

Gardens Where Children Grow: Fertile Grounds for Wellbeing

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Gardening provides a context for children to learn and develop. This is typically articulated in terms of: fostering a connection to nature; developing motor, social and technical skills; encouraging a healthy lifestyle and instilling a sense of citizenship and connection to broader communities. Evidence shows these have a positive impact on children's overall wellbeing. There is also a growing body of evidence that suggests children's wellbeing is positively affected by their active participation in education. This participation often involves students actively contributing to their learning environments, being in dialogue with decision makers (typically adults), and working together with other students and teachers to make positive contributions to school life. This article reports on the activities of one senior secondary urban school gardening program in Australia where students co-design and manage a one-acre food garden. The findings reveal unique opportunities the garden provides for students to actively participate in ways that best suit their learning styles; take an active role in sharing power and decision-making alongside adults and peers; and contribute to their school and community. This positively influences their overall wellbeing. The garden also provides students with a much-needed opportunity to retreat from busy school and life schedules, an important positive influence on their sense of wellbeing.

As wellbeing of students begins to feature more prominently within Australian education policies, school gardens may provide a context for schools to achieve the objectives set.

Wellbeing and Gardening

Researchers and practitioners working within the field of therapeutic horticulture continue to provide anecdotal and empirical evidence of the benefits of time spent gardening and in greenspaces for wellbeing for a range of people and in many contexts, including students at school (Marselle, Warber and Irvine, 2019; Sempik, Rickhuss, and Beeston, 2014; Ryan, et al., 2014; Sempik, 2010). Findings show a person's physical, emotional and social wellbeing improves with time spent in greenspaces and through interactions with others there (Kim, et al., 2012; Entrix, 2010; Keniger, et al., 2013; Kjellgren and Buhrkall 2010; White et al., 2017; Wolf and Housley, 2014). Reported benefits include: lowered anxiety; improved concentration; use, development or rehabilitation of fine and gross motor skills; physical exercise; memory stimulation and increased opportunities for social interactions (resulting in decreased in social isolation) (Gigliotti and Jarrott, 2005). There are a number of theories behind why this may occur including biophilia hypothesis (Ryan, et al., 2014), attention restoration theory (Kaplan and Kaplan, 1989), and theories of stress reduction (Ulrich, 1984).

The benefits of gardening and time spent in greenspaces for children within educational settings are also keenly documented within the literature. Evaluations of school gardening programs demonstrate clear links between children's health in terms of fostering healthy eating habits and nutrition, in developing relationships with local communities, understanding the importance of sustainability and climate change, providing

1. Seasonal organic produce grown within the one-acre urban school garden.

2. Gardening together fosters respect and trust within the group.



opportunities to develop a wide range of technical, social and motor skills and physical exercise (Evans, et al., 2016; Gatto, et al., 2012; Ratcliffe, et al., 2011; Ohly et al., 2016; Blair, 2009). Research has also demonstrated the positive impact that gardens being used as alternative outdoor spaces have on academic scores (Blair, 2009).

Access to natural environments in schoolyards were also found to enable students to escape stress, build supportive social networks and increase confidence, having a positive impact on their wellbeing (Chawla, et al., 2014).

Student Wellbeing Through Active Participation

Evidence also suggests more broadly that student wellbeing is also positively affected by their active participation in school life. More research is underway to explore the ways students can actively participate in their education and the impact this has on their wellbeing (Graham, et al., 2018). In defining ‘participation’, research pays close attention to how students and teachers interact and relate to each other (Graham, et al., 2018). This includes students having their ideas heard, being given choices between options presented to them, influencing adult decision-making on their behalf and working alongside those influential parties to make changes within their school environment. The research revealed opportunities for students to work together through dynamic, reciprocal and meaningful interactions with others, including teachers and school staff, had the most positive

impact on their wellbeing and cites examples of meaningful participation including student involvement in planning lesson or unit activities; solving problems together (with peers and adults) as they arise; and improving the school and learning environments.

With an increased focus on “student wellbeing” in the Australian education policy (Graham, et al., 2019), educators are keen to access and develop opportunities that enable students to actively participate in their education as described above. Coupled with already understood benefits of greenspaces on wellbeing, gardens potentially provide the ideal context to realise policy and practice aspirations – as the following case study illuminates.

