



LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON EDUCATION AND COMMUNITY INCLUSION
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Chair), Ms Nicole Lawder MLA

Submission Cover Sheet

Inquiry into the Future of School Infrastructure in the ACT

Submission Number: 08

Date Authorised for Publication: 4 April 2023



ACT Legislative Assembly Standing Committee on Education and Community Inclusion

Standing Committee on Education and Community Inclusion

The Future of ACT School Infrastructure Submission

30 March 2023

Submission by the Australian Association of Environmental Education (AAEE), ACT

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Vice-President AAEE ACT Executive Committee

Environmental Educator of the Year, 2019

Telstra Best of Business Award, Promoting Sustainability ACT, 2022

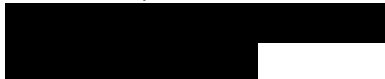
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Immediate Past-President AAEE ACT, and Vice-President AAEE National Executive Committee

Environmental Educator of the Year, 2022

Keith Skamp



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a. Access to safe and healthy schools, including distance (travel to school)

Schools should have learning spaces with good ventilation enabling cross-breezes in warmer months, as well as appropriate insulation of walls, ceilings, floors and windows to ensure minimal heat loss in colder months^{1, 2}.

¹ There is “substantial evidence that *indoor physical environmental factors*, including temperature, noise and illuminance” are *significant factors influencing students’ learning efficiency* in perception, memory, problem-solving and attention-oriented tasks” (Xiong, Huang, Li et al. 2018. Impact of indoor physical environment on learning efficiency in different types of tasks. *Int. J. Environ. Res Public Health*, 15 (6): 1256 doi: [10.3390/ijerph15061256](https://doi.org/10.3390/ijerph15061256) (italics added)

² Recommendations from the Conservation Council ACT Submission May 2021 Inquiry into Management of School Infrastructure includes relevant points for this submission (other than the reference to establishment of micro-forests which are not supported by key ecologists in the Canberra region).

b. Age-appropriate learning and recreation spaces

All schools should have living infrastructure incorporated into the grounds for nature play and nature immersion learning. Use of local endemic species including pollinator-friendly gardens should be a priority to promote and encourage wildlife biodiversity corridors through our suburbs. Nature play areas can be designed to suit all age groups from the youngest children to older students at school³.

c. Consideration of the external environment – including climate awareness

As mentioned above the inclusion of living infrastructure for external environments at all schools is essential to address not only the biodiversity crisis (with biodiversity corridors established throughout the suburbs of Canberra), but also an environment that addresses climate change⁴ with hotter and more unpredictable weather patterns in the future⁵. Protecting and restoring nature is also critical to achieving net-zero greenhouse gas emissions targets as set out in the World Economic Forum guidance⁶. The Conservation Council, ACT Briefing: Building a Biodiversity Network Across the ACT⁷ policy offers an approach to formalising conservation and management of biodiversity outcomes that could be replicated in other parts of Australia.

³ The grounds within and around schools provide opportunities for ‘place-based education’. This is learning connected to *place*, which “is any locality that becomes imbued with meaning through human experience” Place-based education that is “content focussed... has diverse meanings for teachers, students and the community...(focuses on) authentic experiences in the place... promotes pro-environmental and culturally sustainable practices and lifestyles in the place... (and) enriches the sense of place of students’ and teachers’ (Semken et al. 2018. XX, pp.543, 545) can assist students in “understanding science concepts, a reduction of fear and exploitation of nature, the retention of students from Indigenous communities, and the promotion of local ecological and sociocultural sustainability” (Dillon, J. & Herman, H. 2023. ‘Environmental education’ in N. Lederman, D.Zeidler & J. Lederman (eds.) *Handbook for Research on Science Education* Volume III. New York: Routledge, p.6 (DOI <https://doi.org/10.4324/9780367855758>).

⁴ At the primary level addressing climate change through “small scale actions at the level of the classroom, the school yard and the local environment” are most appropriate (Chawla, L. & Cushing, D. 2007. Education for strategic environmental behaviour. *Environmental Education Research*, 13(4), p.438. <https://doi.org/10.1080/13504620701581539>

⁵ Recommendations from the Conservation Council ACT Submission 2021 Inquiry into Management of School Infrastructure includes relevant points for this submission.

⁶ The Chairperson’s Guide to Valuing Nature, White Paper, World Economic Forum and Climate Governance Initiative, January 2023.

⁷ Briefing: Building a Biodiversity Network Across the ACT, December 2022.

Schools should be ensuring easy access to nature areas for all students as an active component of the education curriculum⁸. Living infrastructure⁹ should include evergreen deep shade for students and teachers in outdoor environments, but also deciduous plantings to enable light and warmth in the playground during winter. Native plant species should be incorporated into the playground design for children¹⁰.

Many playground areas around schools have children leaving plastic or other waste for others to clean up. All schools should adopt minimal waste strategies cognisant of a circular economy, and minimise waste brought to schools through lunches and morning teas for children. Waste management in the external environment should also be given priority in the school infrastructure with recycling and composting adopted to reduce the volume of landfill.

