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Co-creative Regeneration of a School Community Nature Space: Using Participative Pedagogies to Support the Care and Wellbeing of Adolescent Boys

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Abstract

This paper explores how co-creating a school community nature space in a private school for boys can support young people's agency, self-determination, learning, and well-being. Australian youth are currently experiencing high levels of mental health and well-being concerns. Many young people feel they have little or no control over their life trajectories and worry about their futures; their top personal challenges relate to school, mental health, and relationships. Boys have lower average academic achievement, school retention, and higher rates of suspension and exclusion from school. This highlights the urgent need to find alternative ways of engaging boys in education that support their overall health and well-being. Schools have begun to recognise that they can play an important role in caring for adolescent boys. They have shifted their core focus from academic achievement to a more equal emphasis on learning, health, and well-being. By focusing on real-world, place-based participative pedagogy, our project builds on previous research in social art and design practice, community participatory research, outdoor education, and real-world experiential learning. More specifically, this research harnessed a range of innovative learning strategies, using outdoor, nature-based, non-traditional classroom environments to support multiple aspects of the care and well-being of boys in a private school in Brisbane. The research also outlines how effective collaboration across institutions and sectors can be achieved.

Keywords: Co-creation, Community, Well-being, Nature, Pedagogy

Introduction

Contemporary Australian youth face significant mental health challenges (Twenge & Martin, 2020; Abi-Jaoude et al., 2020). Suicide is the leading cause of death among people aged fifteen to twenty-four (Australian Institute of Health and Welfare, 2024). A report by

Mission Australia highlighted that the key self-reported personal concerns among young people were school, mental health, and relationships, alongside environmental sustainability, equity, discrimination, and financial matters (McHale et al., 2023). Young people also expressed concern about "what may happen to them later in life" and often felt like "they had no control over their lives" (McHale et al., 2023, p. 5). These findings support an urgent need for innovative participative learning strategies that encourage agency and self-determination, repair social and environmental disconnection, and enhance the well-being of students.

This paper explores the co-creation of an urban nature space at Moreton Bay Boys' College (MBBC) in Brisbane, with adolescent boys aged between seventeen and nineteen. The practice-led research project focuses on real-world, place-based participative pedagogy as a vital approach to supporting multiple aspects of the care and well-being of boys in a private school in Brisbane. Mackay was the key researcher of the project and was employed as a Technology and Engineering Technician at MBBC while conducting the research and collecting the data. Beer and Parker provided expert guidance on the research design, particularly the methodology and methods used. To ensure this distinction is clear, 'Mackay' is referred to when discussing the experience of the practice and 'we' with reference to all authors in relation to theory development, discussion and conclusion.

The Role of Schools in Addressing Young People's Well-being Challenges

Research indicates that healthier children are better learners and display greater well-being levels in adulthood (Sahlberg et al., 2023). However, Sahlberg et al. (2023, p.3) highlight that "in most schools and many families, intellectual or academic achievement is often valued and rewarded before anything else". Given that the top self-reported personal challenges experienced by young people focus on school, mental health, and relationships, there is a specific, compelling argument for evidence-based school programs that address student-identified problems. Schools are where young people socialise, for links with the community and spend most of their daytime. Additionally, they are environments accessible to families and the community and where non-stigmatising actions can be taken to support health and well-being (Carta et al., 2015).

Despite the Australian Government's efforts to provide guidelines for student mental health and well-being, fragmented policy frameworks create challenges for educators (Svane et al., 2019). The overwhelming emphasis on academic outcomes often results in well-being being relatively neglected and treated as an extracurricular concern rather than a focus of everyday learning (Whatman et al., 2019).

Studies stress the importance of taking a comprehensive approach to student well-being and actively involving students in shaping their learning environments to foster autonomy and belonging (Anderson et al., 2022). Giving young people a say in how their environment is designed can contribute to their sense of well-being through enhanced self-determination (Hofer et al., 2021, p. 47). Involving students in co-creating their school environment could thus help motivate young people to meet psychological needs underpinning their mental

health, which include experiencing autonomy, belonging and competence. Experiencing autonomy supports young people in realising the behaviour they choose freely, belonging provides respect from significant others such as friends and teachers, and competence fosters a sense of success and effectiveness, which builds confidence (Hofer et al., 2021, p. 47).