School Gardens as Fertile Grounds for Student Wellbeing

Prominently sat in the middle of a senior secondary college campus in Melbourne, Australia, is a one-acre urban farm and newly established orchard. Tended to each week by the school’s Certificate II Horticulture students, it boasts a huge variety of beautiful seasonal organic produce and was last year awarded Best Edible Garden in 2019 Victorian Schools Garden Awards. The garden has become an important hub for student participation, integrated learning, and place for students and educators to visit, congregate, explore and rest.

The garden is the vision of horticulturist, Michael Casey, and its success is due to the combined efforts and passion of the students he

3. The students work diligently to ensure a constant supply of produce.



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teaches and the teachers who support them. A firm believer in the therapeutic qualities of spending time in green spaces and actively gardening, Michael was keen for students to reap the benefits of time spent outdoors too. Now seeing its seventh cohort of students to use the garden as their classroom, the therapeutic benefits are ever present in Michael's opinion. "Year after year we have seen more than just kids enjoying being outside. There is something about how the time is spent that is impacting how they feel," he says.

"They enjoy the opportunity to connect with nature. Some days we will come out to the garden and the group will disperse throughout the garden. Some might get straight on with tasks that need to be achieved that week, but others will begin by exploring the garden and taking time out on their own before joining in."

For one student, who prefers to mostly communicate non-verbally, his enjoyment of the garden is sensory and tactile, as he is often observed sitting and engaging directly with the plants either through touch or smell. "I feel relaxed and happy," he writes on a piece of paper, when asked how the garden makes him feel.

Michael believes the option to connect with nature before engaging in the formal learning component of the lesson is an important distinction of his classes. "Like most people, many of the student's lives are complicated. The garden is to learn, but you can't learn if you're not in the right head space. I trust they will join the group and start working when they are ready. And they do," he asserts.

For some students the impact of being in the garden for their own wellbeing is also amplified against their otherwise busy days. "It's about the pace. I feel like I can slow down and breathe," says one. Another remarks, "The garden is an escape for me... This is my chill out zone." Their comments serve as an important reminder of the busyness of children's lives and constant movement between physical locations and mental headspaces in their days.

In addition to the biophilic benefits of time spent in greenspaces, discussion with students uncovered many ways the garden provided them with the opportunity to meaningfully participate in their learning, with others in the garden and more broadly through their wider school community.

Participating as Best Suits Their Learning Styles

An essential element of the class is teamwork. "It's a big garden with lots of jobs to do each week, but I let the kids gravitate towards jobs they enjoy," says Michael.

Michael thinks letting students lead the management of the garden and their role within it has allowed him to get to know them individually and challenge him to think of better ways to facilitate their learning. "It really shows their different personalities and we adapt to that."

Any concerns about unequal share of workloads amongst the group is quickly resolved within this flexible approach to learning. The balance between personal and shared goals fosters cohesion within the group. "It doesn't affect



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us if they (other students) aren't here - it's just numbers," explains one student. "The work will still get done, it might just take us a bit longer." Such an approach is resonant with wellbeing research which suggests the opportunity to plan lessons positively impacts upon student wellbeing.

Students also noted the difference between this and other classes was the immediate opportunity to put theory into practice and learn through firsthand experiences. As one student describes, "In biology we learn how a plant needs water. But here we see it." In agreement, another interjects, "It's like we can connect the knowledge. And you see that in other classes—like students are just learning stuff, but not connecting it to how they can use it."

The opportunity to contextualise the theoretical aspects of their studies reinforces the traditional classroom learning that typically is done in the last half of each class. For the students, having seen or experienced what they then read in books is a huge advantage to their comprehension of horticulture. The garden encourages children to take an active role in their education, and learn in a way that scaffolds and privileges their existing skills base to support the development of new knowledge. This is an approach to learning supported in sociological theories of children's development such as sociocultural theory (Smith, 2013).