Establishment of kitchen gardens such as, for example, at Watson Primary using the Stephanie Alexander approach, not only encourages children to adopt healthy eating practices, but also to minimise plastic waste at school¹¹.

d. The learning interactions between teachers, spaces and pedagogy, including scheduling/timetabling of access to spaces

All schools should include access to outdoor spaces for teachers/classes (including support staff). This could include establishment of multiple outdoor classrooms for classes across a school site¹². Spaces could include tactile natural objects such as large rocks or fallen timber for seating, as well as appropriate shade for students.

⁸ Sobel convincingly argues that if students (especially younger students) are to flourish then they need to have time connecting with nature and loving the Earth so that when older they can engage in protecting and caring for nature (Sobel, D. 1999, *Beyond ecophobia: Reclaiming the heart in nature education the heart*. Nature Literacy Series, Volume 1).

⁹ AAEE ACT Submission to Nature in Our City Enquiry, also emphasized the need for wildlife corridors, education and learning for sustainability, promotion of 'Being in Nature', Nature Play.

¹⁰ See footnote 2.

¹¹ Evaluation of the Stephanie Alexander Kitchen Gardening (SAKG) Program improved "student engagement in learning, increased child willingness to try new foods, improved child knowledge, confidence and skills in relation to cooking and gardening, improved school social environment and increased school-community connections". The SAKG Program appeared to have "greatest benefit to students of greatest disadvantage" (Bock, K., Johnson, B., Gibbs, L et al. 2009. *Evaluation of the Stephanie Alexander Kitchen Garden Program: Final Report*. Melbourne: McCaughey Centre, p.4).

¹² Learnscapes are "outdoor spaces where a learning program has been designed to permit users to interact with the environment". They are often designed with the assistance of students and sometimes the community (Skamp, K. 2002. Learnscapes, science and technology teachers and the curriculum. *Australian Science Teachers' Journal*. 48 (1), p.8). Learnscapes can include outdoor classrooms and other spaces for learning both within and beyond school grounds such as school gardens. Outcomes, within some communities, could include exploration of First Nations culture (Boylan, C., & Wallace, A. 2009. Engaging with Learnscapes: Connecting community and school. *Australian Journal of Indigenous Education*, 38 (1), pp. 94-102).

e. Cross cultural impact

Schools would benefit from encouraging and supporting First Nations accessibility in school grounds including for example, yarning circles for outdoor classroom activities¹³. With Australia's multicultural society it would also be good to include culturally appropriate spaces embracing art, dance and music from other cultures.

Planting indigenous Australian plants and wildlife habitats in school grounds would also help to engage cultural migrants with environmental education structurally built into school programs.

f. Context for students from varying income backgrounds (class analysis)

Kitchen gardens would also contribute to enabling students from varying income backgrounds¹⁴ to participate in active learning about healthy diets and sustainable practices within the school environment.

g. Use of technology

All schools need to ensure an appropriate balance of social, physical activity; indoor and outdoor activity alongside the use of technology. There is substantial research demonstrating that children can reduce their levels of anxiety and stress through nature-based, outdoor learning¹⁵.

Overuse of technology can also lead to physical impacts on eye health and posture issues for children.

h. Optimal school size

No comments on this point.

¹³ See footnote 7. Depending upon the features within and nearby school grounds interactions with First Nations peoples can assist teachers to help students “become family with place” Learning from such interactions has included students appreciating First nations language and hence build respect for our First Nations Elders and peoples (White, P., & Tytler R. ‘Human impact: Living things, Biodiversity loss and climate change’ in K. Skamp & C. Preston. *Teaching primary science constructively* (8th edition), in press).

¹⁴ See the earlier footnote 9 about the evaluation of the SAKG.

¹⁵ There is considerable research that has documented the positive impact of outdoor learning on student health and well-being. Dillon & Herman (2023: see the above reference for this paper) in their review of the ‘environmental education’ research literature referred to “the value of engaging with the outdoors in terms of mental and physical health”. Gardening was particularly mentioned – benefits included “enjoyment, feelings of achievement, satisfaction, and pride” from seeing plants grow that they had planted; children with learning disabilities, in particular, increased in confidence and self-esteem.



i. Synergies with the wider community

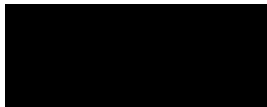
Through the establishment of native gardens and nature play spaces, schools can build opportunities for engaging local school communities. Parents, grandparents and families can actively assist with maintenance and creation of gardens, planting programs and biodiversity corridors – taking pride in their natural environments at schools.

j. Long term planning and demographic change

All schools in the ACT region should be building external infrastructure suited to climate adaptation, efficient energy use, minimal waste management within a circular economy, and contributions to biodiversity corridors through living infrastructure based on local plant species.

Thank You

The AAEE ACT thanks the Standing Committee for the opportunity to submit these ideas in support of the importance of sustainability and environmental values for schools in the ACT. If needed, we are happy to appear before the Committee to clarify the ideas in our submission.



Julia Landford
Vice-President AAEE ACT

AAEE ACT acknowledges the Ngunnawal people, Traditional Owners and Custodians of this country and waters on which we live and work and pay my respects to elders past, present and future.