Recent Developments in How to Support Young People's Well-being

Recent developments supporting youth well-being have emphasised nature-based learning environments, place-based learning, co-creation for community voice, a real-world focus and experiential learning. A systematic review of the literature on the effects of being in nature showed this to be associated with enhanced psychological and physiological health and well-being, nature connection, and pro-environmentalism (Silva et al., 2023). Place-based learning has recently undergone a shift in paradigm, moving from a focus on urban design, policy, and planning to incorporate the user or community voice in response to "place-based community development and politics, and the surge of culturally led urban regeneration" (Courage et al., 2020, p. 3). Other positive outcomes of place-based learning, such as "child-friendly, engaging, and fun consultation processes", benefit children, researchers, and policymakers alike (Carroll et al., 2017, p. 272). Place-based learning has also intersected with nature-based learning research in response to concerns about human health and the environment. Converting a nature 'space' into a 'place of learning and connection' enables people to confirm their renewed and valued love of nature and 'place'. This then "activates as place stewardship, which leads to increased social cohesion and well-being" (Carroll et al., 2017, p. 3). Youth community participation in co-creating and developing healthy nature-based urban environments is important for "ensuring designs are relevant and appropriate for the community of interest" (Sullivan et al., 2021, p. 18). This co-creative community development also occurs in the real world and requires participants to experience it first-hand. This means that an experiential, real-world framework could benefit schools by creating opportunities for students to engage in place-based, authentic learning and well-being through interacting with the real world.

Supporting Boy's Well-being in Schools

Boys face unique challenges, including lower average academic achievement and school retention and higher suspension and exclusion rates than girls (Mann, 2018). Thus, there is a need to find alternative ways of engaging boys in education for their overall health and well-being (Thomson et al., 2017). Gender differences develop through genetic, hormonal, environmental, and cultural differences (Rogers, 2010). Research suggests that understanding gender differences in brain development and behaviour can inform better educational strategies for boys (Gwyther et al., 2019). For example, researchers have observed significant improvements in "self-efficacy, competence, negative affect, and depressive symptoms" following interventions with a "focus on experiential learning and shared activity" (Gwyther et al., 2019, p. 11).

The Nature Space Co-creation Project

The idea of co-creating an urban nature space at MBBC involving adolescents aged between seventeen and nineteen emerged during Mackay's tenure as a Technology and Engineering

Technician at the school. Mackay observed that many students, particularly within this age group, were exhibiting heightened levels of anxiety and generally poorer mental health.

Figure 1: Photograph of MBBC's proposed nature space development area.

The research component of this project commenced in April 2021 and concluded in November 2024. It involved collaboration with MBBC management, teachers, student's families, and external professionals, including surveyors and landscape architects[1]. The project directly engaged primary school students (ages ten to thirteen) and secondary school students (ages seventeen to nineteen). Mackay selected participants, with guidance from MBBC, based on their accessibility and capacity to contribute valuable insights on the co-creation of an outdoor nature space. Twenty primary school students and six secondary school students consented to participate. The principal role of the primary school students was to provide stakeholder data on the requirements for the nature space, as perceived by primary-aged boys. They participated in three classes, one in the nature space area, recording their ideas for the space, and two with the secondary students in their Design Technology space. The first class the primary students had with the secondary students was to provide feedback on the secondary students' evolving design solutions, and the purpose of the second class was to experience the final designs for the nature space. The secondary students' roles were twofold: as stakeholder representatives for the secondary school and

[1] The process of obtaining approval to conduct this research began with a presentation to key senior staff members. A comprehensive Research Proposal was then submitted by Mackay for consideration. Following this, a Memorandum of Understanding was developed, specifying the roles and responsibilities of both Mackay and the school. Ethics approval was obtained from Griffith University Human Research Ethics Committee. While the proposed nature space design formed part of the curriculum, all participants engaged in the research project provided informed consent (including parental consent). Key ethical considerations in similar school-based projects include addressing power dynamics and ensuring the authentic representation of participant voices (Montreuil et al., 2021). Additionally, measures were implemented to guarantee that students who chose not to participate in the research were not negatively impacted.

as co-creators of the space with input from the primary students and broader school community.