Taking such an approach within the garden is not only exciting in the ways we can develop a whole generation who can grow their own food, contribute to a better environment and develop important scientific and social skills, it showcases the value of children actively participating through scaffolded learning in a way that is transferrable to real life contexts and concepts.

Shared Power Dynamics

As a professional horticulturist and urban green infrastructure designer, Michael is used to managing complex projects with multiple stakeholders. Inherent in that is a belief in the benefits of collaboration, shared power and trust in the expertise of others. It's a style he brings to class as he encourages open and dynamic dialogue that incorporates the opinions and ideas of the students. For the students however, it was not an approach they commonly associate with classroom teaching and were initially reserved about sharing ideas for the garden in brainstorming sessions. Some of the students even questioned the approach, or whether it was indicative of Michael being unprepared for class.

Michael persisted with his management approach enabling and encouraging ideas in a supportive, integrated and action-based environment. The cohort soon adapted to a new style of learning that saw them co-managing the garden alongside teachers, under the supervision of Michael as a professional as the benefits became apparent. The teaching staff also enjoyed the new style of teaching, appreciating the benefit of a shared power dynamic. "I feel like the adults are just here to help. We're all just here to garden," said one. Another, employed as a teacher's aide to help one student with additional needs believes the flexible approach benefits her student. "Compared to his anxiety in other classes, he has agency here. He feels comfortable," she says watching him mulch, "and the kids look out for each other". The student reiterates the sentiment later by communicating "I like working in a team with students and teachers".

The success of this approach is unsurprising given its resonance with contemporary theories of children's cognitive development (Rogoff, 1995).



4. The garden sits proudly in the centre of the school's urban campus.



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In biology we learn how a plant needs water. But here we see it.


Sociocultural theory for example argues children learn best through active participation in social environments through dynamic, reciprocal and shared experiences with others including peers and adults (Rogoff, 1990). It asserts the importance of valuing the existing skills and knowledge children bring to those interactions, assuming the role of teacher and student depending on the task at hand (Rogoff, 1995). To apply another theoretical perspective to these interactions, Recognition Theory suggests the impact of interpersonal relationships like these fosters mutual care, respect and esteem within the group (Honneth, 1995). When children (and adults) experience this, the theory suggests it positively impacts on their sense of self, and their sense of wellbeing (Graham, et al., 2014).

Students also took opportunities when working alongside teaching staff to open up about home life, ask for advice on personal matters or just get to know each other in ways that typically don't occur in formal learning environments. Teaching staff recognised both the privilege and value such opportunities presented in being able to best support students and acknowledge the impact sometimes complicated lives can have on their ability to learn and engage in class. And it was important students maintained the power in what and how they confided. "I don't pry on what's going on," says Michael, "and I'd hate them to feel they're being interrogated. But sometimes they open up."

Contributing to School Life

The garden has attracted the interest of many within the school community, in part due to its prominent location at the centre of the campus. As the garden began to flourish, the class noticed the space was also occasionally used by others.

One such group was the school's onsite hospitality trainee chefs who had been brought down to the garden by Head Chef and teacher, Richard McGuire teach the students about 'paddock to plate' principles. Conversations between both cohorts ensued and offers to supply the school kitchen with fresh organic produce on a regular basis were accepted. This enriched the learning opportunities of both cohorts and instilled a sense of self-worth and achievement for the horticulture students as they saw the added benefit and value of their hard work more broadly as contributing to others within the broader school community. It became obvious that the garden and its bountiful harvests were contributing to others learning and improving the school environment. Evidence within the literature would suggest the positive impact this has on student wellbeing (Graham, et al., 2018), and certainly was seen in many tangible ways in the garden.

And with the garden looking so inviting, there have been requests from the broader school community for seating within the garden. The students themselves welcome requests, but with caveats. "People will need to respect the space," asserts one student as others nod in agreement. Their concern for their garden through their obvious ownership, pride and care is typical of anyone who develops a sense of belonging to a place, but not always demonstrated by students talking about school yards. The distinction here it seems is by giving children real opportunities to participate in and influence their school environments they forge a deeper connection to that environment, which in turn encourages them to care for and respect the space, knowing its value for them and others. 



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5. The shared sense of achievement and pride is abundant in the garden.