SA General Manager Jason Tyndall provides some guidance on defining and designing a natural play space with a series of ideas that he regularly presents on, has been involved with, or has observed in other settings. In this overview he stresses the need for a site to involve their whole community so the space meaningfully reflects the thoughts and expressions of children.*

### DEFINING A NATURAL PLAY SPACE

For those unfamiliar with what a natural play space is, it can be mistakenly perceived as a landscaped area where children play and interact. However, it is so much more than that. Firstly we need to understand what nature play is.

For many of us, open-ended play outside was a significant part of our childhood. Unknown to us, the trees we climbed, the streets we navigated, the creeks we explored, the cubbies we created, the friendships we built, and the games we invented were fundamental to our physical, social, emotional and cognitive development. This was our habitat and we thrived. Today, we could say that this habitat has been significantly fragmented. In recognising that children don't play like we used to, we can assume they don't get the same benefits as we did – in fact, there is compelling research that demonstrates that children's overall health

and wellbeing has declined significantly when compared with previous generations. And we have to ask: what has changed in our children's lives? Why are we seeing increases in children being [overweight or obese](#), leading more [sedentary lifestyles](#) and being [less physically active](#), as well as higher rates of mental health conditions such as [depression](#), and, anecdotally, a greater demand for childhood development services?

The way children play has changed. Climbing trees, gathering sticks and exploring creeks was a natural behaviour for us. Reviving and mimicking this type of play in today's context is what we define as nature play. More specifically:

*Nature play is extended periods of open-ended and self-directed play in spaces such as local creeks, beaches, bushland, parks, schoolyards and/or backyards. Such places are defined by access to, and permission to use, natural features such as trees, natural debris (i.e. sticks, bark, leaves, etc.), logs, water, dirt, and naturalised elements that invite exploration, imagination and curiosity. It extends to children having supported or spontaneous opportunities to foster a connection to the natural world.*

As educators, childhood development professionals and parents, we have a responsibility to restore our children's habitat in ways that suit, or challenge, our current contexts.

The collective view and value of nature play is the most critical factor to beginning any nature play venture – whether it be introducing different types of play into your spaces such as cubby building or climbing trees, being more intentional about outdoor learning, or looking at designing a new natural play space.

## DESIGNING A NATURAL PLAY SPACE

A natural play space should be designed in a way that mimics a natural setting where children can engage in open-ended and self-directed play. Some elements to consider for a natural play space include:

- natural elements: vegetation; water; sand; dirt; flowers; logs, rocks; and other loose parts such as sticks, leaves and seed pods
- multi-sensory opportunities: flowers and leaves with strong scents; accessible water; pots and pans that encourage mixing of dirt, flowers and other natural elements; sounds to experiment with; and edible plants such as a veggie patch and fruit trees
- real-life examples of the natural world that stimulate awe, wonder and imagination: local plants that attract birds, butterflies and other insects; bee hotels; logs as habitat for slaters and millipedes; nest boxes for rosellas, galahs, owls and possums; and natural structures and cues that invite exploration such as arches and different textured pathways; and spatial variances in the landscape
- places for reflection as well as social and creative play: areas that have natural seating surrounded by plants; areas that are buffered from physical play areas; paths that lead to secluded parts of the space; places where children feel like they are not being supervised
- spaces that can be used for outdoor learning that feature seating or a configuration of logs or rocks that invites educators and their classes into the space
- opportunities for all abilities to engage: for example, pathways through gardens can have different sized log rounds and other physical obstacles to support challenge (however, wheel chair access should not be excluded – ensuring that, in addition to challenging routes, there is adequate wheelchair access to various points in your space will demonstrate your site's recognition and valuing of inclusivity)
- reflection of the diverse cultural identities across your community: for example, reflecting local Aboriginal culture through art or Dreaming whilst also incorporating elements that represent the diversity of culture within your school community



- physically challenging opportunities with graduated risk: logs that graduate with their height in such a way that not all children can get to a point; ropes that challenge upper body strength; permission to climb trees that are deemed as offering an acceptable level of risk (in line with a [benefit/risk assessment](#)); logs that can be moved and balanced on; climbing structures (in line with Australian Playground Standards); and places of mastery for every child

## STARTING THE CONVERSATION

Developing a common understanding and collective value of the importance of nature play for children is a vital first step to a successful nature play venture. Your school community, including governing councils, leadership, educators, parents and students, should be part of the conversation and engaged in, and throughout, the process. This represents a powerful opportunity to strengthen a sense of community. At this point the school community can address any concerns or queries regarding the value and purpose of nature play. With everyone informed there will be a clear understanding of the "why".

Some benefits of natural play spaces include:

- Increased self-esteem and ability to adapt to change ([Greve & Thomsen 2016](#))
- Greater physical activity ([McCurdy et al 2010](#))
- Increased academic performance ([Malone 2017](#))
- Reduced anxiety ([Sandseter & Kennair 2011](#))
- Reduction in anti-social behaviour i.e. bullying ([Brussoni et al 2017](#))
- Better decision making ([Barker 2004](#))
- Improved wellbeing ([Capaldi et al 2015](#))
- Improved language development ([Stagnitti et al 2015](#))
- Development of stewardship and environmental values ([Chawla, L. 2009](#))
- Greater risk competence ([Lavrysen et al 2017](#))
- Benefits to children with ADHD ([Taylor & Kuo 2011](#))



When in discussion with your community, highlighting the benefits first and foremost is key to creating a collective understanding on the developmental and educational value of nature play. Throughout the process you may also identify some nature play “champions” within your school community who can help support and advocate your vision.

## CONSULTATION

Consultation from the very beginning is crucial to ensure that everyone feels a sense of ownership that extends beyond the completion of your space. A stronger connection with the space will see a greater impetus to ensure the space is valued and becomes a part of your site’s identity. Methods of consultation vary, depending on your context; however, the three key groups are children, parents and staff.

## CHILDREN

When thinking about consulting children, the first thing that comes to mind is Loris Malaguzzi’s words:

*The child  
is made of one hundred.  
The child has  
a hundred languages  
a hundred hands  
a hundred thoughts  
a hundred ways of thinking  
of playing, of speaking.*

A common approach to consulting children is verbal communication or visual communication via drawings and sketches. However, when “listening” to children (as Malaguzzi insinuates), we need to consider the hundred languages that children express through their thoughts, feelings and emotions. In particular, children who aren’t necessarily verbal in their communication can be heard when we tune into the language of expression. Some additional ways to extend your consultation with children include the following:

- Have a conversation about the importance of play for their minds and bodies. This can provide perspective and context on why your school community is advocating improved play spaces and encouraging other forms of play.
- Observe how children use the space – where are they drawn to? What are they doing? And what does that tell you about their play aspirations and motivations?
- Consider taking children to a natural space where they can explore, climb and feel the dirt between their toes or fingers, and in your reflections have a discussion with children about what their bodies and minds were doing and how would they like that reflected in their play space. We often ask children what they want in a play space, but children only know what they have experienced and at times haven’t engaged in the full potential of nature play. Or to relate to most adults today, they haven’t played the way we used to play; they haven’t felt that freedom or desire to explore.
- Ask children to build a representation of a place where they would love to play. They can use natural loose parts (that in itself will demonstrate some benefits of children using loose parts as part of play) and allow them to extend what they have created through art, poetry, story telling, clay sculpting, dance, or other forms of expression.



- Ask children to talk with their families about what they used to do as kids and see where the discussion leads. Explore the benefits that children of the past gained from their play and reflect on the skills that children of today need. There are many lines of inquiry that could be investigated at this point. Consider sending two questions home: “Where did you play as a child and what sort of things did you do?” and, “How can we, as a school community, develop our play spaces to reflect the way you used to play?”

## PARENTS

A common saying is that “people only know what they know”. And this can be very true for parents new to a site or when a site is proposing new ideas such as nature play. Educating and engaging parents in your nature play space development, particularly around pedagogical practice, can have a multitude of other benefits such as building rapport, establishing relationships and strengthening the feeling of community. The following are some of the ways you can extend your consultation with parents.

- Frame all of your nature play approaches and aspirations with the benefits as the first and key component of your discussions and correspondence.
- Run a workshop or have a guest speaker at your AGM on the value of nature play and consider showing the short film [Muddy Puddles](#) and [Painted Sunsets](#) to set the scene or the [Stick Rap](#) – a fun clip depicting the benefits of sticks.
- Find a continual point of communication to disseminate small amounts of information that convey how your site values nature play.
- Document the benefits of the play that the children are engaged in and celebrate these to your parent community.
- Invite families to be part of your nature play committee or other group that drives projects.
- Fundraise for small nature play projects such as outdoor kitchens or planting established trees.
- Put a call out to parents to see what they have in terms of skills, materials and other contributions they can bring to help your nature play projects.



- Make it clear to parents that your space is for children of all abilities and that if they want to contribute based on observations or understandings of their child they are welcome to do so.
- Involve parents in special days such as [International Mud Day](#) where everyone is invited to get muddy, and afterwards reflect on the benefits that educators, parents and students observed and felt.
- Consider where nature play and outdoor learning might be included in your site improvement plan. Is learning in nature and the development of outdoor learning environments reflected in your site plan?
- Make outdoor learning environments and learning in the outdoors (or nature play) a standing item on your staff meeting agenda so that reflecting on outdoor learning and students learning in the outdoors steadily becomes part of the “everyday” conversation.

## STAFF

A shared vision, common understanding and willingness to participate and contribute to outdoor learning is a key component in your site’s success.

It is important to build confidence in all staff members, acknowledging that each person has a unique point of view, and that not everyone has a positive point of reference or perceives themselves as a “natural fit” in a natural environment. Much like children, adults respond to and process thoughts and perceptions differently. It is important to take small steps and celebrate milestones whilst continually reflecting and identifying ways to capture what the children’s play is telling (and teaching) you. It is also important to note that cultural change will often represent unique challenges that require persistence, patience and strong leadership.

Ways to extend your consultation with staff include the following:

- Establish a clear and joint understanding as a staff community of the importance and relevance of and need for nature play and outdoor learning. This might be achieved through professional learning communities, action research and case studies. A firm commitment and joint understanding supports the grit and determination needed within a staff group to manage and commit to the process of change.
- Develop a clear statement or vision for the community that makes everyone responsible for outdoor learning within your spaces. How can nature play and outdoor learning support your pedagogy, whether it be Reggio-inspired, a Montessori approach, inquiry-based or play-based investigations? How is this communicated to the community?
- Develop professional learning communities or working parties to research and develop a plan of action for the development of nature play initiatives. This may include attending quality professional development, inviting professionals to consult on site, and connecting with other “nature play best practice” communities to arrange site visits and share examples.
- Provide opportunities for staff to explore the [outdoor learning curriculum](#) connection within the Australian Curriculum to discover the relevance of nature play and outdoor learning.
- Have a planning day or an overall focus on outdoor learning and plot out what this might look like for your children. Consider watching our short [outdoor learning](#) clip, Upper Sturt Primary School’s [Learning in Nature](#) case study, the nature play journey of [Trinity Gardens Primary School](#) or [Grove Kindy’s](#) reflections on nature play and discuss any thoughts and ideas.
- Provide staff with a link to the [Learning Outdoors Benefits/Risk](#) document produced by Nature Play SA with Department for Education funding (and a copy provided to every school/preschool in the state). Select an example that is relevant to your site and determine how it can translate to your context.
- Consult with staff, children and families to create a community display with ideas, inspiration and wonderings.
- Ask all educators to spend time on the Nature Play SA portal and watch clips, listen to podcasts, review research, look through resources and share their thoughts and ideas at a staff meeting.

### Build a small team

If building a new play space, assemble a small team of educators and parents who understand, or have an interest in, the value of nature play. A working group can provide direction and maintain momentum in times where things slow down or are confronted with challenges. Often passion and determination is a measure of how successful a nature play venture can be. The types of skills you want in your team should reflect the breadth of the school community such as someone who understands, or has an interest in, funding grants and other avenues of funding, others with a practical understanding of site requirements (or bring in a consultant to equip you with the necessary skills and knowledge), and representation from leadership. There are several opportunities to involve children or utilise the working group to encourage broader consultation with children. It's important not to see a working group as a big time commitment but rather as a mechanism to keep things going and to make some key decisions along the way.

### The design/construct phase

If you are planning on engaging a [designer](#) it is important to be "shovel ready" with all of your ideas compiled. It may take the form of a hand-drawn design with photos and diagrams following on from consultation. It may be coupled with visual representations from the children or your interpretations of their expressions. It may also have information relating to our [Natural Play Space Principles](#). The more detailed information you can provide your designer with, the more accurate your design will be. Also discuss with your designer their level of understanding of the Australian Playground Standards as it will be an important factor from a safety perspective that their design is compliant where necessary. Many nature play spaces may not be subject to the Standards; however, the [Department for Education Outdoor Learning Environments Standard](#) can provide some guidance on your design along with their [benefit/risk tools](#).

If you are designing your play space yourself with in-house expertise, then you can allow your working group to present the final design to landscape companies who specialise in nature play spaces. Each site will have a different context and different approaches may be needed. When engaging builders/landscapers, ask to see examples of their work and contact sites they have worked with to ensure you are happy with their customer service and overall quality of work. If you are a Department for Education site, only employ contractors who have been prequalified with DPTI and are authorised to carry out construction work for you.

One of the key things to consider when preparing a project plan is ensuring that it:

- includes things such as materials needing to be purchased (i.e. storage containers) or sourced from your parent community (i.e. loose parts)
- considers potential for recycled items
- identifies the stages of development
- delegates tasks
- forecasts budget and timelines

Often an overlooked component is the maintenance of a space. Involving your grounds staff from the beginning and developing a short maintenance plan (which may involve the children watering or planting) will give you the best chance to keep your space functional with high education value and learning outcomes.

### Using your space

Before your space is officially open, try to prepare children to engage and play within the space in a safe and respectful way:

- Consider having every class, at some point, explore the space quietly with some guided reflection on the possibilities within the space.
- Consider undertaking some outdoor learning activities within the space to allow children to see its potential.
- Have conversations about what can be done in the space, what shouldn't be done in the space and what risks may be encountered (an ideal opportunity to undertake a shared benefit/risk process with the children and to form agreements to help guide behaviour and foster your site's values).

Having an official opening with your community can be exciting for all involved and also allows you to celebrate your achievements. Documenting your journey can help not only celebrate your hard work but also act as a key tool in demonstrating the benefits of nature play for your children's overall wellbeing and development. In addition, your story may serve as inspiration to other sites. Some ideas of ways to document your journey include: video, photographs, floor books, a timeline of all the things you achieved and set out to do, accounts of the challenges you encountered, the many forms of expression and wonderings from the children, feedback from parents and a summary of your learnings as a staff team.

Developing a natural play space can have enormous benefits for your children, staff and parent community. The benefits are not necessarily discovered in finishing the space but rather through the conversations, relationships, and learnings done along the way and in the years following its opening. And finally, by having a natural play space and embracing play and outdoor learning as part of your site's identity, you are valuing children as capable and competent learners. \*

## ABOUT JASON:

Jason Tyndall is General Manager of Nature Play SA. He coordinates the Nature Play SA Collective membership initiatives, presents regularly at workshops and conferences, and delivers tailored professional development for educators and parent groups on the benefits of nature play and how to incorporate it into school and home life.

Nature Play SA also offers a range of [services](#) for educators such as AGM keynotes, parent information sessions and workshops for educators (discounted rates for members).



[IDEAS AND INSPIRATION]

# DISCOVERING THE WONDERS OF NATIVE GARDENS

How your school can benefit from creating a native garden

JULIAN MARCHANT, NRM EDUCATION, WITH A CURRICULUM OVERVIEW BY MARIA TAYLOR, NPSA .....

## [ABOUT JULIAN]



Images by: Jason Tyndall

Julian Marchant is a NRM Education Officer with the Adelaide and Mt Lofty Ranges NRM Board. NRM Education has officers located throughout metropolitan Adelaide and the Barossa Valley working to support schools and preschools to develop and achieve their sustainability goals.

.....  
*Connecting with nature is restorative, peaceful and intriguing. For children it can help relieve stress and anxiety as well as contribute to overall emotional wellbeing. For many, the opportunity to visit a local wild space requires leaving school grounds to visit a National Park. However, native gardens in schools provide long-term and meaningful opportunities to engage with and foster a connection to nature.*

## NATIVE PLANT FACTS:

- Plants that are found only within a specific area are said to be “endemic”. Many plants of the Adelaide Plains are endemic to the Adelaide area and are not found anywhere else in the world.
- By having native plants you are able to attract local wildlife such as butterflies, beetles and birds such as honeyeaters and silveryeyes.
- Native plants have many adaptations in order to survive hot, dry summers, fire, drought, nutrient-poor soils and limited water availability. For example, eucalyptus trees have buds underneath the trees’ bark. After a fire event, these “epicormic buds” can sprout new stems within a few days, enabling the plant to survive.

Native plants are a great option for backyards and schools as they are easy to plant and maintain and provide valuable habitat for local wildlife. One of the benefits of native plants is they are well adapted to the seasonal nature of their local environment and don’t require fertiliser or large amounts of water to survive.

Native plants come in a variety of shapes and sizes and within educational contexts can be used to:

- screen quiet areas, offering more creative play opportunities
- provide sensory opportunities to smell, taste, see and touch plants
- demonstrate real-life examples of traditional uses of plants, with opportunities to link with cross-curriculum priority Aboriginal and Torres Strait Islander Histories and Cultures
- provide a means of generating loose parts such as seed pods, leaves and flowers, eventually becoming climbable trees
- create as a place to learn about classification, adaptations, ecosystem health, patterns, symmetry and a whole host of other elements linked with the Australian Curriculum

Flowering times for native plants vary throughout the year. With a little planning, a native garden can be created to feature flowering plants in every month of the year.

## [ FURTHER INFORMATION ]

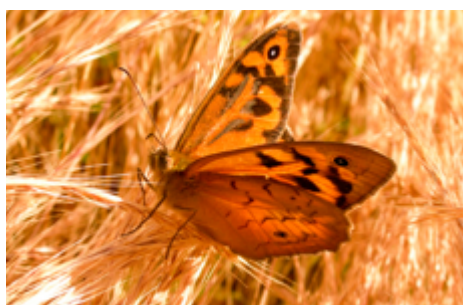
- » [Attracting wildlife to your garden](#) - a series of resources developed by NRM Education
- » [Adelaide planting guide and Coastal planting guide](#) featuring plants local to the Adelaide Coastline (developed by the Adelaide and Mt Lofty Ranges NRM Board)
- » [Unit of Work: Look at us! A primary years investigation into Adelaide’s biodiversity: past, present and future](#) (developed by NRM Education)
- » [Plant identification poster: Native Plants of the Adelaide Plains](#) (developed by NRM Education)
- » [Teacher Information Pack – Terrestrial Habitat](#) (developed by NRM Education)
- » <http://healthy-kids.com.au/wp-content/uploads/2014/02/C-KGKC-Kids-Grow.pdf> (KidsGrow Australia)
- » [https://www.decd.sa.gov.au/sites/g/files/net691/f/curriculum\\_kit\\_-\\_growing\\_food.pdf](https://www.decd.sa.gov.au/sites/g/files/net691/f/curriculum_kit_-_growing_food.pdf) (Healthy Eating Curriculum Kit)

# REASONS FOR CREATING A NATIVE GARDEN

## ATTRACTING LOCAL WILDLIFE

Native plants provide valuable food and habitat for a variety of native animals. As they grow and change over time, so too will the diversity and abundance of wildlife that utilises the garden. For example, certain butterflies will lay eggs and seek nectar from native plants such as native lilac (*Hardenbergia violacea*), common everlasting paper daisy (*Chrysocephalum apiculatum*), kangaroo grass (*Themeda triandra*), and golden wattle (*Acacia pycnantha*).

The colour and appearance of the garden will change with the seasons, offering children an opportunity to learn and engage with the concepts around seasonal change. A well-designed garden should include lower-, mid- and upperstorey plants to provide a variety of habitats for insects, birds, reptiles and mammals.



## INFLUENCING POWERFUL LEARNING

Today, more than ever, children need opportunities to express and develop empathy. If children are to develop a deep respect for the environment, they need to engage with it and enjoy doing so. Students are empowered through influencing their own learning and are more likely to engage in projects that they have some guidance over. Researching garden designs and plant needs, working collaboratively with the school community and implementing "hands-on" learning allows students to establish a deep connection with the environment and pride in their school. A profound understanding of the purpose of a garden and the needs of wildlife can encourage students to take ownership of the space. This can have lasting effects in creating environmental stewards who care for and encourage others to care for the environment. Through this process students represent their own views and are encouraged to share what they know and what they can do. Through this process students plan activities and teach others what they have learned.



## EXPLORING ABORIGINAL CULTURE

Many plants found throughout South Australia have been, and continue to be, utilised as food, medicine and tools by Aboriginal and Torres Strait Islander people. Having real-life examples offers authentic learning experiences whereby children can taste the berries of ruby saltbush (*Enchylaena tomentosa*), cook with warrigal spinach (*Tetragonia tetragonioides*), crush wattle seed, and weave with various rushes and reeds such as *Carex* and *Cyperus* species.



Utilising native gardens for exploring Aboriginal culture provides an ideal way for education sites to incorporate the cross-curriculum priority Aboriginal and Torres Strait Islander Histories and Cultures into learning. In addition, there is a large range of opportunities to explore different inquiries into native plants. There are also opportunities to explore Aboriginal language associated with various plants and animals.

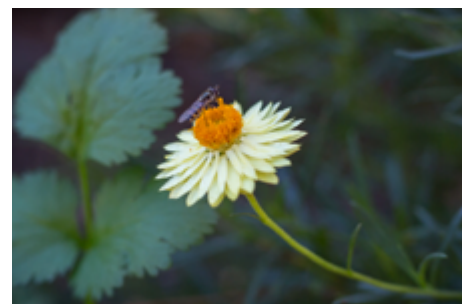
## COOL AND SHADED SPACES

Native gardens can be utilised as cool and quiet learning spaces for children to reflect, create, socialise, and learn in, creating the ideal outdoor classroom. In addition, plants offer the service of providing layered shade and transpiration, a process whereby plants release water into the atmosphere through their leaves and stems. Both of these actions help to provide a cool environment conducive to learning. Conversely, built environments tend to absorb, store and trap heat. The more vegetation around your school, the cooler the spaces will be.



## STUDENT INVOLVEMENT AND OWNERSHIP

Children can be involved with a range of inquiries that lead to designing and creating a native garden, providing authentic, student-led projects. If children are involved with the process, they are more likely to feel a sense of ownership and pride in the space. If children feel they own the space and can use it to express their thoughts and feelings through play, they can develop a sense of belonging. There is a range of case studies from NRM Education that demonstrate what a student voice-driven project looks like.



## JULIAN'S PRACTICAL TIPS FOR CREATING A NATIVE GARDEN

### MULCH

In much the same way that we reap the benefits of insulation in our houses, plants reap the rewards of mulch in the garden. Mulch is a great insulator for the soil. Without mulch, soil exposed to air and sunlight can lose moisture quickly through evaporation. Placing mulch around your garden will aid with soil moisture retention and reduce moisture being pulled from the soil via evaporation. Prior to adding mulch, ensure that the soil is moist. Mulch will keep your soil cooler in summer and warmer in winter. Soils that are too hot or cold can be detrimental to plant growth and health. Mulch also provides a valuable nutrient layer that will break down over time, helping to create healthier soils and reduce the prevalence of weeds.

### WATER WELL

Established native plants are often able to survive long spells without water. This isn't the case with newly planted vegetation. Summer is a dangerous time for native seedlings: the shock of long, hot days and soil moisture loss can affect plant survival rates. It is important to water well through dry and hot periods. It is better to water less often with large amounts of water. This promotes healthy root development and encourages roots to grow deeper into the soil profile. As a guide each plant can be watered with up to 8 litres every two weeks over the first summer period.

### PLANT IN AUTUMN

The best time to plant is after the break of the first autumn rains. This is usually in the April to May period when the soil is moist and warm. Planting in June and July is acceptable, however, the plants will not have as much time to develop and establish root systems before the warmer spring and summer weather.

### ALLOW THE PLANTS SPACE AND TIME TO GROW

Plants change over time. When planning a garden, think about how you want to use the space and what the garden will look like in 10 years' time. Plants should be spaced according to their mature form, shape and size. Understorey plants, such as grasses, can be clumped together with spacings in the range of 30cm. Large plants require several metres' space. Speak to your plant provider about appropriate plant spacing.

### WHERE POSSIBLE WATER AT NIGHT OR EARLY IN THE MORNING

Plants suffer in especially hot and dry conditions. Placing water onto hot soil or plants can shock the plant: water can "cook" the plant's roots, and water trapped on leaves can heat up and burn leaves. To ensure that plants are getting the most out of a watering, it is best to wait until a time of day when evaporation is low and the soil is cooler. Another tip is to create a "water bowl" around the base of the plants where water can sit and soak down to the root zone.

### THE FIRST STEPS TO DEVELOPING A NATIVE GARDEN

1. Work with leadership, students and staff to define the area that you would like to transform into a native garden. How large would you like the space to be? Does the space meet the needs of native plants? How much sunlight/shade is the area likely to receive? How will children use the space in a way that enables it to establish?
2. Identify grants available through your local council, private businesses, and state government-funded initiatives like NRM Action Grants for schools and communities.
3. Promote your intention to build a native garden throughout your school community and networks. There may be parents who have skills and resources that will be useful to the project development. They may also be interested in participating in working bees.
4. Discuss the role of design as critical to influencing the way in which people utilise the space. How will the space be used? Who will use the space? What would you like to do within the space? Who will maintain the garden?
5. Include students in the decision-making process. Students can be involved in design, cost estimates, project management, construction, planting and maintenance. Integrated learning can be incorporated into this process so that students are exposed to a range of content and skills development.
6. Identify units of work for students to investigate native plants as habitat, food, soil stabilisers, air and water filters, cooling mechanisms, etc.
7. Prepare the site and build your garden infrastructure including pathways, rock placement, seating, etc. Then plant out your plants. Invite parents to contribute.
8. Officially open your garden and celebrate with your school community. Your school community might like to name your garden.
9. With the staff identify ways to continue to use the garden as a learning resource and as a place for children to interact with nature in a free and open-ended way.



# LEARNING OPPORTUNITIES ASSOCIATED WITH NATIVE GARDENS

## A CURRICULUM OVERVIEW

### Introduction

The process of designing, constructing and managing a native garden affords numerous opportunities to connect learning indoors to the application of skills and authentic inquiry in nature-based environments. The fantastic thing about the creation of a native garden is that students can be involved in the process to create and develop the garden as well as contribute to and oversee the management of the ever-changing “product” as it evolves. The rich learning results from students’ engagement in and commitment to the process, where they see real-life benefits and outcomes from their hard work, perseverance and patience.

There are many opportunities to connect curriculum to the design and management of a native garden, a few of which are mentioned below. Remember, though, some of the best outcomes will be those that are not planned for but are driven by student interests, passions, wonderings and lines of inquiry.

### General Capabilities

Problem solving, critical and creative thinking skills and personal and social skills will all be developed and harnessed whilst engaging with a native garden design or management. Students will also be developing ethical understandings and inter-cultural understandings as they inquire into plant and food diversity and distribution. There is also the opportunity to develop students’ capabilities such as problem solving, teamwork, negotiation and public speaking.

### Sustainability

Throughout this process students are given the opportunity to develop knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living. For example, students may develop an understanding of ecological and human systems and appreciate their interdependence and consider sustainable futures. When considering human–nature relationships, including cause and effect, students will be developing observation and analysis skills to examine these relationships in the world around them. (ACARA)

Through a connection with a garden on a local level, students may be inspired and encouraged to explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have personal, social, economic and environmental perspectives.

### Aboriginal and Torres Strait Islander histories and cultures

An important aspect of the native garden will be to consider Indigenous perspectives and to explore, understand and analyse how Aboriginal and Torres Strait Islander peoples engage in sustaining environments through or by creating appropriate and sustainable solutions. They may have opportunities to learn that Aboriginal and Torres Strait Islander peoples have long-standing knowledge and traditions relating to the natural world and investigate local and indigenous plant foods that have a place within their native garden.

### Learning Area Connections

Here are some ways to consider how learning inside the classroom could be linked to a native garden. Consider this a mere springboard to your own pathway.

## [ABOUT MARIA]

Maria has 20 years teaching experience and a Master’s in Education. She has worked in a range of local and international educational settings within early learning and primary education. Her teaching career has seen her travel the globe to explore ways educators from all walks of life inspire and connect with students. Maria is passionate about educational research and sharing evidence of great practice in education, inspiring and supporting others to connect with nature, and facilitating authentic outdoor learning opportunities for all students.



### English

- Undertake research about what a native garden is and design a poster or presentation about what might work best in your specific school or site
- Develop labels and fact sheets for items that will be grown in the garden
- Develop signage for the garden
- Write to the school community to share plans and ideas
- Publish a newsletter or periodic segment to go into a school newsletter, sharing news of each stage of the garden design and build process
- Create a “potion” recipe book and plant a potion forest to harvest potion ingredients

### Maths

- Design a layout for the native garden and draw this to scale
- Measure the area of the garden beds and work out how much soil is needed (volume)
- Use a calendar to explore seasonal plants and keep a diary to plant accordingly

# CONTINUED

- Map the school grounds, pathways, entrances, exits and native garden beds to develop an overall site survey
- Gather all measurements for materials and cost these accordingly

## HASS

- List the natural, managed and constructed features of the native garden location and consider how they might change and how they can be cared for [ACHASSK031](#)
- Research gardens around Australia to explore how climate and topography affect native gardens; consider an inquiry into the effects of place and space on garden design
- Explore weather and seasons and the ways in which different cultural groups, including Aboriginal and Torres Strait Islander peoples, describe them [ACHASSK032](#)
- In small groups, discuss the conditions plants need to grow (e.g. sunlight, water, nutrients, air, soil) and how each element helps plants to grow; present this to a wider group in a creative way

## Science

- Make up recipes for potions and herb mixes
- Explore water cycles and consider ways to harness water in the native garden
- Explore the features of living things, their homes and how their needs are met. This could form the basis for a class talk topic or group presentation [ACSSU017](#) and [ACSSU211](#)
- Explore the many uses of mud and the properties of mud. This could include research into types of mud, traditional uses of mud, properties of mud and ways to engage with mud such as mud kitchen play or building mud bricks [ACSSU018-Scootle](#)
- Explore seasons and compare and contrast European and Kurna seasons. How many seasons appear on a European calendar? How many do the Kurna people have? When are our seasons? What happens to plants in spring/autumn? When does it rain? Do we capture the rain? If so, how? [ACSSU019](#)
- Consider how people use science in their daily lives to care for their environment and living things [ACSHE022](#) and [ACSSU044](#). What key government groups are involved in doing so?
- Investigate how the growth and survival of living things is affected by the physical conditions of their environment, including day and night, geological changes and extreme weather [ACSSU094](#), [ACSSU096](#) and [ACSSU048](#)
- Inquire into the following statement: "Solutions to contemporary issues can be found using science and technology and may impact on other areas of society and involve ethical considerations" [ACSHE120](#)

## The arts

- Create signage and artworks to showcase local flora and fauna
- Grow plants and grasses in the garden to use for weaving
- Create a fairy or elf trail through the garden with students' creations of fairy doors, letter boxes and small houses
- Create mosaics or mandalas in the garden to showcase areas for contemplation or reflection
- Consider what could be grown to create natural paints and paint brushes
- Explore ideas, experiences, observations and imagination to create



visual artworks and design, including considering ideas in artworks by Aboriginal and Torres Strait Islander artists [ACAVAM106](#) and [ACAVAM110](#)

- Use and experiment with different materials, techniques, technologies and processes to make artworks [ACAVAM107](#) and [ACAVAM111](#)

## Design and Technology

- Consider a design brief for garden beds and create a 3D model of these out of recycled materials [ACTDEP005](#)
- Use natural materials, components, tools, equipment and techniques to safely make a designed solution to meet a key requirement for the native garden. A list of requirements could be written by students [ACTDEP007](#) and [ACTDEP016](#)
- Work towards a "sustainability showcase" by exploring what sustainability in gardening practice and garden design might look like and develop a product, service or design solution to showcase an understanding of this [ACTDEP027](#) and [ACTDEP028](#)

Through creating a garden, children are connecting with the earth in real and positive ways. They can discover the origins and seasonality of plants, explore the sensory experience of the smells, sounds, touch and even taste of things in the garden, and investigate the connectedness of the life cycle of plants and people. They can learn first hand about sustainable gardening techniques and permaculture.

Ultimately, students will gain an appreciation that commitment, hard work and patience achieves results – a lesson that educators far and wide would all agree goes well beyond the garden wall. ★



Education is a  
natural process  
carried out by the child  
and acquired not by  
listening to words  
but by experiences  
in the environment

MARIA MONTESSORI

[IDEAS AND INSPIRATION]

# REFLECTIONS FROM REGGIO EMILIA

An insight into the languages of the atelierista

MARIE HAGE, FAITH LUTHERAN COLLEGE EARLY LEARNING CENTRE (FORMERLY TANUNDA LUTHERAN ELC)



Images by: Marie Hage

*Hailing from a tucked-away province of northern Italy, the Reggio Approach is a powerful educational philosophy that has influenced educators worldwide, encouraging them to embrace the “100 languages” of childhood. Faith Lutheran College ELC Director Marie Hage shares with us the impacts of her study tour to Reggio Emilia and how it has enriched practice at the ELC.*

For years I contemplated participating in a study tour in Reggio Emilia. Never did I think prolonging the trip would come with such positives, such as being able to attend attend, with my daughter Sophie, the Reggio Emilia Australia Information Exchange (REAIE) January 2018 In-depth Study Group. It was an unforgettable experience, the memory of which I will always cherish.

From the day we arrived in the cobble-stoned streets of Reggio Emilia in northern Italy, I knew we were going to experience something wonderful. The people, food, art, fashions and buildings immediately filled us with a sense of excitement, and this sense was heightened when we entered the Loris Malaguzzi International Centre.

Loris Malaguzzi International Centre is dedicated to the pedagogist who created and inspired the Reggio Approach. It is an internationally

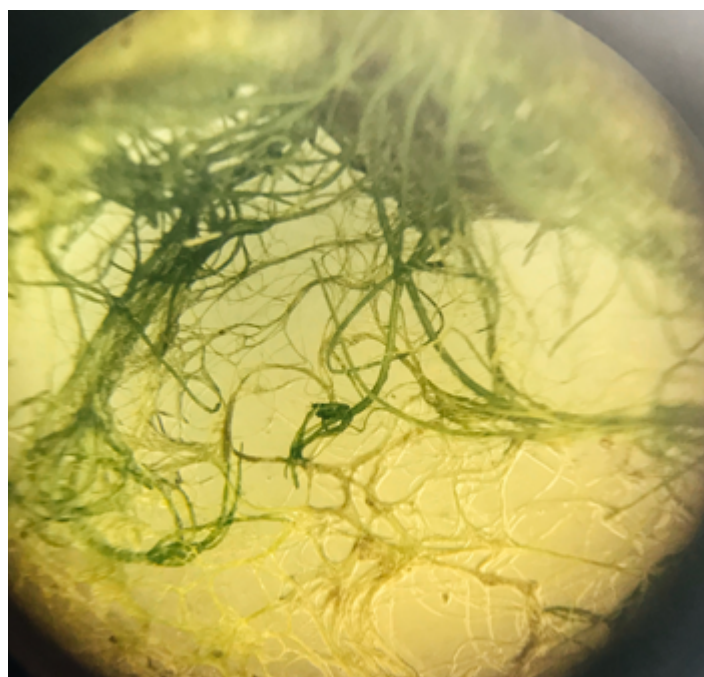
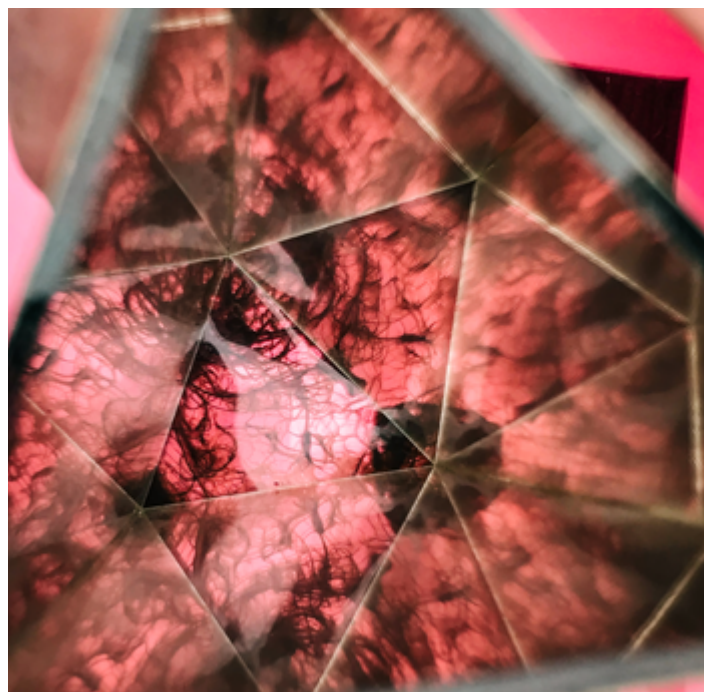
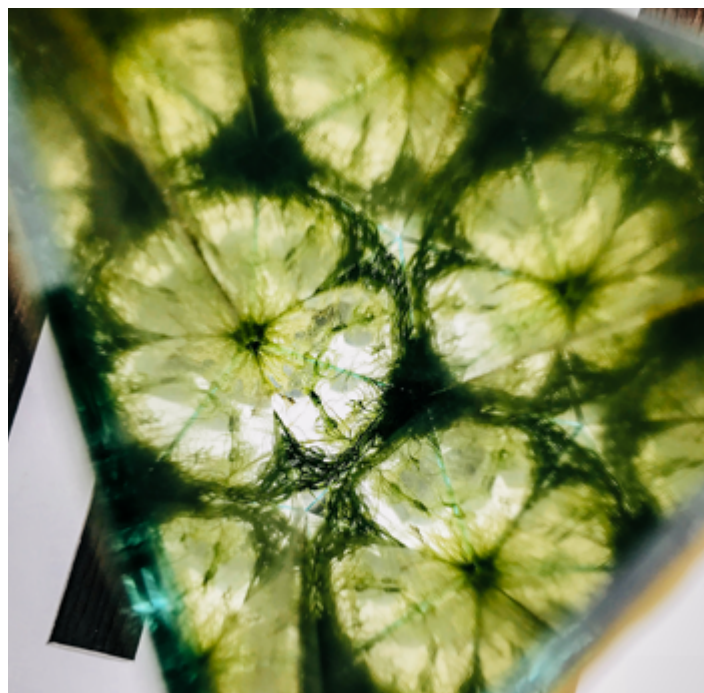
renowned meeting place for researchers and teachers, but also for children and families. Inside the centre are exhibition areas, an auditorium, ateliers or workshops open to both children and their families, as well as the Documentation and Educational Research Centre. Entering the Loris Malaguzzi International Centre for the very first time was an unforgettable moment for me – the environment was both welcoming and magical.

The focus of the week in Reggio Emilia was “The Culture of the Atelier”. Loris Malaguzzi, founder of the Reggio Emilia educational philosophy, originally introduced this space, the atelier and also the concept of the atelierista – a person with an arts education. We were privileged to work alongside a number of atelieristas, and visited and worked in highly evocative ateliers.

Filippo Chieli, the first ever music atelierista in Reggio schools and atelierista in residence at the Balducci Preschool, spoke to us about the culture of the atelier: “The idea is to create learning contexts in which children are moving toward an expressive use of the languages [what Loris Malaguzzi called ‘the 100 languages of children’], and where the adults are not dominating the children.” The culture of the atelier does not stay inside the school but instead expands throughout the school; it is referred to as a sort of “contagion” which leads to the creation of other new spaces in the school, like the mini-aterliers. The culture of the atelier encourages us to constantly establish relationships with objects around us in the world, and ateliers encourage active engagement with objects and environments – doing things not based on words.

During the course of the study group sessions, it became apparent that, according to Reggio pedagogy, we are to give children not a model but open contexts where they can explore. Acknowledging that every time a person solves a problem he/she realises a creative process, the Reggio Approach stresses that we need to give children time and opportunity. When we explored the park at Allende Infant-Toddler Centre, we were certainly given both time and opportunity. It was here that we were asked to “live the park” in relation to our own feelings, emotions and identity and to find the multiple identities of these places. We were to carry out this experience as adults, not as if we were children, and to feel our own experience first. I have reflected on this idea many times and now understand how important it is for educators to experience opportunities themselves before the children are given these experiences. We were constantly drawn towards thinking more deeply, and were given the opportunity to contemplate in this place of nature.

Mini-ateliers had been thoughtfully created throughout the park and we were free to use materials from all ateliers. We were divided into three groups and each was assigned an area within the park, our group being assigned the pond. A documenter was chosen to record the different concepts that emerged, alongside a second documenter whose responsibility it was to take photographs. We experimented with the tools and materials, and with our ability to bring together digital languages and the language of graphics, and we were encouraged to look for what the tools offered specifically. Our group looked at the different “concepts” that emerged from the pond and found connections between things. The way we, as adults, interpreted these connections presented many possibilities that essentially represented the different languages of the pond. These languages would be enhanced and reinterpreted through the minds of children. Our perspective of the pond changed as we experimented with different tools – magnifiers, cameras, coloured papers, torches, a microscope, a waterproof GoPro, prisms... and so the list goes on.





We were asked to use one concept that had emerged from the pond. Before we interpreted our work, we told the story together – this was not something just for the documenter to do. The next day, six ateliers had been set up within the Loris Malaguzzi Centre and our original three groups became six groups. The atelieristas had listened to the interpretations of our work and had proposed higher challenges within the ateliers. Using digital languages (webcam, endo-scope, computer, cameras), the language of graphics as well as a wide array of loose parts, our park experience now came alive in the atelier in creative forms.

I have identified so many more possibilities within our ELC, garden and Bush Block as a result of our visit to Reggio Emilia. I learned that looking at digital technologies in an ecological way means looking at them in an interdependent way and that we can welcome nature in through digital technology. In one infant-toddler centre, two- to three-year-old children were able to welcome in nature through the use of a webcam. It offered the children another eye, another gaze – the children interrogated the

working of the webcam and were fascinated by how the webcam made outside things appear inside.

During our Study Group tour of Reggio Emilia, aesthetics supported all of the learning approaches; indeed, in all Reggio-inspired learning aesthetics are viewed as a way of knowing. Epistemology (our way of knowing) and aesthetics (seeking loveliness and harmony) are seen as synonyms: they are essential needs of human nature, vital (*vita* = life) as described by Malaguzzi. In the inspiring halls of the Loris Malaguzzi International Centre, Claudia Giudici (President of Reggio Children) spoke to the assembled educators about the fact that the 100 languages go beyond the spoken word. We are to offer children contexts where they can continue to express themselves in the multiplicity of languages they already have and we must recognise and build upon those languages – a powerful message for us to take from the cobbled streets of northern Italy back to our own schools and preschools, wherever they may be. ✪



## ABOUT MARIE:

Marie Hage is the founding Director of Faith Lutheran College Early Learning Centre (formerly Tanunda Lutheran ELC) and has worked as an early childhood educator for over 35 years. The interplay of the Reggio Emilia philosophy together with nature pedagogy has played an important role in her educational endeavours and she sees relationships as central to the way children and adults learn together.



GLIMPSES OF *Nature* FROM REGGIO



## [IDEAS AND INSPIRATION]

# OCEAN LITERACY

## Why we should learn about the sea

JANINE BAKER

Images by: Janine Baker + Stephen Johnson



### [ABOUT JANINE]

Janine Baker's childhood experiences living in Papua New Guinea and several states of Australia helped shape a lifelong love of natural environments, particularly the sea. Janine has worked as a marine scientist in South Australia for 28 years, the past eight of those as a marine educator. From 2012 to 2015 she was the South Australian councillor for the Marine Education Society of Australasia (MESA), promoting Seaweeek and developing marine education resources. In 2014, she was awarded the AAEE's national Brian Foreman Scholarship for Environmental Education, to create and present slideshows and wall displays on SA marine species. Janine has a Science degree in zoology, botany and marine palaeontology, a Masters in Environmental Studies, and in recent years has undertaken a Masters in Teaching Special Education. After 15 years of contract work as a government scientist, Janine started her own marine consultancy in 2004. She has undertaken both marine research and marine education projects for national and state government agencies and NGOs. She also works part-time as a special education tutor at schools and for private clients in South Australia. Janine specialises in multi-sensory literacy, numeracy and science education for a diversity of students with special learning rights. Since 2016, she has made teaching resources for primary teachers, tutors, home schoolers and a marine education organisation. Janine has particular interest and experience in combining science, art, music, and literacy into themed, multi-sensory learning programs for special education.

*Covering 70% of our planet, oceans are arguably the lifeblood of our world. In this rich and fascinating article, marine ecologist and educator **Janine Baker** shares her passion for the marine environment and presents a compelling case for Ocean Literacy as a vital part of our children's education.*

If you were asked, "Why is marine education important?" what would first come to mind? Some might value marine learning in relation to fishing, sailing, swimming, rock pool rambling, or any other enjoyable activity. Some might think "Seafood!" – what comes from the sea to your plate might be most relevant for you. Maybe you would think about ocean safety, particularly if your students or family live close to the sea. Others might think first about popular marine locations, such as the Great Barrier Reef, or iconic marine species, such as sharks, dolphins, sea dragons, or even Nemo the clownfish – animals that appeal to so many students.

A less common response to "Why is marine education important?" would be, "Because our lives depend on the ocean." Many of us don't consider the fact that life on Earth would be impossible without the marine environment. The ocean is the defining feature of our planet, and without the ocean, the Earth's surface would be too hot to live on, the climate would be unbearable, and there would not be enough oxygen for human life to exist. Thank you, ocean!

We should learn to understand the sea because we are connected to it, from a global level down to the individual psyche. There is more to the sea than the tangibles it provides for us. There's a good reason for all those cheesy ocean quotes, backed by shots of pristine beaches or sparkling waves, on social media and in countless books: seeing, smelling, feeling and hearing the ocean has a powerful, positive and calming influence on humans. In education, natural environments such as the seaside provide an ideal forum for learning

by discovery. Students can actively use their senses of sight, hearing, smell and touch. They can reflect, connect, and engage in data collection. Direct and ongoing experience with natural environments has been shown to assist learning – including cognitive development and language (Kellert 2002; and review by Johnson 2007), behaviour, and academic achievement (Norman et al. 2006).

On a more scientific level, without a basic knowledge of how the ocean works, it is not possible to fully comprehend or adequately respond to large-scale, global issues such as climate change, over-exploitation of ocean resources, marine pollution, and the biotechnology potential of ocean plants and animals (Tran et al. 2010).

Given that Australia is a big island "girt by sea" and around 85% of us live within 50km of the ocean, why isn't there more national focus on education about the ocean that surrounds and supports us? It's a question that has baffled and frustrated some marine educators for decades.

### SEAWEEK AND OCEAN LITERACY

Teachers in Australia who have an interest in marine education may recall Seaweeek, which the former Marine Education Society of Australasia (MESA) ran each year for a quarter of a century. That national campaign focused on awareness and appreciation of the sea by community, educators and students around Australia. Every year Seaweeek provided a focus for engaging in and sharing marine-themed information, education events, resources, and networking opportunities. Many of the resources from MESA projects and Seaweeek in previous years are available here: <http://www.mesa.edu.au/resources.asp>

MESA wound down as an organisation in 2015, and Seaweeek thus dropped out of education department calendars, and out of the minds and curriculum plans of most teachers. Notwithstanding, a number of educators across Australia have been working to re-establish Seaweeek, and to frame it each year in terms of Ocean Literacy principles. Now more than ever, Australia's students – who are the ocean

custodians of the future – need to learn about the marine environment, and their connection with it. Since the late 2000s the term Ocean Literacy (sometimes referred to as OL) has come into popular use, based on a globally relevant set of education principles.

[Ocean Literacy](#) was launched in 2010, after six years of development work by dozens of science and education agencies in the United States. Around 100 representatives with expertise in ocean sciences, ocean education and/or education policy worked together to develop the definition, the 7 education principles of [Ocean Literacy](#), and the fundamental concepts within each principle. The initial aim was to bring ocean sciences into the mainstream of both formal and informal education, but the scope and sequence has grown to encompass many areas of learning.

The 7 principles of Ocean Literacy are shown in the diagram below:.

An ocean-literate person, class of students, school, community, state or nation:

- understands the Essential Principles and Fundamental Concepts about the ocean;
- can communicate about the ocean in a meaningful way; and
- is able to make informed and responsible decisions regarding the ocean and its resources.

([Ocean Literacy Network, 2015](#))

Ocean Literacy helps us to understand the ocean’s influence on us, and our influence on the ocean. In a century of increased self-awareness, social awareness and connectedness, sustainable living aspirations, and concern about our “ecological footprint”, Ocean Literacy makes perfect sense. The importance of ocean education was eloquently expressed by Cava et al. (2005, p. 4): *Understanding the ocean is integral to understanding the planet on which we live. This understanding is essential to sustaining our planet and our own wellbeing.*

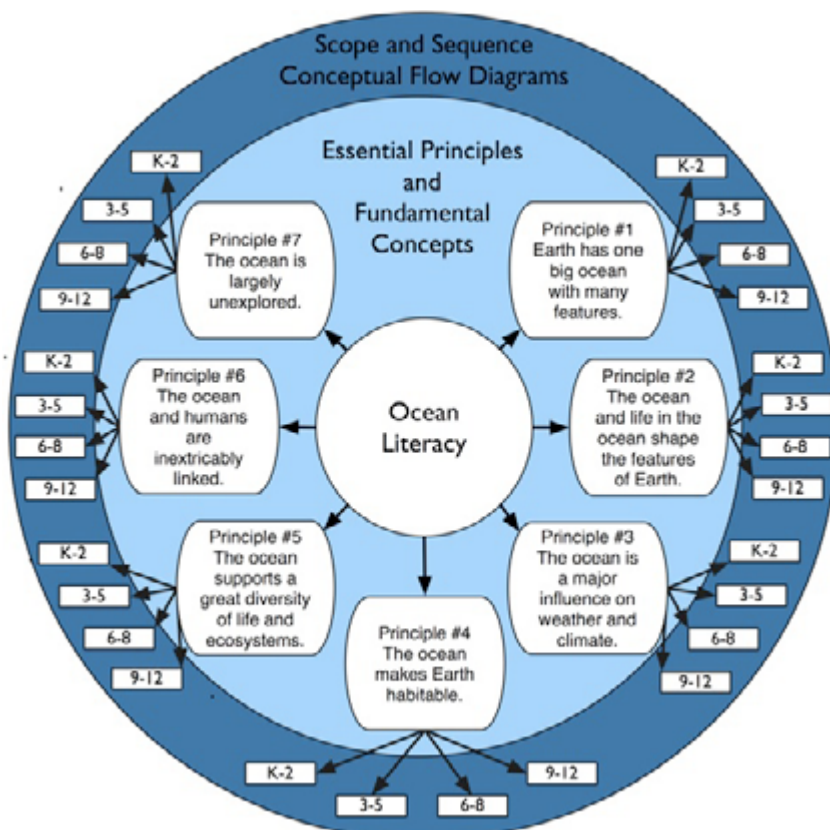
## OCEAN LITERACY IN THE AUSTRALIAN CURRICULUM

Across Australian schools, there is still no consistent national marine education plan or curriculum content, despite the existence of the Australian Curriculum (AC), within which there is rich opportunity to embed oceans education. Recently, a marine educator from Woodbridge Marine Discovery Centre in Tasmania took the initial step of mapping the 7 Ocean Literacy principles against the Australian Curriculum for each year level, to encourage educators to think more about the tremendous potential of those principles across multiple learning areas. Some examples of the ways in which OL can be applied in various Australian Curriculum subject areas from Reception through to Year 9 are outlined in the [Australasian Ocean Literacy blog](#).

To choose just one of many examples, if we unpack Ocean Literacy Principle 1 (**Earth has One Big Ocean with Many Features**) into its components, one of several major understandings is that seawater has unique properties: it is salty, its freezing point is slightly lower than that of fresh water, its density is slightly higher, its electrical conductivity is much higher, and it is slightly basic. The types of science experiments, demonstrations and projects that can be used to help students understand those points relate directly to many AC Content Descriptions across the primary and lower secondary year levels. Some examples are provided below in the section on **Ocean Literacy in Chemical Sciences**.

Ocean Literacy principles can be used to help students of all ages learn more about the ocean environment, in terms of:

- Science (physics, chemistry, biology, ecology, Earth sciences)
- Geography
- Relation of the seas around Australia to Aboriginal and Torres Strait Islander Histories and Cultures
- Australia’s Engagement with Asia
- Historical, Social and Economic importance of the oceans



Ocean education experiences are truly cross-curricular and can encompass Science & STEM, English, HASS, ICT, Visual Art and Design, Drama, Maths, Sustainability Education (including Conservation), and Physical Education, amongst other learning areas.

## OCEAN LITERACY IN NATURE PLAY

So why is ocean education relevant to nature play? The development of Nature Play SA provides great opportunity for synergetic educational outcomes in Ocean Literacy (OL) education. There are so many ways in which the experiential nature play pedagogy relates to OL activities:

### explore

engage in the world around you,  
and respond to it

discover

observe and wonder

experience using all your senses

go on outdoor adventures

record in a journal  
and share

venture into  
imaginary worlds

look for clues *look for patterns*

share what you find

draw or paint a  
picture

invent games

create using natural  
materials



Ocean Literacy educational activities can also help students to:

- develop physical skills (such as swimming and snorkelling) and spatial awareness skills (such as rock hopping and coastal orienteering)
- learn more about safety awareness at the beach and in the ocean (tidal rips and blue-ringed octopus come immediately to mind!)
- develop personal and social capabilities, such as showing initiative, working in teams, taking responsibility and roles in group activities and projects, and sharing resources
- develop critical and creative thinking skills, through prediction, observation, research, design, experimentation, review and discussion
- Become more mindful and self-aware, through calming, multi-sensory experiences at the beach

A few examples of engaging, multi-sensory and cross-curricular Ocean Literacy activities which link with Australian Curriculum content are provided below.

## OCEAN LITERACY IN BIOLOGICAL SCIENCES

### OL Principle 5: The Ocean Supports a Great Diversity of Life and Ecosystems

AUSTRALIAN CURRICULUM SCIENCE LINKS:  
RECEPTION - ACSHE013, ACSIS233, ACSIS012;  
YR 1 - ACSSU017, ACSHE021, ACSIS213, ACSIS024, ACSIS029; YR 2 - ACSHE034, ACSIS037, ACSIS042;  
YR 3 - ACSSU044, ACSIS053; YR 4 - ACSSU073, ACSHE061; YR 5 - ACSSU043; YR 6 - ACSSU094;  
YR 7 - ACSSU111

» Put together some ocean “treasure boxes” for students to observe and discuss. This could be done at school or at the beach. You could include sponges, bivalve shells, sea snail shells, sea urchin tests, dried seaweed, dried sea stars, lace bryozoan pieces, dried Port Jackson shark eggs or skate eggs, tube worm casings, etc. If you have provision to visit the beach, bring some trays. Your students could collect some beach wash-ups in trays, examine their finds, describe what they look like, draw them in their science journals, and discuss. Is it a plant or an animal? (NB: With marine life, that is not always easy to determine!) Is it alive or dead? What is it made of? What does it feel like? How does it eat? What might it eat? Could it have predators and, if so, which ocean animals might eat it?

Did it move when it was alive and, if so, how do you know? What kind of habitat could it have lived in before it got washed up? What physical adaptations can you see that might help it survive in that environment? Which animals in this collection do you think are similar, and why? How would you separate this collection into groups of similar animals? What criteria would you use? **Don't forget ocean science safety precautions: use recyclable examination gloves or gardening gloves when picking up and examining marine animals.**



» If there is opportunity to schedule a class visit to the rocky beach, get students to bring a field journal for recording, and pencils for sketching. Divide class into groups or pairs, and get each to pick at random from a box the name of one common shore animal to investigate. Make sure the animals can be found in the area and include double-ups in the species choices so that different perspectives can be shared. Students find, observe, describe, draw and label the

animal in their science journals. Teachers choose whether or not students also bring cameras to photograph the animals. During a second lesson, each student pair or group shares their observations with the rest of the class.

» Go to a beach where there is fresh seaweed washed up on the beach, and also floating in the water. You will need trays, fine paintbrushes, and a magnifying instrument, such as a hand lens, magnifying glass, camera on macro setting, or phone with a macro attachment, in a waterproof case. You could also use a portable student-level microscope if you have one at school or at home. Half fill a flat, white, square or rectangular tray with seawater. Collect some fresh seaweed and immerse in the water tray, till it is covered. NB Use gloves when picking up anything out of the sea or on shore, just in case there are small, biting or stinging animals in your sample. Wait for small animals to float to the surface of the tray. Gently pick them out with small brushes and place into petri dishes of seawater so that they can be observed, sketched and discussed. Return all seaweed and other marine life to the water when you have finished.

## OCEAN LITERACY IN CHEMICAL SCIENCES

### **OL Principle 1: Earth has One Big Ocean with Many Features**

AUSTRALIAN CURRICULUM SCIENCE LINKS: YR 1 - ACSSU018; YR 3 - ACSSU046; YR 5 - ACSSU077; YR 6 - ACSSU095; YR 7 - ACSSU113: THESE RELATE TO THE PROPERTIES OF MATERIALS AND MIXTURES, UNDER AC SCIENCE UNDERSTANDING. SCIENCE INQUIRY SKILLS ARE ALSO RELEVANT HERE, SUCH AS PREDICTING, PLANNING AND CONDUCTING INVESTIGATIONS, AND USING EQUIPMENT SAFELY. EXAMPLES OF SCIENCE INQUIRY LINKS INCLUDE ACSIS053 AND ACSIS054 DESCRIPTIONS FOR YR 3, BUT SIMILAR INQUIRY SKILLS ARE LISTED FOR ALL PRIMARY YEAR LEVELS.

Some projects and lesson ideas that link OL Principle 1 with AC Science Understanding include the following, which I have devised and tested with tutored students, and with classes at various primary schools in South Australia:

» Design and make a small-scale solar desalination plant. There are numerous primary school-level models available for this project, or students could design their own as a STEM challenge. This project also relates to the

HASS curriculum, and the Sustainability cross-curriculum priority.

- » Test the density of salt water compared to fresh water by floating a variety of objects.
- » Evaporate sea water, estuary water and fresh water in petri dishes and compare the results. (Schools which do not have access to sea water could try different concentrations of kitchen salt in water.)
- » Make ocean-blue "slime" and "putty". Predict what might happen when it is warmed or cooled. Test temperature effects using a

fridge or freezer to cool, and a hairdryer or sunny ledge to warm.

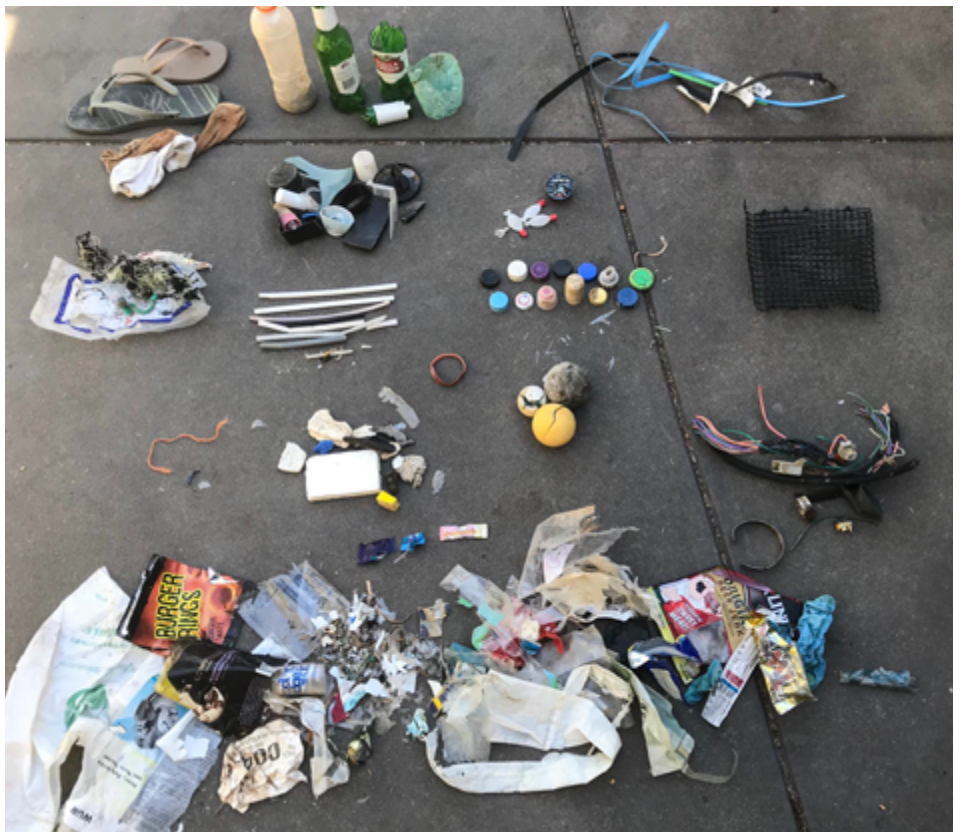
- » Freeze blocks of fresh water and different concentrations of salt water and compare the time it takes each to freeze solid.
- » Test a variety of materials to see if they dissolve in seawater or remain as solids.
- » Design and test a device to separate a mixture of sandy sea water into its components of sand, salt and water. This is a great STEM challenge for the upper primary years!



## OCEAN LITERACY IN HASS, AND EARTH AND SPACE SCIENCES

There are many ways in which both HASS and the Earth and Space strand of the Science curriculum relate to Ocean Literacy principles. Especially relevant to these learning areas are OL Principle 2 (The Ocean and Life in the Ocean Shape the Features of Earth), Principle 3 (The Ocean is a Major Influence on Weather and Climate) and Principle 4 (The Ocean Makes Earth Habitable). A few of many possible engaging, relevant, multi-sensory activities which help to demonstrate and explain these principles are provided below.

- » Students can design and build a working model of a tsunami/tidal wave, using recyclable materials.
- » Organise a trip to a location where coastal erosion from waves, wind, salt crystallisation and/or sediment scour can be seen. Students bring their field journals and sketch, annotate, discuss and share their observations. Photos can also be taken by students, and later used in the creation of a class poster or booklet on erosion.
- » Students use hand lenses, magnifying glasses or dissecting microscopes to observe and discuss the contents of beach sand samples. Which of the tiny bits are animals, plants, rocks, and minerals?
- » There are also connections between the HASS curriculum and one of the key understandings underpinning Ocean Literacy Principle 1 (OL1.e: Ocean covers approximately 70% of the planet's surface). Here is one creative way that teachers and home schoolers can help students understand the meaning and implications of that fact. A class-made (or existing) model globe of the Earth can be tossed around to class members, similar to a game of Silent Ball. In turn, each person records whether their hand first touches the ocean or land part of the globe, during the catch. As well as being a co-operative game, this simple demonstration using ratio maths highlights one of the key points connected with Ocean Literacy Principle 1: approximately 70% of the time, the catchers will touch ocean first instead of land when the Earth globe is passed to them.



Marine debris collected in 90 minutes at Marino Rocks, by clean-up volunteer J. Baker-Johnson, February 2018

## OCEAN LITERACY IN SUSTAINABILITY EDUCATION (SE)

### OL Principle 6: The Ocean and Humans are Inextricably Linked

SOME OF MANY AUSTRALIAN CURRICULUM LINKS FOR SE:

CROSS-CURRICULUM PRIORITY (CCP)  
SUSTAINABILITY - OI.1 THE BIOSPHERE IS A DYNAMIC SYSTEM PROVIDING CONDITIONS THAT SUSTAIN LIFE ON EARTH.

CCP OI.2 ALL LIFE FORMS, INCLUDING HUMAN LIFE, ARE CONNECTED THROUGH ECOSYSTEMS ON WHICH THEY DEPEND FOR THEIR WELLBEING AND SURVIVAL.

CCP OI.3 SUSTAINABLE PATTERNS OF LIVING RELY ON THE INTERDEPENDENCE OF HEALTHY SOCIAL, ECONOMIC AND ECOLOGICAL SYSTEMS.

YR 4 CHEMICAL SCIENCES (ON PROPERTIES OF MATERIALS SUCH AS PLASTICS, AND PERSISTENCE IN THE ENVIRONMENT): ACSSU074.

- » Plan some lessons, or even a whole cross-curricular unit, around the meaning and practice of Sustainable Seas. One of the resources from Seaweed 2013, Sustainable Seas by marine educator Dr Christine Preston, is available

from several links, including the following:  
[http://www.naturalresources.sa.gov.au/files/sharedassets/eyre\\_peninsula/education/sustainable-seas-teaching-resource-gen.pdf](http://www.naturalresources.sa.gov.au/files/sharedassets/eyre_peninsula/education/sustainable-seas-teaching-resource-gen.pdf)

- » Organise a beach clean-up and ask groups of students to collect all the debris they find within a specified time frame, and place into sturdy, recyclable bags. Back at school, students categorise their finds into separate material groups (hard plastics, soft plastics, metals, glass etc). The debris can then be weighed, and tabled in a spreadsheet, graphed and analysed. All recyclable materials can be sent to recycling depots. Reports could be made available in the school library, and even shared with local councils in the area where the debris was collected. An example from Marino Rocks is shown above.



## OCEAN LITERACY ACTIVITIES IN ENGLISH AND THE ARTS

### **OL Principle 1: Earth has One Big Ocean with Many Features**

OL PRINCIPLE 2: THE OCEAN AND LIFE IN THE OCEAN SHAPE THE FEATURES OF EARTH

OL PRINCIPLE 5: THE OCEAN SUPPORTS A GREAT DIVERSITY OF LIFE AND ECOSYSTEMS

(OTHER OL PRINCIPLES ARE ALSO APPLICABLE, DEPENDING ON WHICH THEME IS CHOSEN FOR WRITING)

AUSTRALIAN CURRICULUM ENGLISH LINKS (LINKS IN BOLD ARE ESPECIALLY RELEVANT TO THE ACTIVITIES LISTED BELOW): YR 1 - ACELA1452, ACELY1661, ACELY1663; YR 2 - ACELA1470, **ACELT1592**, ACELY1673; YR 3 - ACELT1791, ACELY1684; YR 4 - ACELA1498, ACELT1607, ACELY1694; YR 5 - ACELA1508, ACELA1512, ACELY1705; YR 6 - ACELT1617; **ACELT1800**, ACELY1715

» During a coastal excursion, students can write a poem that relates to an Ocean Literacy principle (see below) or use water colours and pencils to draw the scene they see. The watercolour can be used as a background for a poem, hand-written on top of the painting after a draft is first prepared.

» Provide students with page lists of relevant, ocean-themed adjectives and action verbs, which they can pick from to write a simple poem of a specified structure, or a free verse. Many students I have worked with have produced excellent results with cinquain and diamante structure poems. Instructions for the line format of each poem type are easily found on the internet or in books on how to write poetry. These types of poems can easily be created by lower middle to upper primary students, and also lower secondary students, even those who have never written or considered poetry before, and/or have special education needs. Haiku and tanka are other suitable styles of poetry. Some examples of cinquains relating to Ocean Literacy are shown to the right. Each took only 10–20 minutes to write, after looking at photographs of each poem's chosen marine subject and thinking about the appearance, movement/behaviour and function.

» If a visit to the ocean is not possible, students can use video or pictures (of a sand beach, rock platform, ocean, or marine animal), and wave sounds / music as a stimulus for writing a poem.

» Students can plan a story during their coastal excursion, using a natural setting such as a sand beach, estuary or rocky shore. The main character could be a marine animal which they observe at the beach. Students can illustrate their story using photos taken on the

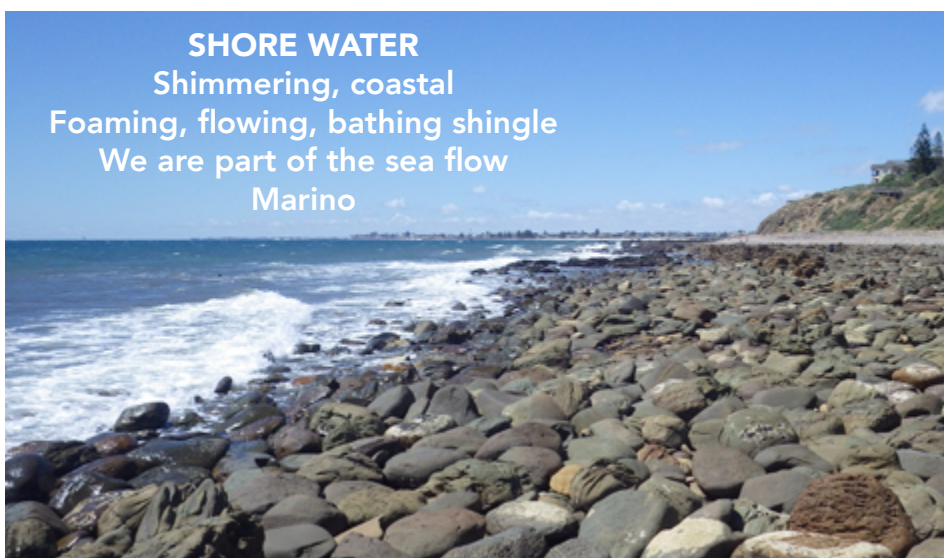
day of the excursion, or with sketches from their journal which are later enlarged and coloured. Students' book creations can be printed at school and used in the library or in buddy classes, according to year-level suitability of content.



**SHORE CRAB**  
Crunchy, warty  
Wedged, not walking  
Hiding from the sun  
Decapod



**ANEMONE**  
Stripy, sticky  
Swishing, curling, closing in  
Don't step on the squishy  
pearly fingers



**SHORE WATER**  
Shimmering, coastal  
Foaming, flowing, bathing shingle  
We are part of the sea flow  
Marino

# CONTINUED

AUSTRALIAN CURRICULUM VISUAL ARTS LINKS:  
R–YR 2: ACAVAM107; YR 3–4: ACAVAM111; YR 5–6:  
ACAVAM115; YR 7–8: ACAVAM121

» Ocean putty (see **Chemical Sciences**, above) can be sculpted into different forms, or used as a base for printing patterns with various marine objects, such as textured shells, dried coral, dried sponge). Students could answer inquiry questions about the ocean objects used to make the patterns.

» Make “ocean paint” out of kaolin (white cosmetic clay) or cornstarch, water, blue or green spirulina powder (dried algae), and a vegetable glycerine. Sand can be added for a textured effect. When this mixture is painted thickly on paper, ocean animal and plant designs can be etched into the paint.

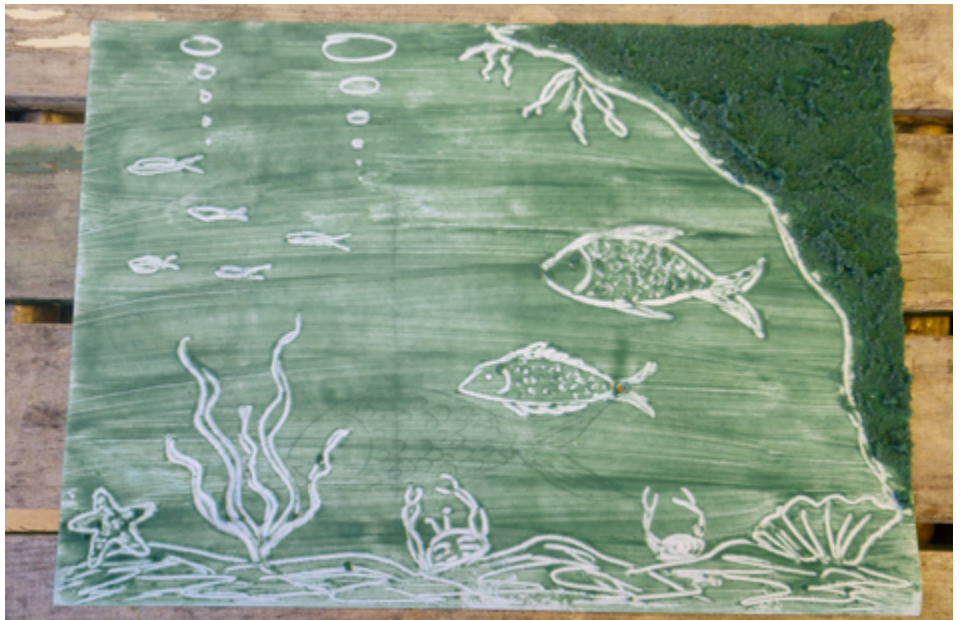
» Seek government approval for your school to collect fresh seaweed samples to be used for science (see **Biological Sciences**) and for art. After a storm, collect some small pieces of seaweed with interesting branching patterns. Wash off the salt and follow instructions in a guide to pressing seaweeds, using cotton paper, wax paper, and brown paper for drying. When seaweed is dried and pressed, it can be its own artwork, or used in ocean collages, or pasted over painted pictures.

» When painting with water colour, salt crystals on the wet paint can create interesting effects.

» Mix clean sand with a runny, natural glue and use it as a textured paint. Looks very effective when painted over water colours.

» Ocean debris that is collected during an excursion (see **Sustainability Education**, below) can be used to make an ocean-themed sculpture. All class members can contribute to a large sculpture, or students could work in groups to make several different sculptures.

» During a beach excursion, students could work in groups to make ocean-themed mandala patterns in the sand or beach sculptures. Shells, sponges and other washed-up materials can be used to decorate.



## CONCLUSION

This article provides just a few of the myriad opportunities to incorporate Ocean Literacy into areas of the curriculum. More ideas for nature play activities relating to each Ocean Literacy principle will be presented in future editions of *Nature Play The Education Way*.

You are welcome to contact [janinebaker@bigpond.com](mailto:janinebaker@bigpond.com) if you are interested in multi-sensory Oceans Education workshops, or in Ocean Literacy lessons or unit plans that are linked with the primary years Australian Curriculum. APPENDIX 1 provides a list of some marine educators in South Australia.

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## APPENDIX 1: OCEANS EDUCATORS IN SOUTH AUSTRALIA

A number of primary and secondary schools in South Australia run their own marine education programs for the students enrolled at those schools. Those programs will not be detailed here. Below are the contact details of some organisations and individuals in South Australia who provide marine education/oceans education experiences for students from all schools and create resources for teachers and families. Apologies for any unintentional omissions.

### Marine Discovery Centre, Henley Beach:

Provides opportunity for schools to visit the multi-award-winning marine education centre on day excursions. The MDC has interactive exhibits and models, and marine education staff and volunteers. The MDC web site provides online games, videos and slideshows, info sheets, quizzes, articles and other resources. The MDC has also produced interpretative signage along the coast. Email: [info@MarineDiscoveryCentre.com.au](mailto:info@MarineDiscoveryCentre.com.au) <http://www.marinediscoverycentre.com.au/index.html>

### Experiencing Marine Sanctuaries Inc.

(EMS): An organisation, which provides safe, supervised “in-water” and “hands-on” snorkelling experiences for schools and community. EMS is also developing (i) an experiential program for upper primary and middle year classes, aiming to achieve better protection of the marine environment through education and marine parks advocacy, and (ii) opportunities for community and schools to help with scientific surveys. Resources for teachers are also available. Phone 0466 278 187. [www.emsau.org](http://www.emsau.org) or [www.facebook.com/experiencingmarinesanctuaries](http://www.facebook.com/experiencingmarinesanctuaries)

### DEWNR’s Marine Parks Stewardship Program:

Connected with the EMS program and includes a roving educational van (“Coral the Caravan”) with marine information and take-home resources.

**South Australian Whale Centre:** The SAWC has interactive education programs, guided tours, the “Whales on Wheels” mobile education unit, school holiday “Whalefest” programs and packages, and curriculum-linked educational programs for Science (whale theme) and HASS (Encounter Bay history). Address: 2 Railway

Terrace, Victor Harbor, SA 5211. Phone: 08 8551 0753. Email: [agraham@victor.sa.gov.au](mailto:agraham@victor.sa.gov.au) [www.sawhalecentre.com](http://www.sawhalecentre.com)

**Reef Watch:** A long-running, citizen science program that collects intertidal and subtidal marine species data at various locations in South Australia. There are opportunities for schools to be involved with the program. Reef Watch also facilitates community education days (such as Reef Rambles) and is connected with marine conservation and education programs in South Australia. Email: [reefwatch@conservationsa.org.au](mailto:reefwatch@conservationsa.org.au)

**South Australian Museum:** In conjunction with Department for Education’s Outreach Education team, the museum has produced an interpretative booklet for students visiting the Marine Biodiversity gallery of the SA Museum.

**Coastal Ambassador Program:** Coastal and marine education program run through government, and suitable for teachers and pre-service teachers. Email: Mike Bossley: [bossley@internode.on.net](mailto:bossley@internode.on.net); [kristy.watson@sa.gov.au](mailto:kristy.watson@sa.gov.au) Web: <http://www.naturalresources.sa.gov.au/adelaidemtloftyranges/get-involved/volunteering/volunteer-opportunities/become-a-coastal-ambassador>

**Janine Baker, Marine Ecologist and Educator:** Australian Curriculum-linked, Ocean Literacy resources and workshops for small classes, special education, home school, and school holiday programs. Janine also provides private tutoring in multi-sensory literacy, science and maths for academic support/special rights education.

# // STORIES AND EXAMPLES //

## **STARTING SMALL BUT THINKING BIG**

A whole-school journey.

*Lisa Linnell, Dan Jarrad, Sonja Blazevic – Elizabeth Grove Primary School*

## **SHEIDOW'S SECRET FOREST**

Re-imagining a forgotten corner

*Narrah Zollo – Sheidow Park School*

## **THE ROAD LESS TRAVELLED**

The challenges and rewards of creating a natural play space on a budget

*Sharlene Tirimacco – Cedar College*

## **TURNING LEARNING INSIDE OUT**

The special journey of a special school

*Kylie Karvelis – St Patrick's Special School*

## **PLAN BUILD PLAY**

Collaborative nature play planning at St Catherine's

*Jason Mittiga – St Catherine's Primary School*

## **INTO THE BUSH**

A journey of discovery

*Amy Hunt – Barmara Kindergarten*

## **MUD BATH**

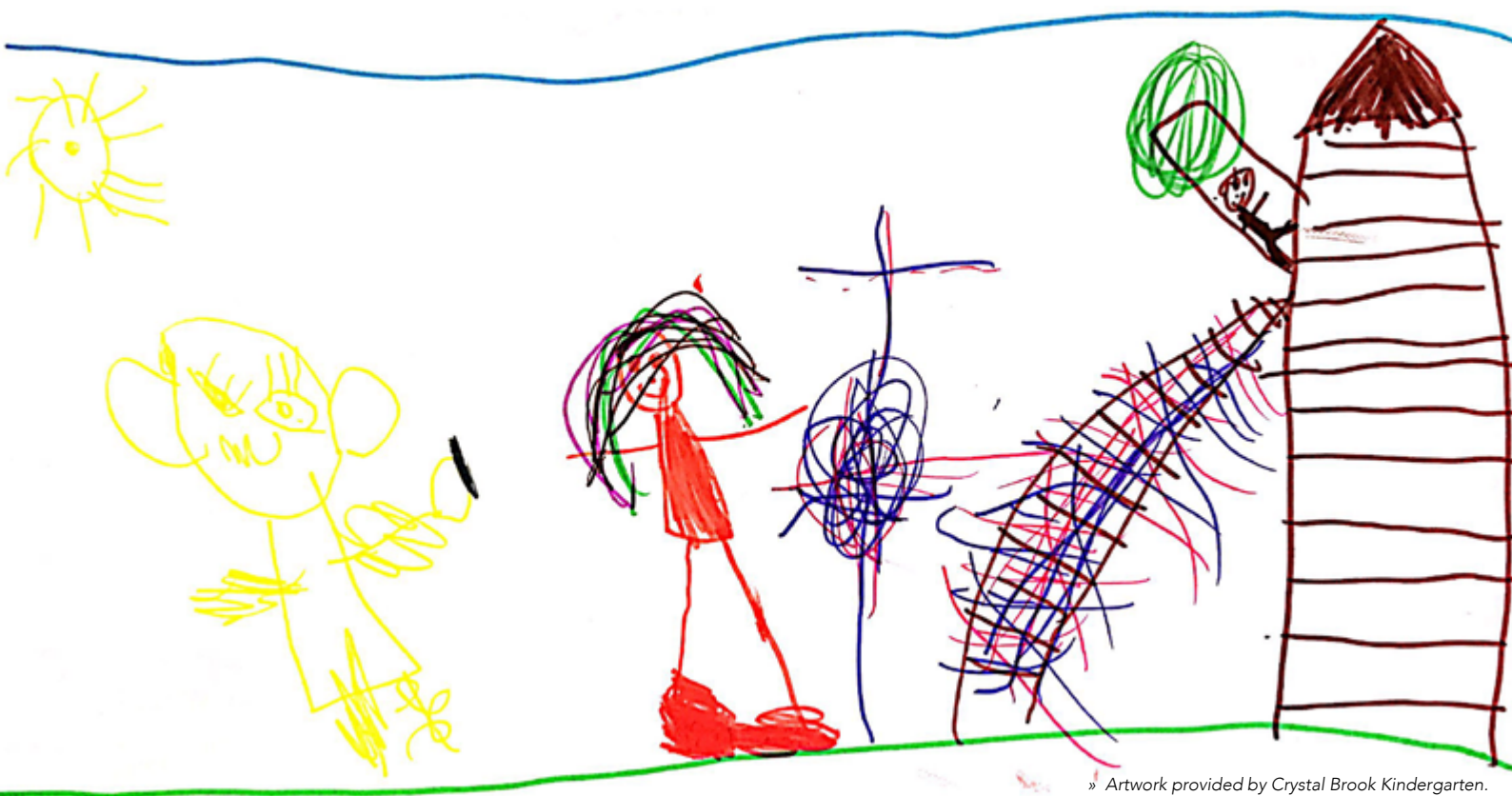
A sensory celebration

*Will Schulze – Blackwood Community Children's Centre*

## **INTO THE "BEYOND"**

The empowering potential of bush kindy

*Karena Wilson – Crystal Brook Kindergarten*



# STARTING SMALL BUT THINKING BIG

## A WHOLE-SCHOOL JOURNEY

LISA LINNELL, DAN JARRAD, SONJA BLAZEVIC

*Elizabeth Grove Primary School is a Category 1 school and has recently embarked on extending its grounds to incorporate a natural play space rich in sensory and risky play opportunities. The school's journey is just beginning and this article provides an insight into the site's whole-school approach to nature play.*

### OUR BEGINNINGS – THE KAURNA GARDEN

Our nature play journey began in 2013 when we made a decision to create more opportunities for our students to play in open-ended ways within naturalised play spaces. As part of our quest to gain inspiration and ideas, we visited a number of different sites and noticed some common elements that were proving to be successful in terms of diversifying play. These included large loose parts (milk crates, planks of wood, rope etc.), natural loose parts (sticks, seed pods, bark etc.), cubby building, access to mud and water – all coupled with children's desire for risky play and reports of lower injury rates in natural play spaces. As a staff team we put all of our ideas together and formed a plan for how we wanted to redevelop some of our site. We wanted to get started.

In 2014 we took the first step by opening our Kaurna Garden – a place for children to learn about and engage in Kaurna culture. It was characterised by traditional use of plants, winding paths, and signage that depicted elements of Aboriginal culture. The garden also provided spaces in which students could socialise and reflect. One of the things we did was align the Kaurna seasonal calendar with the garden and we encouraged children to make representations to reflect their understandings.

Following the opening of the garden, we experimented with the idea of nature-based play. We would ask the students to consider building or digging within a natural space and often they wouldn't really know where to start or what to do. They were conditioned just to run around and engage in other physical activities and that constituted their play. We realised that nature play experiences weren't as common as we thought amongst the children. One way we stimulated student thinking was reading books in order to spark their imagination to recreate concepts (with natural items) from the books, for example the bridge from *The Three Billy Goats Gruff*. We also used characters such as dinosaurs that we then asked the students to create a home for. It resulted in children being more resourceful and intentional about their play. The books and toys began to build the mental tools for their imagination and creativity to discover its full potential.

The space also served as an important platform for wellbeing. For some children who often feel overwhelmed or in need of some space, it provided an area to which they could retreat to help regulate their emotions. In many cases, when students were consulted about what they needed, they identified the Kaurna Garden and the nature play space as areas within the school that supported them in calming down and reducing their stress levels. Therefore, these students have been allowed to incorporate these

strategies into their individual learning plans and are able to access these areas with their "Exit Cards" as needed.

Often with new spaces there is an element of the unknown in terms of the way children will engage and the type of behaviour that will ensue. We took a proactive approach with our students to ensure they mutually agreed to a set of values that they would eventually govern themselves. We took our School Learning Code – *We are learners; We are respectful; We are safe; We try our personal best; We take pride; and We are honest* – and applied it to our Kaurna Garden and made it relevant. For example:

#### WE ARE SAFE

We will:

- *Walk with sticks and tools*
- *Use tools and equipment safely*
- *Climb safely where we are allowed*
- *Be aware of the adult on duty for help or support*

It has been a very effective approach to encourage our children to play with respect and honesty, and to do so in a space where they feel safe. Our Kaurna Garden has since expanded to incorporate our kitchen food garden that has since become a pivotal part of our students' learning experience at school. We have a strong sustainability focus that extends from recycling and composting to developing empathy for creatures we encounter. From R-2 we have "Nature Play" lessons in the garden and from Year 3-7 it is "Kitchen Garden" lessons. However, we have the view of titling these lessons collectively (rather than R-2 and 3-7) to reflect our focus on Environmental Sustainability as it encapsulates what the garden stands for.



Images by: Lisa Linnell, Dan Jarrad and Sonja Blazevic

## OUR NATURAL PLAY SPACE DEVELOPMENT – A WHOLE-SCHOOL APPROACH

Following on from our Kurna Garden, we decided to embark on and invest in a newly constructed natural play space that honoured the way our children wanted and needed to play. As a staff team we combined all of our ideas and presented them to the children. We felt that we had accurately determined what the children wanted – but their ideas and priorities were different to ours, which highlighted the importance of consulting children in the early stages of redeveloping a space. The children’s ideas were varied and included a sand pit with water to pump, cubbies to build, places to sit and socialise and things to climb.

We continued to work closely with our students to ensure their views and values were heard. Having their input was a really important part of establishing ownership and a connection to the new space.

In terms of our parent community there were initially mixed views on the idea of having a natural play space. Some thought it was great while others were apprehensive about things such as their kids getting dirty. As part of our communication approach we began to distribute information on the benefits of nature play such as building social skills and overall wellbeing. Our parents became more receptive as we continued providing information to build their knowledge and understanding.

A method we used for collecting feedback from our school community and ensuring that our design was the product of whole-site contribution was to display our concepts for all to see (and to freely comment upon and add to). We found this really helped parents and staff visualise what the space might look like.

Construction began in 2016 and the students could see their ideas taking shape; most importantly, they could also see that the space was a reflection

of their contribution and their vision. As the space neared completion, it was important for us to make sure our kids were “play-ready” as many children hadn’t been exposed to these types of play opportunities before. We did a lot of preparation before opening the space. In the first instance, each class was taken out to the nature play space to explore the area, and the children and staff undertook risk assessments. As part of this we

*"there are lots of bugs to find in the Kurna Garden – me and my friend love coming here to look for caterpillars. That way we can move the caterpillars off the veggies and give them a different home"*

YR 4 STUDENT

formed mutual agreements with the children on respectful and safe ways of playing. Lower primary students took part in planting alongside the landscapers who provided the opportunity for students to take ownership of the area. Furthermore, we rostered two classes at a time to explore and build a connection with the space before we officially opened it to the whole school community.

When we finally opened the space, everyone was excited. As staff we were confident that the level of ownership the students felt was enough to ensure good play and behavioural outcomes – and that indeed proved to be the case.

Our newly developed play space was characterised by:

- Naturalised climbing structures with ropes, a vertical wall and varying heights that represent challenges for students of all ages and abilities
- Various sized and positioned logs for balance
- Mud kitchen areas with a communal work space that accommodates at least 10 children at any one time
- Two large sand pits bordered by rocks with different levels that lend themselves perfectly to children experimenting together with the water pump
- Netted ropes for gross motor skill development
- Arches and other invitations for children to explore their space
- Local native plants that have been planted (and maintained) by the children who use the space. Our plants include ruby saltbush (*Enchylaena tomentosa*), native lilac (*Hardenbergia violacea*), Correa (*Correa reflexa* and *Correa alba*), and goodenia (*Goodenia amplexans*)
- Wooden platforms that can be used for seating, performing and other modes of play including sharing a meal from the Kitchen Garden Program
- Trees for climbing and hanging out in (we have marked specific trees to ensure we protect young trees and shrubs)
- Loose parts such as seeds pods, sticks and rocks
- A dome with native climbers beginning to cover it creating a special place for children to play, reflect and socialise





## OUR OBSERVATIONS – THE BENEFITS OF NATURE PLAY FOR OUR STUDENTS

Since opening our space we haven't had any parental issues and injury rates have dropped significantly as our students are becoming better at assessing risk. The flow-on benefits of having our space are also evident as it has become a communal space for staff and parents who now sit beneath the trees and socialise whilst they wait for their children. Our Learning Together Playgroup, Children Centre, Nunga Café and OHSC also access the natural play space and we've even had families book the space for birthday parties. This all demonstrates a great connection within our community.

The positive effects on the children have been reassuring and have consolidated our thinking (and research findings) on the benefits of nature play for our students. These have included the following developments:

- Imaginative play has increased – students are being creative, inventing more games and using items such as sticks, gum nuts, pine cones and leaves as props and tools.
- Collaboration is richer – we have noticed that activities such as cubby building and damming water in the sand pit have prompted a higher level of teamwork and communication. In these instances children work towards a common goal. As a result of their collaboration and achievements they go home and talk about how fun their day was – their satisfaction at school is higher.
- Connecting with each other – age is not a barrier nor is physical ability. Common ground is established and children let go of perceived barriers and just play. Friendships are built and emotional regulation is improved as the children work through problems and, more often than not, find a collective solution. The group dynamics in the sand pit changes daily due to students feeling comfortable enough to join in and interact with others.
- Gross motor skills – physical strength and coordination are developed through construction and activities including moving bricks, logs, large rocks and sticks.
- Fine motor skills – these are further developed through playing in the sand, collecting small objects such as gum nuts and pebbles, and engaging with insects and other invertebrates.
- Making connections with Indigenous culture – through learning about the Kurna seasonal calendar, the signage in the Kurna Garden and exposure to native plants through planting, caring about and making associations with traditional use has increased.
- Risk taking – students have demonstrated that they will only take risks when they are comfortable with the next stage of challenge – they are able to regulate their own risks, and as a staff group we have become more confident in their ability to do this and trust their judgement.
- Other skills that students are demonstrating through the interaction with nature play are exploration, problem solving, respect for nature and high levels of environmental engagement.

Often the benefits are not evident in the activity or achievement itself but rather in the conversations that take place – they offer a true insight into how much depth play has to offer for children's learning and development.

## OUR FUTURE DIRECTIONS – USING OUR SPACES MORE INTENTIONALLY

We are currently looking at how to use our space more intentionally through our teaching across all year levels. We are continually looking at our own professional development by working closely with other sites and experts who have pedagogical depth that we can draw on for utilising our spaces to their full potential. The nature play program links in with the junior primary inquiry questions each semester in order to extend student learning from the classroom to the outside. An example is when junior primary students were doing an inquiry about bees. This was extended through the nature play program by the students learning songs and studying bee anatomy and the social structure of bee hives. As part of their formative assessment, students demonstrated their understanding

*"I like our space because it is fun, there are places to climb and if you practise climbing then you can climb a mountain when you are older..."*

YR 2 STUDENT

*"I like how there is water and sand – and you can get wet"*

YR 2 STUDENT

of the bees and bee hives in the Kurna Garden by representing these concepts using natural objects which were then photographed as part of the documentation of student learning.

Our view is that through play we can start to see the strength of children: what they build, invent and discuss shows each as a full child, one that is capable and competent. We can extend their interests, celebrate their achievements and share them with our school community.

In addition, we are currently strengthening our understanding of how children feel. We have put out a survey that asks students how the spaces throughout the school make them feel, and so far we are seeing responses like:

*I feel happy*

*I feel safe*

*I have fun*

*I love to play*

As a staff team, these types of responses are rewarding and we feel proud of how far we have travelled and of where we are headed. It is our role to open the minds of children and provide them with the spaces and tools to reach their full potential. And that is what we intend to keep doing.



## OUR ADVICE – START SMALL AND THINK BIG

- » As a whole-staff group (teachers, leadership and SSOs) undertake site visits and professional development to improve your knowledge and understanding of the importance of nature play.
- » Communicate with your parents and caregivers early and continue to do so throughout and beyond the entire process.
- » Do your research online and look for practical resources to help you get started.
- » Involve the children with the intention to listen and incorporate their thoughts, ideas, and feelings into the design from start to finish – open students’ minds to possibilities through visuals and/or site visits.
- » Develop a strong connection between the play space and the desired learning intentions with students.
- » Keep the new play space closed for a period of time before officially opening, enabling explicit teaching to occur, risk assessments to be developed by students and staff, and observations to be carried out.
- » Have clear expectations of how the space is to be used by students – expectations **developed by students**.
- » Involve students where possible in the planting and maintenance of the nature play space to further develop their ownership over the space.
- » Constantly reflect on how the space is being used and maintained – through surveying of students, staff and parents.
- » Develop an action plan to re-vegetate the space with maximum student involvement.
- » Encourage staff to engage students in purposeful learning using the outdoor space. ★

## [ ABOUT THE AUTHORS ]

Dan Jarrad is the Principal of Elizabeth Grove Primary School, Sonja Blazevic is Early Years Deputy Principal, and Lisa Linnell is a Highly Accomplished Teacher in the Kitchen Garden Specialist Program.

## WHAT THE *children* SAY

*“we play a game called natural disasters on the log and earthquakes on the net”*

YR 4 STUDENT

*“I like the hills”*

YR 3 STUDENT

*“in our mud kitchen we pretend to cook things like potions and mud cakes...”*

YR 3 STUDENT

*“I like to swing myself on the ropes...”*

YR 4 STUDENT

*“we just play”*

YR 2 STUDENT

# SHEIDOW'S SECRET FOREST

## RE-IMAGINING A FORGOTTEN CORNER

NARRAH ZOLLO

*Spurred on by the development of a Steiner Stream within the school, the staff and community of Sheidow Park School found themselves looking at a neglected patch of scrub with new eyes. Through the example of Sheidow Park, Narrah Zollo encourages us to look for the potential in forgotten corners of our own sites.*

When Marion Steiner Playgroup were looking to develop a bush playgroup to support the proposed Dual Curriculum Stream at Sheidow Park School, it seemed a good fit to look for a "bush" setting within the school grounds itself. An unused patch of scrub land at the back of the school oval was re-imagined as the perfect "wild space" for playgroup families to gather in, and it turned out that the teachers and students were keen to use it too.

With support from school leadership, a solid safety check for loose tree limbs and a trim of the grass, a new play space was born. Parents carted in log rounds to set up a balancing trail and story circle, which was gradually added to by the groundsman as logs were sourced from around the area. Each week children collected fallen branches and laid trails leading to different places of interest such as their favourite climbing tree, scrubby den or meeting place. Playgroup parents were reintroduced to the art of cubby building under the enthusiastic instruction of their children. Most often the value of the process far outweighed the end result, although some exceptional structures remained standing week after week.

From these beginnings came teachers inspired to use the space during lesson time. One of the Reception classes visited the area for free play and exploration every week for most of the year, others used it with more of a science focus for bird watching and seasonal observation, some took their classes out there for nature walks, and others just transported their indoor lesson into the outdoor "classroom" for a change of scenery. For those classes celebrating mid-winter with a night walk by lantern light one year, the "Secret Forest" became something of an adventure trail for children and their families to navigate in the dark with their home-made lanterns.

*"For my Year 1/2 children the weekly visit to the 'Back Forest' was always enthusiastically anticipated. Though at times a fractious social group within the normal bounds of the schoolyard and play-time activities, when we went to the forest the group became cohesive and it was a happy and a safe time. Despite being really only an uncultivated area of foresty scrub, it offered a multitude of possibilities for the children to freely and imaginatively interact with the environment and each other in harmonious ways." (Damien Gilroy, class teacher)*

Being a very dry area with thick underbrush, there are plenty of hiding spots for snakes and thus the Secret Forest is not used a lot during the heat of summer. The area is out of bounds during recess and lunch, making it more of a spot to retreat to, refresh and ponder in beyond the four walls of the classroom. In the cooler months the area is awash with a carpet of cheery yellow sour sobs, spring fennel and wild rocket. There is no end to



Image by: Narrah Zollo

the bark and stones waiting to be overturned in the hunt for snail and slater colonies, or opportunities to test trajectory by rolling large stones down the slope. Imaginative play is given much scope, with leaves to be "swept" with fallen fronds sourced from an overhanging palm in the neighbouring property, clearing out floors of caverns, cottages and caves.

Thanks to the vision of groundsman Tim's successful Fund My Neighbourhood proposal, this play space will soon run adjacent to a new adventure fitness track around the circumference of the school oval, linking a cubby-building site, which the older students use during break time, and giant balancing logs.

If the Sheidow Park story has anything to share, it is never to under-estimate the potential of an underused or "invisible" patch of land in your school grounds. Children are often drawn to areas off the beaten track which present new opportunities for exploration, socialisation and application of industry. That mound of left-over fill could become the next dirt factory or tunnel town. An unused, partially excavated slope could become the quarry or, just like at Sheidow Park, that patch of unloved scrub at the back of the oval could become your very own Secret Forest. \*

### [ ABOUT NARRAH ]

Narrah Zollo, current Nature Play SA Executive Assistant and mother of two, was the former coordinator of Marion Steiner Playgroup and Bush Playgroup at Sheidow Park School.



The mind is not  
a vessel to be filled,  
but a fire  
to be kindled.

PLUTARCH

# THE ROAD LESS TRAVELLED

## THE CHALLENGES AND REWARDS OF CREATING A NATURAL PLAY SPACE ON A BUDGET

SHARLENE TIRIMACCO



Images by: Jason Tyndall

*Anyone who has had any involvement in landscape gardening or natural play space design will know that the costs can easily stack up. Some sites are able to afford it while others need to be more creative. Sharlene Tirimacco describes the journey that the community of Cedar College has travelled on in terms of realising a nature play dream on a tight budget.*

### THEN: THE JOURNEY SO FAR...

As an educator at Cedar College, a co-educational R-12 Christian school located in Northgate, I have been on a journey of learning more about what our children need to make the most of their time at school. It had become apparent to me that we were missing the learning potential of recess and lunch break times: we needed to provide ways for the children to engage more in their play so that these break times became outside learning opportunities. Children learn so much through play: they use their imagination, learn to collaborate and share with others and develop their problem-solving skills.

After discussions with other staff members who were also interested in developing a nature play space at Cedar College, I spoke with the school leadership to see if we had any funds available and whether we would be able to start the process. Funds were limited – a mere \$10,000 – but we

were given the approval to move forward with what we had, so I put a call out to staff with a view to forming a nature play committee.

A friend had told me about the nature play space that [Trinity Gardens Primary School](#) had recently completed. I was able to take our principal to a “Come and Play” day at Trinity where we were given a tour and a run-down of their journey. Hugely impressed and inspired, we were now keen to start exploring what we could do at Cedar.

It was around this time that I decided to contact Nature Play SA to see if they would be able to help us in any way. General Manager of Nature Play SA Jason Tyndall was willing to come and meet with us to look at our site and give us some direction. We assessed all the possible areas in the school and agreed upon the best one to use as our first nature play space. Jason also helped us to understand that as this was going to be very new to Cedar was important that we take everyone – staff, the parent community and the children themselves – along for the journey.

We invited Jason to come and [speak](#) to our staff at a staff meeting. This really helped to spark interest and enthusiasm for a Cedar College nature play space. He explored what play really means from a theoretical and practical perspective and how nature play has enormous benefits for children’s social, emotional, spiritual, and physical development. As a result of the presentation a number of interested staff joined our committee, along with a member of our school board who happens to be a retired engineer with great interest in helping Cedar College.

Conveniently, the formation of our committee and Jason's presentation occurred at around the same time as the Create Play Connect National Nature Play SA Conference in March 2016 which a number of the committee members were able to attend. This gave us even more information and inspiration that we were able to use on our own journey. Professional development was a really important component of strengthening our understanding of and commitment to nature play.

*Reaching out to our parent community was also an invitation to families to join us on our school's journey – and it worked.*

The committee brainstormed ideas for the space and began to collect photos of other spaces either online or from local parks and schools that were visited. Having collected so many wonderful photos, we decided to use these to help us find out what the children wanted. We displayed as many photos as we could on a wall and invited every primary class to have a good look and to place a stamp under their top three choices. The Year 4 class then took on the job of collating these results to make a class graph. We were then able to use these results to select ideas to be included in our first Cedar College nature play space.

We also sent home information to parents about nature play and its benefits and put regular updates in the school newsletter on what we wanted to establish and to invite families to help with the resources we needed. Meanwhile the nature play committee started to draw up some rough sketches of the space we wanted to develop, including many of the children's ideas. Our engineer friend then turned these rough sketches into plans using CAD software.

Having established that we were going to need a lot of logs for our space, we contacted local arborists. I was able to find a couple of

companies that were happy to deliver some logs at no cost. This was a huge blessing, and we made sure we sent them some photos and a special thank you once the space was complete. Sourcing natural materials from our local community was really valuable, not only for our space but also as a means of connecting with local business and broadening our school's "community".

We created a list of all the resources that we were going to need (including the "loose parts" that we wanted to make available in the space). Given how important it was for us to save costs wherever we could, we sent this list home to parents before we purchased anything. The results were fantastic: we received donations of plants, PVC piping, half wine barrels, large wooden cable drums, large branches, large rocks and more. Reaching out to our parent community was also an invitation to families to join us on our school's journey – and it worked.

We were now able to work out a rough pricing of the items we would still need to purchase and also draft a rough schedule. Lou (our retired engineer) and our school groundsmen did a lot of the prep work, marking out the space, removing the grass, laying the rubber lining for the creek bed and digging some of the holes for the logs.

While this was happening, we advertised a "Nature Play Working Bee" to our entire school community. We were not sure what to expect, or even if any people would turn up at all, but we were pleasantly surprised to have nearly 30 adults and 15 children turn up to help! There was a wonderful feeling of community that day, with teachers, parents and students all working side by side – our nature play journey was really strengthening our school community. As a final touch to the space, after the working bee we had a mud kitchen built by some volunteers from the church here at Cedar. This finished off the area perfectly and is a much-loved part of our space.

We invited Simon Hutchinson from Climbing Tree to come out and inspect the completed space in his capacity as a Level 3 Playground Auditor (an inspection is a recommended process for any space). He looked at the space from a safety perspective and identified some points to consider before opening the space. Once these were addressed, the



committee brainstormed any potential hazards and completed a benefit/risk assessment.

The junior primary teachers spent time talking with their classes about the space, how we could look after it and what we needed to consider in order to make it a safe place for everyone to play in. The children brainstormed some ideas which were then forwarded to the nature play committee. These ideas were then collated into one list which became our "Nature Play Agreement". Each teacher presented the agreement to their class, revising all the points they had previously raised, and invited the children to sign the agreement.

*...it has been a joy to witness how the children's play has developed through the variety of ways in which they engage with the space.*

Once the children had signed the agreement they were presented with a "Nature Play Licence" that meant they were now able to play in the space. The children knew that if the agreement was broken they could lose their licence for a period of time. This process gave the children great ownership of the space as they had been involved from the very beginning. They treated it with respect and to this day we have had no serious concerns about the way the children are using the space.

To celebrate the whole process, the committee members put together an iMovie to show at our official opening during an assembly. Invitations were given to the parent community and to those who had helped in some way. Jason Tyndall was also invited so that we could thank him publicly. Parents and guests were invited for a walk through of the space directly after the opening.

Despite the positive energy behind the project, of course there were challenges along the way which we had to overcome. Arguably the most significant of these was having to work to such a small budget – we only had \$10,000 yet we wanted to develop more than just the one space

within the school site. We had to be smart and try to find resources rather than buying them as well as try to do as much of the work ourselves so as to avoid paying for outside contractors or labour.

Another issue we faced was the challenge of "marketing" the idea of the nature play development so as to maximise support and ownership of the project within the school community. Having access to nature play on the school site was a brand-new concept for the students, parents and community of Cedar College, so we knew it was essential to educate them all along the way, something we have worked hard to achieve.

From a logistical perspective, there was the issue of space and safety: as the area we developed is small, we were not sure if it would be safe for the entire junior primary to access it at the same time. Junior primary teachers discussed this and agreed upon a roster for each year level. The space is now shared every day by our Reception to Year 2 students.

## NOW: HOW DO WE PLAY? LET ME ` THE WAYS...

The greatest indicator of the success of a natural play space is how children play in it, and at Cedar College it has been a joy to witness how the children's play has developed through the variety of ways in which they engage with the space. Our nature play space includes a dry creek filled with river pebbles, which the children love to use for imaginative play. Scenarios include rescuing people who fall into the creek and trying to build all sorts of bridges in order to cross the creek.

We have tree logs at different heights which students walk along, developing their balance and prediction skills. A large log lies across our creek, which the children love to climb and balance on too. This log is a little more challenging for some, and so provides an opportunity for risk taking when children feel ready for it.

We also have some large sticks that have been made into a tepee. The tepee is not only a space to go inside but it has become a large camp fire for cooking on and a bonfire too! In addition, our mud kitchen is always a busy place where a lot of recipes, potions and other concoctions are created. The children use old pots and pans to bake cakes and muffins, make soups and stews, and so much more. Similarly, a large tree stump often becomes a picnic table with little logs around it to sit on.





There are lots of loose parts (milk crates, varying lengths of PVC pipe, cable reels, timber off cuts and many items found in nature) which allow our students to use their imagination to turn anything they can find into anything they like, whether it's cooking mud pies, making perfume, having a tea party or building a train.

And then there are our mini kitchen gardens. Towards the end of last year one of our junior primary teachers put forward a proposal for a fundraiser to raise money for the development of a kitchen garden that would allow the children to be involved in planting vegetables and herbs. This was well received and approximately \$400 was raised. The junior primary staff all expressed interest in doing some planting with their classes in half wine barrels outside their classrooms and as of a couple of weeks ago we have a total of 18 half wine barrels spread around our junior primary area.

Some planting has begun with the children already: the Year 1 and 2 students have planted some vegetables, taking care to measure the space needed between each seed. My Reception students have planted a sensory herb garden along with a succulent garden as the result of investigation and discussion instigated by cuttings brought in from home by a couple of the children: one had brought in parsley which the others noticed had a significant smell, leading to the children asking for plants that smell nice, whilst some of the other cuttings were from succulents which the children thought looked interesting, which led us to decide that it would be a good idea to plant a succulent garden too.

We are looking forward to seeing all of our barrels full of nature and to involving the children in the process of not only choosing what to grow but also learning how to look after the plants.

## NEXT: THE ROAD AHEAD...

The junior primary children of Cedar College are always engaged when using this space. The upper primary students have been looking on, waiting keenly for more nature play spaces to be created so that they can enjoy this type of play too. This is the next phase of our journey.

After the completion of the junior primary area and once the children had had plenty of time to explore the nature play space, we asked them to complete a feedback form to share what they enjoyed the most, etc.

The children's answers, some of which are listed in the box (right), are testament to the enrichment and stimulation offered by the new space.

In early 2017, about a year after the space was completed, some of the Reception students took on a project of designing a nature play space themselves. They explored with a range of materials, had time to create, rearrange and create some more. They then had a go at drawing what they would like to see in their nature play space before finishing the process by making a model of the space. Photos of the completed models were then passed onto the nature play committee to be considered when the planning for the second space begins.

Using this feedback along with the ideas previously given by the whole school community, we have planned our second nature play space and are nearly ready to begin construction. The key features of this space will be a deep digging sand pit with water access, a large tunnel built into a mound and a pathway through lots of bushes and plants. A grandparent from our school has begun working with each junior primary class on a mosaic paver which will later be used to create this pathway through

the bushes. The children will enjoy seeing something they have created feature in our new nature space. We are trying to source a few more materials for the space while we wait until our construction team to finish a few other projects, at which point we will begin. We hope to see it completed sometime this year. ★

## WHAT THE *children* SAID

### WHAT ARE SOME OF THE THINGS YOU HAVE ENJOYED THE MOST?

- *Balancing along the log near the creek*
- *Jumping from thing to thing*
- *Making a piranha bridge*
- *Playing in the kitchen to make food for our customers in the shop*
- *I like it because you can hide.*
- *Playing in the creek*
- *Making a camp fire*
- *Playing cafes with my friends*
- *The climbing wall is fun.*
- *I like the pine cones.*
- *I like the rock river, the sand and the tepee.*

### IN ONE SENTENCE WHAT DO YOU THINK OF OUR NATURE PLAY SPACE?

- *creatiful (creative/beautiful)*
- *awjestic! (awesome/majestic)*
- *a masterpiece*
- *fun*
- *beautiful*
- *Fun and a bit dangerous*
- *It is fun and you can make your imagination go wild!*
- *It's beautiful!*
- *It's splendid!*
- *I think it is the best*

## [ ABOUT SHARLENE ]

Sharlene is the Junior School Coordinator at Cedar College with almost 20 years of teaching experience. She has a passion for nature play and has more recently focused on her intentional teaching through play-based learning.



# TURNING LEARNING INSIDE OUT

## THE SPECIAL JOURNEY OF A SPECIAL SCHOOL

KYLIE KARVELIS



Images by: Kylie Karvelis

*At St Patrick's Special School, occupational therapist **Kylie Karvelis** witnesses daily the extraordinary benefits of outdoor learning for students with special educational rights. In this case study, she shares with us the journey of discovery, increased confidence and joy in learning that she and the school community have experienced as a result of nature play.*

St Patrick's Special School caters for 50 students aged between five and 20 years of age. The students who attend St Patrick's have all been diagnosed with an intellectual disability, and many also have a range of other characteristics which profoundly impact on their cognitive development, communication, emotional regulation, social skills, personal and health care, mobility, behaviour and sensory integration. As a result their learning styles are distinct and unique, with each student requiring an individualised learning program.

As the occupational therapist at St Patrick's Special School, I work collaboratively with the team of teachers and education support officers to develop capacity for active participation in personally meaningful activities. Through student-centered approaches, occupational therapy uses the principles of sensory integration and developmental and remedial frameworks to facilitate participation in the curriculum.

Over the past two years I have been attending the Nature Play SA [professional development workshops](#) to gain a better understanding of why nature play is important, how we can link this learning to the individual education plans of students and what this can look like for our school. The courses that I have attended through Nature Play SA, in particular the session run by Angela Hanscom (author of [Balanced and Barefoot](#)) and an Outdoor Learning workshop on how to transfer indoor learning to the outdoors, have reinforced for me why students of all ages and abilities need to be spending more quality time outdoors.

The question of "why" students need to be engaging in and connected to their outdoor environment both at home and at school is answered in Angela Hanscom's book where she discusses the concern that children are now more likely to spend their free time in front of screens such as TVs, phones, computers or iPads than playing outdoors. This book has reinforced for me how important natural outdoor play is for the cognitive, physical and sensory development of a person. The outdoors needs to be viewed as a platform for learning in both the home environment and the education setting. Students of all ages and abilities are able to be present in the outdoors and have fun, which is vital for creating healthy bodies and minds for the future.

"How" we can link the outdoor play and exploration of students to their individual education plans, the Australian Curriculum and the Early Years

Framework of Belonging, Being and Becoming is a fluid process. At St Patrick's I have begun this process by sharing learnings from the Nature Play SA workshops at staff meetings, class meetings and, most importantly, by modelling activities that I have read about or participated in with students and staff. I have also developed a "board book" with photos of activities that students are enjoying outside and hand-written notes explaining the links to the curriculum to share with staff. It is important for us to remember that while sometimes these links to the curriculum are pre-planned, they can also be more spontaneous.

Often the learning will come naturally through the students' play and interactions with the outdoors, and we simply need to be present and to comment later on how this may link to learning outcomes. Specifically, when we are planning how to meet students' goals related to letter formation and recognising numbers, we now look at the endless opportunities to achieve this in a meaningful and motivating way outdoors; or if this is not possible, we are now considering how we can bring the outdoors indoors.

"What" does this look like for St Patrick's Special School? And, more importantly, what can this look like for your site – or any site, for that matter? It is vital to reflect on why we are doing an activity, what its purpose is, and how we can make it inclusive for all students. My understanding of this process was supported when Nature Play SA came to our sports day late last year and brought a range of materials to offer students with varying interests and abilities. Students were provided with the opportunity to experience seed bomb making, playing with scented play dough and leaf threading. I observed students from throughout the school engage in these activities differently, and yet their interactions with the materials were all meaningful and purposeful. Some students were learning about touching the clay: the intense and immediate sensation when the clump of clay was put into their hands; the change in sensation when water was added; and

*"Often the learning will come naturally through the students' play and interactions with the outdoors, and we simply need to be present and to comment later on how this may link to learning outcomes."*

KYLIE KARVELIS

processing and being okay with the look, feel and smell of their hands as a result of handling the clay. Others were able to focus on using their hands together to try to mould the clay into a firm ball and then being able to isolate their fingers to pick up the seeds, count them and use the right amount of pressure to push them into the clay without breaking the ball. So much involved in making a seed bomb!

I have also learned that it is often helpful to offer students a "place to start". Sometimes this can be going outside with a basket of natural play items (gum nuts, sticks, large leaves, bark, pine cones, clay, thread and plastic needles). I have learned that being a patient play partner is important. Waiting and observing to see where the student will take their outdoor learning.... Respecting what they may be taking in from their environment in terms of the sensory elements of sound, touch and smell, how their body is feeling about where they are positioned, and if they need to know what is happening next or are ready to take a risk and be challenged in their play... And then waiting... And waiting some more.

Whatever the student creates or doesn't create can be an opening for conversation. Recently I sat with a student who had created a sculpture using clay, bark and gum nuts. When I asked the student to tell me more about it, he found this difficult. When I asked questions about what resources he had used, the student did not know why bark grew on trees and was not sure which trees produced gum nuts. When I suggested that it would be great to find out, he was able to use his iPad to record two questions to research so he could share the answers with me the following week. Being able to take this activity to the next level by documenting questions, researching information and communicating his findings with me has allowed him to take ownership of his outdoor learning whilst also connecting with and learning about his local environment.





Students across the school are also encouraged to look after their environments, inside and outside, with a current focus on sustainability. Some students are taking responsibility for maintaining outside yards and the sensory garden, emptying bins and trimming bushes.

At St Patrick's, we continually discuss how we can grade and modify activities as well as our environments to allow access for all students, and nature play is no exception to this. All students have the right to experience the benefits that nature has to offer, and it is our job to enable this in an appropriate way. This term I have been working alongside teachers in the senior unit to develop fun and meaningful ways to encourage some students to practise touching different textures and surfaces as well as grasping items in their hands. We have taken this session outdoors to the sensory table on the deck, which is easily accessible for those students who mobilise in a wheelchair. We place on the table items collected from around the school or local area. We talk about each item with the students, commenting on where it has come from, what it looks like, feels like and smells like. We encourage students to experiment by holding and observing items and playing with them in water – exploring, for example, whether items will sink or float. We use other materials such as corn flour and scented play dough to push items into or to try and stick them together. Although the language we use is not always verbal – for some students it may be through an iPad, sign or body language – the questions and the flow that evolve through playing outdoors are essentially the same.

In order to be able to continue bringing the inside learning outdoors, we are consciously reviewing our outside environments, to ensure that all students have access to appropriate natural materials that will provide the appropriate challenge and level of risk taking for cognitive and physical development whilst also stimulating their senses. We want to create spaces that encourage students to engage in both social interactions and independent play. And, so importantly for a special school, we want to offer students natural elements, play spaces and loose parts in a way that is appropriate and respectful of their physical, sensory and cognitive needs. \*



## [ ABOUT KYLIE ]

Kylie Karvelis is the School Occupational Therapist at St Patrick's Special School in Dulwich.



Your child  
will teach you more  
than you will ever  
teach them

MELISSA NOELLE BROWN OLIVERAS

# PLAN BUILD PLAY

## COLLABORATIVE NATURE PLAY PLANNING AT ST CATHERINE'S

JASON MITTIGA



Images by: Jason Mittiga and Pete Semple

*Blessed with an enviable setting in the Adelaide Hills, St Catherine's School could have felt that it had ticked the nature play box. However, far from resting on its laurels, the school has embarked on an ambitious nature play space enhancement program that has empowered the whole school community. Jason Mittiga shares St Catherine's experience with us in this case study.*

St Catherine's School is located in Stirling in the Adelaide Hills, nestled among tall trees in a sloping topography, with a creek line and range of settings for play. In 2017 St Catherine's embarked on a nature play master plan to add more spaces to the school's beautiful grounds. A master plan enables forward thinking whilst creating a realistic road map from a time and budget perspective. The children within our school have a real thirst for the outdoors, and as educators it is important that we respond to that need. The more authentic experiences and opportunities we can provide, the more engaged our children will be. We are fortunate that we have quite a bit of space that lends itself to rich nature play opportunities.

A key part of our journey was the consultation with our school community. We opted to engage external designers who could work with our staff and children on the planning process. We really wanted the children's voices to be a defining part of our play space redevelopment. As a leadership group we sat down and mapped our needs before sitting with our

designers to go through the "how". After much planning and discussion, our designers (Pete Semple Landscape Architects and Climbing Tree Consultancy) met with three children from each class to ensure we received input from a cross-section of our students. Together they ran a workshop with two components. The first was using small loose parts for children to use to express their ideas through small world depictions; the second was to express ideas through illustrative means. Their ideas were captured, summarised and presented to staff and parents at an AGM. Some key ideas from the children included climbing, height, building cubbies and water play.



In August 2017 construction commenced with friendly and professional landscapers (Landscape Construct). The children were able to see their ideas come to life, generating excitement across the school community. We officially opened our space on 6 November, and whilst the physical transformation was fantastic, the way children now play and interact is the real highlight. Children are more engaged in the yard and we are seeing an increase in the use of sticks, pots, pans, plants and gum nuts throughout their play. They are more creative, spontaneous and curious with their play and the level of yard issues is non-existent. Children are taking more risks through climbing and challenging themselves as the competent and capable learners that we view them as. In addition, the nature play spaces are bringing children together from all walks of life, and the children are now playing with a wider variety of playmates, collaborating, working as a team and building new relationships that would have previously been unlikely. Furthermore, two thirds of children are opting to play in our natural spaces, and the tennis court and library are noticeably less busy as the children are so engaged in their play.

From its early planning phases to our official opening, our project was a real success. A key reason for this was that we embraced a consultation strategy that allowed everyone the opportunity to express their thoughts and ideas. Seeing the children's ideas come to life and feeling their sense of pride and ownership was one of our objectives for transforming the spaces at St Catherine's, an objective that has been fully and enthusiastically realised.

This is only Stage One. In a few years we will embark on Stages Two and Three, and we can only imagine what benefits and opportunities will come out of these stages for our school community. ✱

*"... children are now playing with a wider variety of playmates, collaborating, working as a team and building new relationships that would have previously been unlikely"*

JASON MITTIGA

## [ABOUT JASON]

Jason is Principal of St Catherine's School in Stirling in the Adelaide Hills.



# BARMERA KINDERGARTEN

## INTO THE BUSH

### A JOURNEY OF DISCOVERY

AMY HUNT



Images by: Amy Hunt

*In this case study Amy Hunt shares the inspiring journey taken by Barmera Kindergarten as it discovers the enriching potential of bush kindy, not just for children but for the kindy itself and for its families, and encourages other sites to do the same.*

Situated in the Riverland about 2 ½ hours out of Adelaide, Barmera Kindergarten is a full-time kindy with 68 enrolments. It falls within a low socio-economic area, is culturally diverse and has a high rate of seasonal employment with strong horticultural and agricultural industries.

In 2014 we embarked on a nature kindy program as we recognised the need for children to diversify their experiences as well as the benefits of spending unstructured time in nature for their wellbeing and emotional, social, cognitive and physical development.

Our nature kindy program stemmed from professional development staff had attended that explored child-initiated learning and ways of recording the learning that was occurring, along with our own research. We also had a firm understanding of the importance of children having experiences within the natural world – engaging in nature play.

It became clear to us that our children would benefit significantly from an increased focus on child-initiated learning within a natural setting. We also had to recognise that we had a growing number of over-protective parents who, without realising it, were limiting opportunities for their children to explore and take considered risks within natural settings. This tendency, coupled with the growing use of technology and “screen time” that we all see, means we – and our children – are navigating a world

aggressively shaped by consumerism rather than by a desire for adventure and long-lasting memories.

We started by contacting our local council to see if we could use some of their bushland about a 10-minute drive from our kindy. We formed an agreement with the council that enabled us to use it for educational purposes. The site is made up of bushland with mallee trees, native grasses and saltbush with other understorey plants scattered throughout. By way of preparation for using the space, we conducted a number of site visits to undertake our benefit/risk assessment.

Once we had begun bush kindy with the children, we observed and documented their play, which included:

- the use of real hand tools to expand their learning experiences such as whittling knives, flints, and hand saws
- tree climbing
- cubby house building and exploration of the natural environment
- discovering signs of wildlife such as kangaroos (which we would often encounter)
- continued questioning and wonderings that spanned over many days, leading to further investigations and hypothesising

At bush kindy there are no toys; children use the natural environment and real tools to extend their learning. After sharing our interest and passion for trialling bush kindy with Governing Council, who were extremely supportive of the idea, I organised on-site, whole-staff training that covered topics like benefit/risk assessment, why experiences in nature and risky play are so important for children, and how to document children's learning. We then ran the program as a trial for a term.

## BARMERA KINDY'S TOP TIPS FOR STARTING A *Bush Kindy* PROGRAM

We had amazing successes and our observations included:

- increased attendance
- increased wellbeing and engagement
- a widening of children's friendship groups when in the bush
- strengthening of staff-child relationships
- an increase in children's use of oral language, as well as in their ability to use natural objects in their play, resilience, imagination and appreciation and care for their natural environment
- increased engagement with dads and grandads – bush kindy has proved to be a great way of getting dads and grandads involved: they are our volunteer bus drivers and regularly stay for the session
- increased knowledge of our local fauna and flora

After our trial we took our findings to Governing Council, and it was decided not only to make this an ongoing program at Barmera Kindergarten but also to increase the duration of bush kindy to two terms. With Governing Council support we looked at ways of increasing challenging and interesting natural learning experiences each kindy day, and in 2015 we employed a consultant to work with community, staff and children to develop a concept plan for a yard redevelopment.

In addition to our bush kindy, over the last two years we have been working through different stages of our yard redevelopment. Staff have again observed increased engagement levels amongst the children as well as a growth in their critical thinking skills and willingness to take considered risks and to collaborate. Furthermore, redeveloping our yard to better reflect natural play experiences has led to a decreased expenditure on consumable materials and more reliance on "found" loose parts. Our additions to date include:

- the naturalising of our sand pit with rocks and a hand pump
- a mud kitchen for children to tinker
- a natural climbing structure
- a fire pit (we use it for fires or group times)
- garden beds that invite children to explore
- fruit trees that encourage understandings of the seasons
- the repurposing of our old cubbies as chicken houses

In 2017 our bush kindy program grew to include a second location at Lake Bonney, enabling children to experience a completely different environment. At this site we were blessed with the lake with sand dunes, water and associated ecosystems while in contrast our bush site had rich opportunities to enjoy tools, tree climbing, cubby building and exploring. On non-nature kindy days staff continued to follow children's interests and extend their learning by researching and investigating topics stimulated by our time at nature kindy such as plants, wildlife, scats, footprints, shelters and other aspects the children were interested in.

Like any project, our bush kindy program was not without its challenges. In the first year we ran the program we had two families who didn't want their children to participate. However, since then all our children have

- It's definitely worth exploring; you don't need to travel far.
- Communicate clearly and regularly with parents.
- Form local partnerships with councils or national parks.
- Make sure your staff are committed and informed about why and how to support children within the natural environment.
- Make sure your risk assessments and procedures are all clearly documented and all staff know them.
- Document the learnings and wondering of the children to use for reflection, extending children's interests and demonstrating to parents the benefits of nature play.





participated, parents enrol their children at the kindy knowing about our nature kindy program, and videos are shared during our new parent meeting. Now comments are often made about how great our yard is, parents want their children to participate, and often they are keen to know on which days the program runs so that their children don't miss out. Buses can be a challenge if the local primary school bus isn't available and we have to hire one, but when weighed up against the overwhelming benefits we have all experienced, this seems like a minor inconvenience.

For Barmera Kindergarten and its community, our journey into the bush has been a voyage of discovery not just for the children but for educators and families alike. Seeing the incredible benefits to the children's learning and holistic development of our nature kindy program has taught us all so much about the value of learning outdoors, and we encourage other sites to embark upon their own journeys of exploration into the bush and enjoy the rewards. ★

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## [ABOUT AMY]

Amy is has been involved in education for just over 20 years. She has taught within Australia and overseas, and has been Director of Barmera Kindergarten for the last five years. Amy is passionate about early childhood education and ensuring all children are provided a learning environment that enables them to reach their full potential.



## MUD BATH

### A SENSORY CELEBRATION

WILL SCHULZE

*They say total immersion is the best way to learn a language. Blackwood Community Children's Centre applied this theory to harnessing the benefits of nature play with a week-long sensory celebration of mud. In this article educator Will Schulze shares with us Blackwood's story and invites other sites to take the plunge.*

Blackwood Community Children's Centre is located in the Adelaide Hills and caters for children from six weeks to six years old. As a site we actively embrace nature pedagogy, with risk taking and open-ended play forming a key part of our children's daily activities. In 2017 we decided to take the play further by celebrating International Mud Day. To ensure all children had the opportunity to "get muddy", we extended it for a further six days to create Mud Week. Already having a naturally rich program with messy play embedded in our philosophy meant we could easily prepare families to embrace Mud Week.

In order for our Mud Week to work, we sent a lot of correspondence to parents about what the week would involve and what their children needed to bring for the occasion. We also talked with the children about the process – not everyone had to get muddy but they were free to do so if and when they wanted to. Having a number of children with sensory issues and on the autism spectrum, we anticipated varying degrees of participation, particularly with something new and highly sensory.

Our set up was located in the corner of the yard close to a water source and involved a natural border of hay bales, logs, crates, a mud kitchen, some working spaces, and a whole lot of pots, pans, containers and utensils to enable children to experiment in different ways. Knowing the way our children use the outdoor space, I chose an area that staff could supervise from up close and at a distance. While setting up, I stepped back and got down to a child's level to make sure the space was inviting for them.

Once we had officially opened our Mud Week, the children were drawn to it straight away, pouring in water, experimenting with textures, many immediately seeking the stimulating sensory experience of the sticky mud on their hands and bodies whilst others were more apprehensive and preferred not to get too close. As the week progressed, we noticed, so did the children's curiosity and desire to play as they measured quantities, tested weights, determined how to balance things, and mixed textures together to achieve varying consistencies. The language that was used was also a highlight as they sought descriptive language such as "squishy", "smooth", "heavy", "wet", and the list went on. Children who wouldn't usually play together were engaging in new ways. And much to our delight, when we invited parents to get muddy, many of them did and as a result were able to appreciate how much enjoyment their children were getting out of it.

Something that really stood out for us was how those of our children whom we wouldn't usually associate with getting dirty embraced the mud in their



Images by: Will Schulze



own time (including children with sensory issues, social skills and those on the autism spectrum). We watched each day as they experimented with a stick, finger or toe in the mud. Now those children are in the mud pit on an almost daily basis. Giving children the space to explore sensory opportunities such as mud in their own time is extremely valuable as we empower them to be their own decision-makers. A parent of a child on the autism spectrum said she noticed a huge change in his behaviour that week and attributed that change to the mud experience. Previously this boy would never put on sunscreen and didn't like to wash his hands, but after having his arms elbow-deep in mud all week he overcame these behaviours.

As staff, we noticed the emergent curriculum taking place as the children were expressing different interests. We were able to follow their lead and extend their interests further. For example, the way in which mud was being used evolved throughout the week. At the start of the week, play was about exploring the mud and the area in which it was set up. As the week went on, projects started to emerge. One group used the mud to coat a bale of hay which, as it dried, became as hard as rock. They also experimented with making mud bricks in ice cube moulds. When dried these bricks were used

## CONTINUED

as building blocks in the classroom. Another group searched for different types of clay, exploring and hypothesising over the colours and textures. Staff asked open-ended questions to spark a desire to explore. The children also experimented with these different colours, creating artworks. Scientific language was used in conversations about these discoveries. We then extended the mud into NAIDOC week by using the different coloured mud to recreate dreamtime stories.

The mud also led to a range of opportunities such as exploring different cultures that use mud for constructing homes and tools and for cooking. For example, one of our staff members showed us how they made tandoori ovens in their home country. Based on this we made a small cob oven from the clay and allowed it to dry before attempting to cook in it. Although the oven was too small to cook bread, we used it in the mud kitchen for open-ended play. Loose parts became pizzas, bread, cakes and other imaginary culinary creations and cooking utensils.

Following our successful Mud Week and the resultant positive feedback from children, parents and staff, we decided to keep our mud pit as a permanent feature of the yard. We have ongoing communication with parents and are now producing a number of videos to showcase the extensive benefits that mud play is having at our site. A word of advice for sites looking at exploring mud is to prepare your staff, parents and children by taking it slow. I asked parents to bring four changes of clothes but encouraged children to only use one. As a result, parents expected more washing than they got which was a positive from their perspective. Make sure you have [facts on the benefits](#) of mud/messy play. Set up your area to invite the children in and capture a sense of awe and wonder. I used a pathway with stepping-stones and a hollow log as a tunnel; you could make an archway out of branches and have a similar effect. Make the mud area beautiful to explore with the eyes and create opportunities to use all of the senses.

Sensory opportunities like mud play are vitally important for children of all ages and I encourage sites to have a conversation with staff, parents and the children and give it a go – you never know what benefits your school community will experience until you try! ★

### [ABOUT WILL]

Will Schulze is an educator at Blackwood Community Children's Centre in the Adelaide Hills.

## WILL'S TIPS ON CREATING A

# mud play AREA

- 1 Prepare families with the right information about the importance of providing children with sensory opportunities like mud.
- 2 Set up a suitable area and think about how the mud may impact the rest of the space:
  - » set some plastic or a tarp down to keep the mud in one area
  - » line the area with hay bales or milk crates
  - » order a clay and loam mix to make silky mud (from a landscaping provider)
  - » add a water source (good to have one close by)
  - » designate an area to hose off and change clothes
- 3 Step back and allow the experiences to take place and find ways for staff and parents to get involved with mud play.
- 4 Document all the benefits and capture the stories to share with your community.



# INTO THE "BEYOND"

## THE EMPOWERING POTENTIAL OF BUSH KINDY

KARENA WILSON



Images by: Karena Wilson

*In 2005 Crystal Brook Kindergarten began a journey into the "beyond", resulting in the establishment of their bush kindy program. In this article the kindergarten's director Karena Wilson shares her observations of the empowering effects for the whole kindy community of their increased connection with nature.*

Crystal Brook Kindergarten is a small, rural kindergarten approximately 200 kilometres north of Adelaide offering preschool and occasional care. Currently the centre has 33 children enrolled in preschool and 24 children (from six weeks to four years) attending occasional care each week. Almost 30 families are enrolled in the occasional care service.

Educators started taking children to a "beyond" space opposite the kindy in 2015. It was quite flat with good trees for climbing. The space wasn't too wild, but it offered us an opportunity to reflect on the way children interacted within a more natural setting. As we watched, discussed and began to forward plan, we tuned into the children's appetite for more experiences like these. And we wanted to extend them. In 2016 we began to take the children to Bowman Park, a 6km walk or 5-minute bus drive from the kindy. Bowman Park is a beautiful and wild space characterised by a range of natural features: towering ancient gum trees that ignite awe and wonder; undulating hills that invite children to explore; the iconic sound of kookaburras and lorikeets; a series of walking trails and lookouts; a flowing creek home to frogs, tadpoles, and yabbies; spring wildflowers in full bloom with bees and insects on the move; kangaroos lazing about in summer; and a resident (and popular) peacock that continues to excite children. It is a wild space but also one that invites children to imagine, question, explore, and challenge themselves.

Our visits to the beautiful Bowman Park began with two three-hour visits. After each visit, educators and children felt they had not had long enough to become fully immersed in the natural world that Bowman Park offered. Following our educators attending professional development sessions with Nature Play SA in 2015, our knowledge and confidence became a strengthening force that really empowered us to create the change we wanted for the children in our community. And so, in 2017 our "bush kindy" was created.

According to Reggio Emilia pedagogy, educators view children as capable and competent learners from birth. In the context of nature play, this manifests in providing access to an open-ended outdoor environment that allows children to be active, explore, be curious, ask questions and engage in activities that allow for risk and challenge. Educators, as active listeners, should support children in the process of inquiry and taking risks that enables each of them to be successful learners.

Crystal Brook Kindergarten has created a "bush kindy" wherein children are taken to engage in the beyond spaces of Bowman Park each fortnight during terms 2 and 3. All up, Crystal Brook Kindy children participated in 10 visits across the two terms, with occasional care children participating in at least six visits.

In order to acknowledge them as authentic partners in their children's learning, families were encouraged to engage in a community-wide benefit/risk analysis prior to the commencement of the bush kindy program. This was an opportunity for families to share their concerns and anxieties, and for educators to talk through the control measures that were being implemented to reduce the possibility of potential hazards. From this meeting educators gained a deeper, very respectful understanding of how some families were feeling. The value of two-way,

## CONTINUED

open and honest communication can never be underestimated: it is a key tool for laying a strong foundation in building the trust of families.

An online survey was conducted prior to the commencement of visits to provide insight into the concept of the bush kindy. The survey highlighted nature experiences that families currently enjoy, how their child felt about visiting Bowman Park, how the family felt, what concerns and reservations families had, and how educators could work with them to alleviate some of their anxieties. After six months of having bush kindy at Bowman Park, a similar survey was offered to families again to seek further data, and to evaluate the shift in the mindset of families and children.

After each visit, children's voice was reflected in the photographic and written documentation shared with their families and the wider community. Children were the "authors" of their reflective narratives, with an educator scribing as the child described their experiences to them, from a photograph the child had selected to showcase.

As the director of Crystal Brook Kindergarten, I am grateful for the support we have received for bush kindy. It's an absolute credit to our children, families, staff and wider community that they have embraced our nature play journey and worked together to provide learning experiences with risk and challenge. Children are engaged in inquiry-based learning centred on their questions and wonderings about the natural world. They also build cubbies, have camp fires, investigate minibeasts, explore the creek area and engage in physical exercise as they fly kites and navigate their way across the hilly terrain.

I have observed a shift in the language that educators and families use to support children as risk takers in the outdoor learning environment. It was noticed that a common language was being used to support children's autonomy. Educators who identified themselves as being risk averse also became conscious of their body language when children were in the riskier outdoor environments, so as to ensure that children's experiences were being supported.

Our bush kindy continually demonstrates links to positive learning dispositions such as curiosity, confidence, persistence and cooperation. For example, children have opportunities to take risks, be responsible, be persistent when faced with a problem, cope with change, and develop their social and language skills. Bowman Park has been a wonderful environment for children to build these skills and capabilities in the early years.

Feedback from children and families on the children's learning experiences has been very positive. One family commented that their child experienced:

"increased confidence, resilience, being outside their comfort zone and having to develop strategies to deal with this. Initially my child did not go near the creek or get dirty, and by the end, she made sure I had a spare set of clothes packed because they were going to Bowman Park and she was planning on getting dirty and wet!"

Crystal Brook Kindergarten continues to explore ways to support families to understand the benefits of these sustained community engagements that invite risk taking. The learning dispositions children develop through their experiences in the natural world create a strong foundation for their future learning. The impact it is having on children's learning is far reaching and the kindy are keen to continue to develop the program further in 2018.



My advice to sites that are considering setting up a nature kindy is to ask your community to "Be Brave". Children need to be brave when visiting "beyond" spaces, to climb that tree, navigate their way across the rocks, get muddy or slide down that hill. Parents need to be brave to allow their children to take risks and to learn from their experiences and their mistakes. Educators need to be brave to enable the change to create this environment for our learners.

Our goal was to connect children with nature and to share experiences with them that are delightful, entertaining and joyful. Research tells us that children's social, mental, physical and spiritual wellbeing is positively impacted upon by their connection to the natural world.

In conclusion, our gratitude is expressed to our parents in many ways, but here is a common message we convey: "Thank you for enabling us to take your children – and families – on this important journey!" ✨

### [ABOUT KARENA]

Karena Wilson has been the Kindergarten Director of Crystal Brook Kindergarten for the last five years and has worked in education for 18 years. Karena has a passion for nature play, STEM learning and is committed to connecting children to nature through their fortnightly bush kindy at Bowman Park. She is inspired to take children to outdoor environments that present elements of risk and challenge, and she works closely with children, families and educators to support all in their journey. Karena seeks to capture these joyful and delightful experiences through a range of technology mediums, and create ways to make children's learning visible to the community.



Children see magic  
because they  
look for it

CHRISTOPHER MOORE

# UP AND COMING

# OPPORTUNITIES AND NEWS

## NEW "WITTUNGA SERIES" WORKSHOPS ANNOUNCED

We have recently announced our exciting series of workshops run at the beautiful Wittunga Botanic Gardens, Blackwood.

### STEM IN NATURE-BASED EARLY LEARNING ENVIRONMENTS

Aimed at early learning educators, this session will explore what nature-based STEM inquiry looks like for early learners. Attendees will take away practical and inspiring ideas to engage children in deep and meaningful connections with their natural world.

### TEACHING IN AN OUTDOOR LEARNING ENVIRONMENT

Aimed at primary educators and site leaders, this workshop will explore how to set up for success in the outdoors and work with confidence in an outdoor learning environment. It will be held on 3 November between 9.30am and 2.30pm at a cost of \$170 for members. For more information and bookings head to our website <https://natureplaysa.org.au/educators/workshops/>

## NEW "ROADSHOW" WORKSHOP OPPORTUNITIES ANNOUNCED

At Nature Play SA we value opportunities to offer professional learning on site and within the context of your specific educational setting. We are pleased to be able to bring our workshops, seminars and presentations to your site to explore:

- » STEM in Nature-Based Early Learning Environments
- » Connected Curriculum: Outdoor Learning in a South Australian Context
- » STEM Back to the Future

For more information on costs, duration etc head to our website <https://natureplaysa.org.au/educators/workshops/>

## STAFF AND PARENT PRESENTATIONS

We currently offer tailored professional development sessions ranging from 30 minutes to an hour for staff that can cover a range of elements including: understanding the value of nature play in an education setting; ideas and examples for expanding or developing a

natural play space at your site; understanding benefit/risk assessment and how it translates to your site; nature pedagogy and how learning outcomes that meet the objectives of the Australian Curriculum and Early Years Framework can be derived from outdoor learning environments. We also offer parent sessions that cover a diversity of topics relevant to home and connecting with your site's values. As a member your site will receive 10% off any of these sessions. For more information on bookings head to our [website](#).

## REFLECTIONS FROM OUR NATURE FOR VULNERABLE AND DISADVANTAGED CHILDREN CONFERENCE

On 8 August the Nature Play SA team coordinated the Nature for Vulnerable and Disadvantaged Children Conference that saw almost 300 delegates attend a selection of 25 workshops with two keynote presentations. Our next edition of *Nature Play the Education Way* will feature some of the speakers delving into vulnerability and disadvantage such as Terri and Daniel Harrison from Nature Nurture, a nature-based early intervention program from Scotland.





NATURE PLAY SA  
*Adventures*  
 by the Sea

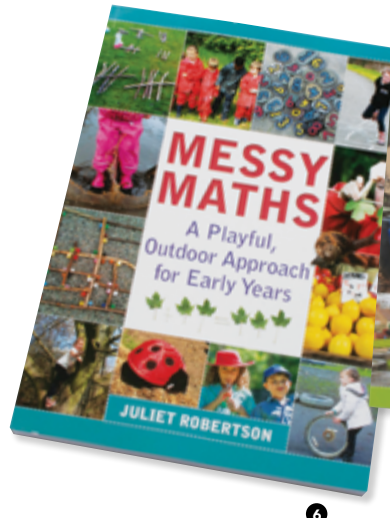
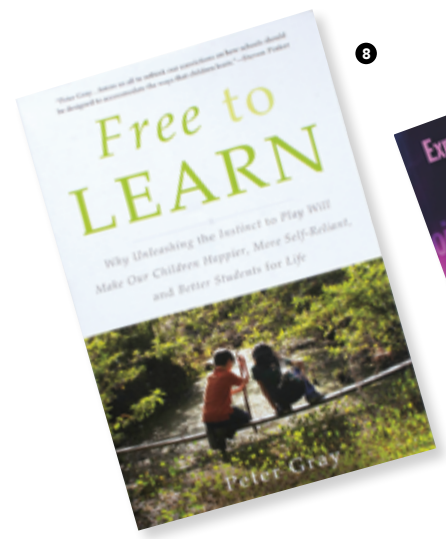
**NEW 'ADVENTURES BY THE SEA' ILLUSTRATED POCKET GUIDE**

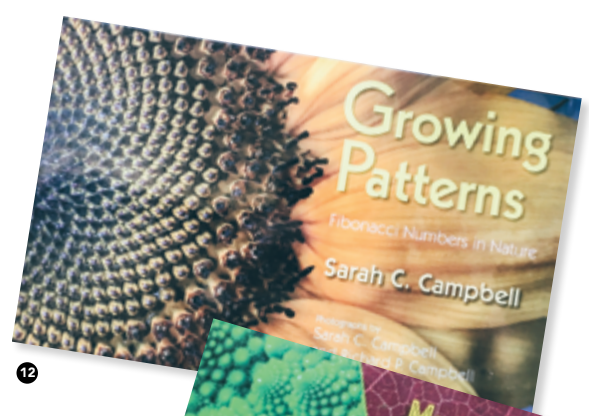
*Adventures by the Sea* is a pocket-sized guide to help South Australian families and educators explore and discover the many wonders along the coastline. It is full of watercolour paintings, photographs, facts and activity ideas for children of all ages.

- Illustrated with over 200 water colour paintings
- Offering 40 activity ideas
- Featuring 40 beautiful photographs
- Containing over 50 fascinating facts

These guides are water proof and tear proof, and only cost \$65 via our [online store](#). Members receive 10% discount by ordering [online](#). You can also order in bulk quantities at a discounted rate by emailing us at [shop@natureplaysa.org.au](mailto:shop@natureplaysa.org.au).







## NATURE PLAY SA ONLINE SHOP

In our online shop you'll find a growing collection of books, tools and other bits'n'bobs to build your site's knowledge of and confidence within your outdoor learning environments. All members receive a 10% wide on the shop – simply purchase while logged in to the Educators portal. Here is a small sample of some of the products available:

Visit our [online shop](#).

- 1 Whittling knife, peeler, and sharpener
- 2 Hand spade and trowel
- 3 Mortar and pestle
- 4 *Balanced and Barefoot* (book)
- 5 *Welcome to Country* (book)
- 6 *Messy Maths* (book)
- 7 *Dirty Teaching* (book)
- 8 *Free to Learn* (book)
- 9 *Exploring Natural Connections* (book)
- 10 *Adventurous Play* (Niki Buchan)
- 11 *Children in Wild Nature* (Niki Buchan)
- 12 *Growing Patterns* (book)
- 13 *Mysterious Patterns* (book)
- 14 *Compost Stew* (book)
- 15 Mushrooms
- 16 *Lost Words* (book)
- 17 Clay
- 18 Cookie Cutters
- 19 Onesies (red and blue available as well as bulk orders)



## A HEARTFELT *thank you* TO ALL OF OUR CONTRIBUTORS:

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For the beautiful artwork provided by Crystal Brook Kindy – their staff, parents and children are on an inspiring journey which we are grateful to be part of.

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To inquire about submitting articles, stories, a collection of student art works, or any other ideas please [email us here](#).

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*Time in nature  
is not leisure time;  
it's an essential investment  
in our children's health*

RICHARD LOUV

# THE NATURE PLAY SA TEAM

"We're a small team, driven by our passion to get kids outside."

Nature Play SA began in 2014 as part of an election commitment from the South Australian Government with the aim to make outdoor play an everyday part of children's lives. We were provided with four years of funding with the intention that we should be a fully self-funded, not-for-profit organisation by 1 July 2018. And with the support of government organisations, international and industry experts, educators, families and a range of other individuals and organisations, here we are, a successful and proud organisation with a clear vision:

*To empower the South Australian community to engage children with nature through outdoor learning and play*

2017 saw our team roll out the Educators membership, and with nearly a thousand members it has become a vital part of our program and a key component of achieving our vision. Our focus on education was further extended in 2018, when we launched an exciting new direction, to support schools in the delivery of learning outside the classroom. This has seen our team travelling to deliver regional STEM and Outdoor Learning workshops, mentoring whole-school staff teams, sharing ACARA resources and supporting schools to integrate General Capabilities in their learning design.

Our team, products, services and influence have all grown significantly and we are now:

- A leading service provider delivering STEM and Outdoor Learning workshops, presentations and workshops at whole staff meetings and AGMs
- Offering curriculum-linked professional development workshops
- Running regional tours to support remote/country South Australian communities
- Rolling out an exciting incursion/excursion program that caters from OHSC to primary schools and early learning sites
- Providing access to several free resources including *Outdoor Learning: Benefit / Risk* – a guide that was distributed to every education site in South Australia
- Offering a family membership featuring our *Wild Ones* magazine
- Selling out events (some reaching in excess of 7,000 people)
- Operating a growing online shop with products ranging from educational to around-the-home inspiration

## MEET THE TEAM BEHIND THE ORGANISATION



### SARAH SUTTER, CEO

Sarah is a qualified teacher, former Commonwealth Games gold medallist, and mum of two school-aged children who can always be found scaling up the tallest trees. Sarah's role is to lead our team and advocate change across all levels of government, the business community, and with any association or group to ensure nature play is on everyone's agenda. Sarah also delivers presentations and workshops to educators and parents across SA.



### NARRAH ZOLLO, EXECUTIVE ASSISTANT

Narrah is a soon-to-be-qualified educator, garden enthusiast and mum of two adventurous girls who love tending to their produce-rich garden. Narrah has always played an active volunteer role in her school community helping write grants, fundraise and establish playgroups. Narrah provides administrative support to our strategic directions, managing correspondence with our Board and membership organisations.



### CANDICE GRAY, EXECUTIVE ASSISTANT

Candice has experience in retail management and marketing and is a mum to two school-aged children with whom she is off on an adventure at any opportunity. Summer days are always spent at the beach (Port Noarlunga) snorkelling, paddle boarding and exploring the Fleurieu Peninsula.



## JASON TYNDALL, GENERAL MANAGER

Jason is an artist, conservationist, and dad to a spirited little girl whose favourite pastime is making stew for the "Gruffalo" in her backyard. Jason's career includes 10 years in local government where he worked as a horticulturalist, arborist, and environmental manager, and a further four years as an environmental educator with NRM Education as part of the Australian Sustainable Schools Initiative. Jason's role is to oversee the Family and Educators Membership programs, to deliver presentations and workshops to educators and parents across SA, and to develop/review a range of other creative and strategic projects.



## MARIA TAYLOR, MANAGER, EDUCATION

Maria is a qualified teacher with 20 years' teaching experience and has a Master's in Education. She has worked in a range of local and international educational settings within early learning and primary education. Her teaching career has seen her travel the globe to explore ways educators from all walks of life inspire and connect with students. Maria has two young children who love to discover their own wild places, make potions in the backyard and collect eggs from their chooks. Maria's role is to support educators to connect children with nature and facilitate authentic outdoor learning opportunities for all students. She supports teachers, students, site leaders and school communities across South Australia to take their learning outside the classroom or even the school gate – wherever that may be!



## TRISTELLE RUIZ, DIGITAL AND MARKETING EXECUTIVE

Tristelle is an experienced marketer with the non-for-profit industry. She is a mum to two young children who keep her on her toes! She is a firm believer that there is nothing like experiencing the true joy and calmness that nature brings to the mind. Tristelle is busy coordinating all our marketing activities and running the wonderful online tribe as manager of our social media.



## JODEE DELLOW, EVENTS COORDINATOR

Jodee is a nature-loving mum to four adventurous children who love exploring the Adelaide Hills. Her children are often found building cubbies, making flying foxes, collecting and identifying native seeds and nuts and planting trees on the family property. As a passionate events manager with over 10 years experience in the industry, Jodee brings her love for events, play-based learning, and the great outdoors to the Nature Play SA team.



## TARNYA TEMME, MEMBERSHIP COORDINATOR

Tarnya is an experienced marketer, customer service provider, and mum to three school-aged children constantly on the lookout for new adventures. She coordinates our membership programs and our online/pop-up shop, and has a role in planning several of our key communication channels such as our mailing list.



## ERICA GURNER, SCHOOL SUPPORT COORDINATOR

Erica is an adventurer and lover of all things outdoors, from adventure sports to gardening to art-making in nature. She is a qualified teacher, outdoor educator and therapeutic outdoor worker and has spent as much time working in community health and education as she has in natural environments. Erica passionately believes that we need all people young and old to feel and recognise the essential role nature plays in our happiness and wellbeing. Erica's role is to coordinate, plan and deliver our incursion and excursion program.



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Nature Play SA is a not-for-profit organisation dedicated to increasing the amount of time children spend playing outdoors.

@natureplaysa   