The Queensland Curriculum and Assessment Authority required the secondary design technology students to conduct a Human-Centred Design project in Term Three of their studies. In collaboration with the Design Technology teacher, Mr Edward Cox, Mackay modified the syllabus to align with the research methodologies by integrating aspects of Participatory Action Research (PAR) and User Centered Design Thinking (UCDT) into the syllabus. The secondary students thus utilised a UCDT approach to co-create the space, incorporating input from the primary students and the broader school community. This approach fostered participatory critical thinking, teamwork, and problem-solving.

In groups of three or four, the secondary students were tasked with developing an overall design plan for the nature space, as well as three individual design components, each spanning the seven-week syllabus. Their project aimed to foster multiple perspectives, emphasising the importance of documenting work, adhering to the Design Institute Code of Ethics, and applying divergent thinking strategies such as brainstorming and SCAMPER (Substitute, Combine, Adapt, Modify, Put to other Uses and Reverse); to consider economic, social, and cultural implications. The project also required the students to evaluate how well their designs met their criteria and to communicate their ideas through drawings and low-fidelity prototypes. This structure seamlessly integrated into the research, leveraging the existing curriculum and allowing minimal disruption to teachers' time outside class. The area designated for co-creating the nature space is depicted in purple in Figure 1. This area adjoins a nature reserve, which is cared for by MBBC. A photograph of this space is shown in Figure 2.

Figure 2: MBBC school map with proposed nature space area highlighted in purple.

In Week 1, the secondary students received an A3 stimulus document and presentation created by Mackay. This document outlined the project's purpose and global best practices for designing urban nature spaces (Beatley, 2016). Mackay also communicated the findings from the stakeholder primary students.

Figure 3: Photograph of Mackay and secondary design students during week 2 in the nature space area.

Mackay provided the students with a Google Earth map of the MBBC campus, including the boundaries of the nature space. They also received an A1 topographical survey by the company Urban Design on behalf of Mackay. Dividing into teams of three or four, the students explored the outdoor nature space, conducting design research by drawing and taking notes as they interacted with the area (see Figure 4).

Figure 4: Secondary Design Technology students exploring and conducting design research in the proposed nature space area.

Mackay encouraged the students to consider how the space's characteristics, such as its dimensions, slope, proximity to paths, and accessibility, would influence their designs. In the second half of the two-hour lesson, the students participated in a small-scale sensory ethnography task to record their individual physical and emotional responses to the space.

In the following five weeks, Mackay also introduced them to the process of conducting informal interviews in preparation for the upcoming visits by the primary students for further stakeholder feedback. The secondary students continued engaging with the design process, visiting the outdoor space regularly and interacting with their school community stakeholders, including the primary students, guiding the further development of the nature space. The students submitted an electronic design portfolio and a three-minute recorded PowerPoint presentation of their design solutions for their final assessment.

Although the physical creation of the nature space has yet to be done, the project resulted in the development of the 2D plan, SketchUp plans, and a virtual reality (VR) experience, which Mackay shared with the students and the wider school community after the project concluded.

Methodology and Methods

Methodology

The research methodology employed in this paper integrated Practice-led Research, Participatory Action Research (PAR), and User-Centred Design Thinking (UCDT). These methodologies were grounded in principles of co-creation, collaboration, and iterative process, aiming to foster community engagement and improve student care and well-being (Rowe, 2020; Finley et al., 2020).

Practice-led research was the primary methodological foundation, with a reflexive, experience-based approach (Schön, 2016; Nelson, 2022). This methodology was chosen because creative practice generates new knowledge and insights (Candy, 2020). The creative process involved repeated cycles of practice and reflection, allowing for continuous learning and adaptation within the context of the school community. The practice-led model helped to facilitate a shared understanding and collective experience, contributing to new insights about human-environment interactions and well-being (Mäkelä & Aktas, 2023).

Participatory Action Research (PAR) complemented the practice-led research by addressing power imbalances within the community (Albine & Irene, 2022). It emphasised the active involvement of students and school stakeholders in the research process, which was integrated into decision-making and design processes (Malorni et al., 2022). PAR fostered mutual trust, power-sharing, and ongoing engagement, which are critical for sustainable change (Rowe, 2020).

User-centred design thinking (UCDT) was also employed to ensure that the design solutions met the users' needs. The established research frameworks of PAR combined with UCDT to address concerns in the literature regarding UCDT’s academic rigour (Rowe, 2020). This

UCDT methodology followed five key steps: empathise, define, ideate, prototype, and test while always keeping empathy for the end-user in mind (Meinel & Leifer, 2020). It was beneficial for designing the nature space, allowing for "solving an open-ended design challenge creatively" (Meinel & Leifer, 2020, p. 50). The iterative design thinking cycle allowed constant refinement, ensuring the final designs were functional and aligned with the community's values (Margaret, 2023).

Methods

This research employed a qualitative ethnographic approach, combining participant observation and co-creative research. Ethnography, characterised by observing people in their natural environments, was central to understanding the dynamics between participants' beliefs and actions (Gobo & Molle, 2017). This approach emphasised the importance of direct observation to enhance data accuracy and reduce bias while considering participants' perceptions through sensory and experiential analysis (Gray, 2018). It facilitated inclusive, community-relevant solutions by focusing on how participants interpreted the world around them. Mackay conducted the research as a participant observer (both announced and undercover)—this combination of approaches allowed for objective and comprehensive data collection without significantly influencing participants' behaviours. Taking detailed notes, sketches, and recordings during observations helped capture conversations, cultural interactions, and environmental dynamics in real-time, supporting reflexive ethnography.

Mackay also utilised secondary data sources, including interviews, photographs, and student materials such as design prototypes and class assessments, to supplement direct observations. A self-reflexive approach was employed to acknowledge personal biases and social positioning in interpreting the data (Lichterman, 2017). Mackay utilised thematic content analysis to identify common themes across multiple data sources, ensuring a robust and nuanced understanding.

Findings

Mackay's research began with the primary school student cohort so that comprehensive data representing the needs of the primary school could be collected, analysed and provided to the secondary school Design Technology students in a time-efficient manner. The secondary students combined this feedback from the primary students with their desires for the space as representatives of the secondary school.

Primary School Student Findings

The primary school students collected ideas about their aspirations for the nature space on an A3 map and recording sheet during their outdoor class with Mackay. Mackay observed the students' enthusiasm for the project and their exuberance in being outdoors. She noticed them touching trees, grass, and rocks, moving around the space, and talking to each other and their teachers while considering their ideas (see Figure 5).

Figure 5: Primary school students interacting with nature during their outdoor class.

Being in nature was a bodily experience that appeared to activate their imaginations and provide more freedom to operate creatively with a sense of self and confidence. Students' comments included, “This is a great place to imagine stuff” or “We are just thinking about imaginary stuff like Shrek memorials”.

Mackay observed that the students expressed more complex verbal ideas than were reflected in their written or visual representations on their maps, highlighting the significance of face-to-face communication. These ideas were articulated as narratives, detailing elements they envisioned incorporating into their maps and suggestions for the nature space (see Figure 5). In some instances, the verbal descriptions were supplemented by drawings, which the students used as tools to clarify their verbal explanations (see Figure 6).

Figure 5: Primary school student discussing his ideas for the nature space area by referring to their map.

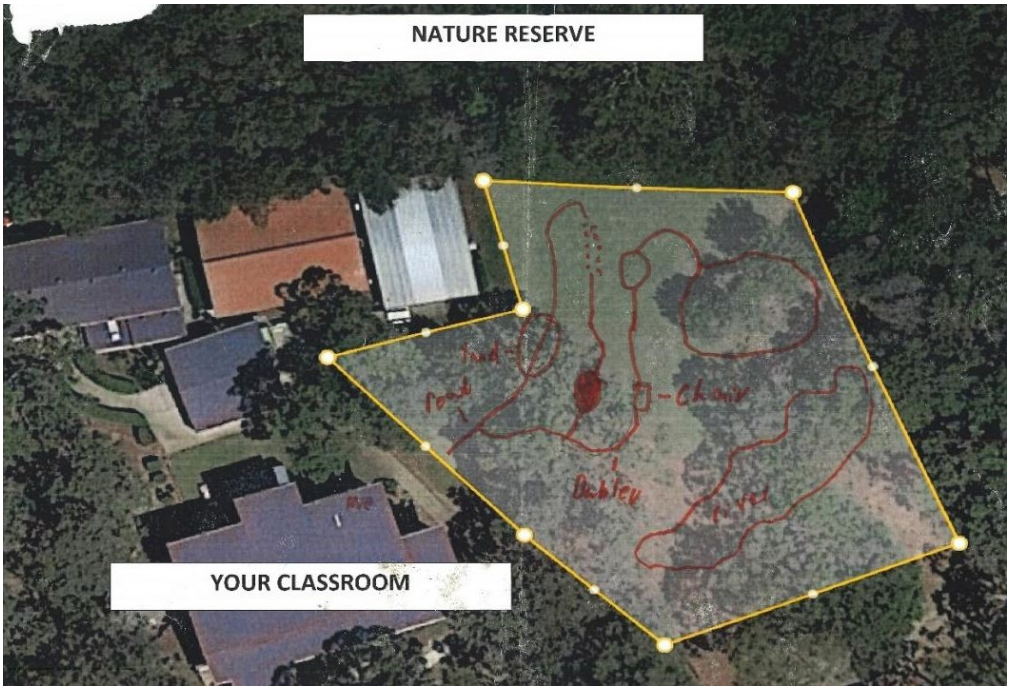


Figure 6: Primary school student drawing on their nature space map.

The students made many noteworthy observations and suggestions. One student said, “We have all this space, but we are using it for nothing. We could have our classes out here. Or we could come and look at everything here during our break times”. While showing me a drawing on his map, another student said, “We could make a loop de loop. A path that we can walk along just like one of those nature walks in the forest”. An additional student said, “We could make a rock word hunt so we can be in this space and follow the clues of letters on rocks to make words”. This student also demonstrated his ideas by picking up some of the rocks along the drainage area and situating them in different areas of the space. Additional comments from the students during a debrief after the class expressed that they were “very pleased to be having a say in how the nature space would look”.

Mackay used content analysis to organise and categorise the students' ideas into three main categories in the order of preference: 1) natural, 2) human-made, and 3) experiential. Water was a predominant natural theme, with fishponds, waterfalls, and pools to swim in frequently mentioned alongside specific rock features (e.g. rock pools, rock word hunts), bushes (e.g. ferns, vines), flowers (e.g. roses, lavender) and animals (e.g. dogs, tigers and butterflies). The most requested functional human-made element was seating, which included ideas such as benches, logs, and ‘magic’ or stone chairs alongside bridges, paths, animal enclosures, bins, caves, solar-powered lighting and fences. The experiential features ranged from safer challenges like nature walks, cafes, vegetable gardens, music and bird songs to more adventurous ones like skateboard parks and zip lines.

The primary school students returned to their regular class schedules before meeting in person with the secondary Design Technology students for two additional classes. The focus for the first class was to provide in-person feedback on design development for the

secondary Design Technology students, and the second was to experience and celebrate the final designs of the space with the secondary Design Technology students.

Secondary School Student Findings

The findings from the primary students were summarised and presented to the secondary design students. The data served to inform their UCDP by highlighting the needs and wants of the stakeholder primary school students.

As experienced with the primary students, Mackay gathered richer insights when interacting directly with the secondary students in the outdoor school environment. Informal conversations revealed their thoughts on working on a tangible project. As one student said, “This is pretty chilled being out here [the nature space] …It is good to be doing something real for a change”. A second student recalled the effort put into designing a previous outdoor classroom space, which they demonstrated a connection to, not wanting to modify it. While standing by this old area, the student said, “It has been a long time since we designed this old tyre classroom. I do not want to change it; it still looks all right. We put so much effort into that”. (Figure 8).

Figure 8: An old outdoor classroom area, built by secondary student participants five years ago, within the nature space.

At this early stage of the co-creation project, their discussions centred mainly on the space itself, focusing on the physical aspects, such as the dimensions and accessibility of the space. However, a sensory ethnography task introduced by Mackay revealed how the students perceived the space through their senses. Sensory analysis was helpful in the design process, offering insights into how the students could incorporate an understanding of sensory elements into designs for the space, such as providing shade in areas where it was too hot or designing noise barriers in high-traffic zones. Interestingly, although the sensory analysis encouraged students to reflect on their physical, mental, and emotional responses, the six secondary student participants primarily concentrated on their emotional

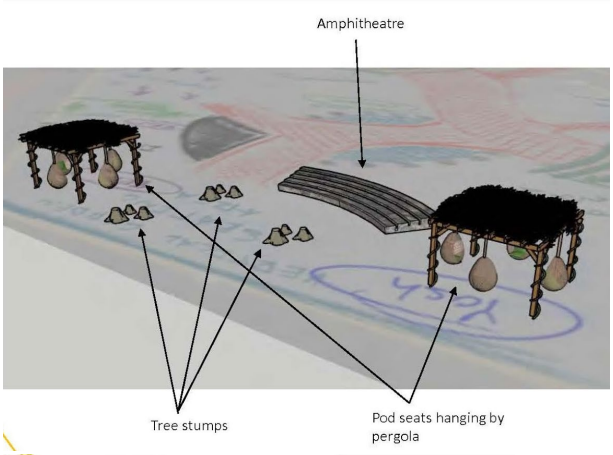
experiences. Twenty-six of thirty-three emotional states recorded by these six students were classified as positive, including terms such as ‘calm,’ ‘mentally well,’ ‘happy,’ and ‘relaxed’. These findings were instrumental in identifying the aspects of the space that contributed to a sense of well-being, underscoring the significance of the nature-space environment in influencing emotional reactions with a flow on affect to the design process.

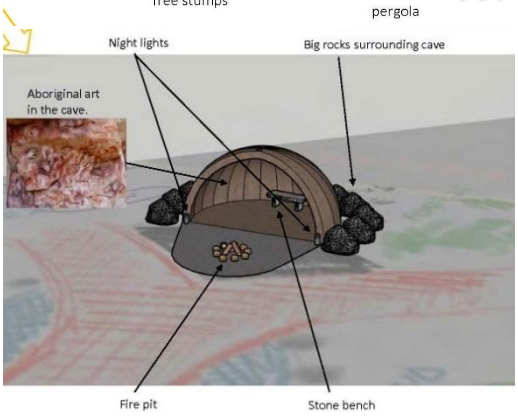
Over the following five weeks, the students continued with their design research. Their projects then culminated in submitting a twelve-page A3 electronic design portfolio and a three-minute recorded PowerPoint presentation for each student’s assessment. The following example of a group of four’s overall nature space design map (see Figure 10) illustrates the depth and complexity of their work, showcasing their various design elements and creative contributions to the overall design space.

Figure 10: Drawing of the overall design of the nature space from one group of four students.

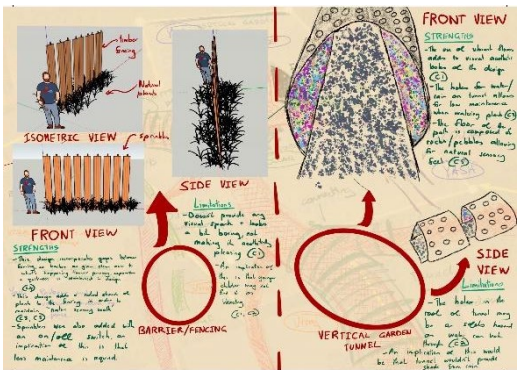
This group of four students’ designs (Figures 11 to 16) featured a range of regenerative elements, such as caves with Aboriginal artwork, amphitheatres, pod seats, noise-reducing barriers, multi-sensory paths, mirrored arbors, cascading waterways, biophilic parkour courses. These features were designed to foster a sense of community, connection, and play—empowering students to care for and engage with each other and their environment. Cumulatively, they reflected the stakeholder needs against a background of best practice urban nature space design. A range of natural, human-made and experiential components, including multi-sensory experiences, reflected the needs of the primary students and the wider school community.

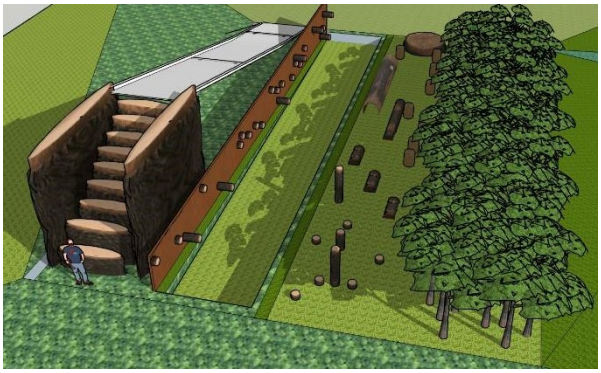
The secondary students considered design that might encourage nature connection to be very important. For example, the student who designed the mirrored arbor wrote in his assessment that the design aimed to “reflect humans in the space, surrounded by nature to improve connection with the non-human world”. Similarly, the seating was “designed as pods to reflect seed pods found in nature so stakeholders could better relate to nature”.



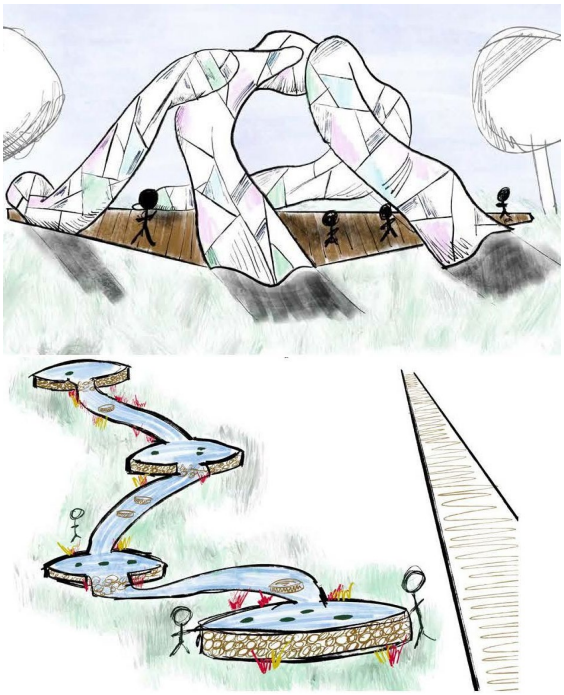


Figures 11 and 12: Student design of amphitheater, hanging pod seats and a cave.





Figures 13 and 14: Student design of fencing and sensory tunnel and parkour course.



Figures 15 and 16: Student designs of a mirrored stainless-steel arbor and cascading water feature.

After their assessment, nine short focus group recorded interviews were conducted with the class participants and teacher. Transcripts of these interviews were produced, and content analysis was employed to draw out key themes and meanings. Several key themes emerged and included the value of designing for real projects and people; the importance of prototyping for experiential understanding and learning; the value of working as a group; the importance of real-world projects to study and career direction; and the value of collaborating on projects across subject disciplines. These key themes are unpacked below by focusing on student interview comments, Mackay's observations, and informal discussions with students.

Designing for Real Projects and People

Comments by the students revealed that designing for a real-world project at their school was significantly more rewarding, enjoyable, fun and meaningful than working on hypothetical scenarios for imaginary stakeholders. They also put more care into their overall process because they knew that every little change they made, could benefit their stakeholders. One student commented, "We designed for real people, people who will be impacted by what we make, so we put much more care into what we made". Another stated, "We put much more thought into what we made because we knew that every little detail we changed would have a real impact". Finally, a third student conveyed, "We were designing for a real community and people. We were making something that would be used, which gave it a lot more meaning and was, therefore, a lot more fun and enjoyable". