[EXPERT OPINION]

ENVIRONMENTS TEACH

WHAT, HOW AND WHERE TO

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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).

Images by: Jason Tyndall

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

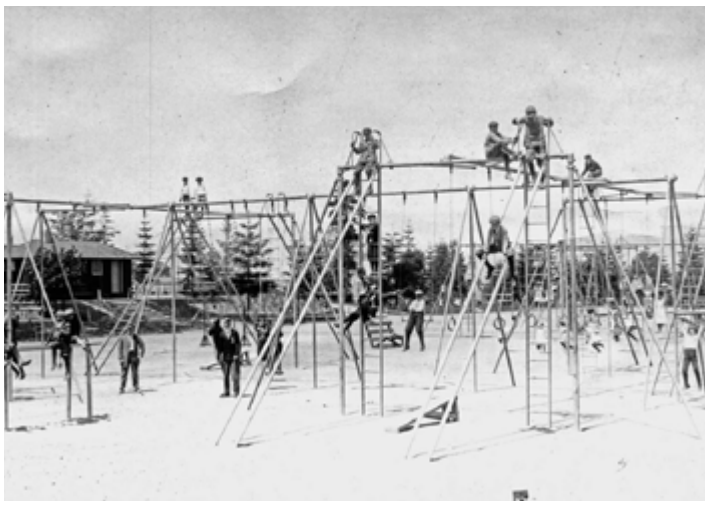

Image 1. Historically it was intended that playgrounds like this outdoor gymnasium would instil warrior qualities in boys (Johnson 1911). Image sourced from https://rarehistoricalphotos.com/dangerous-playgrounds-1900s/

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 gymnasia 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 by: Paul Johnson

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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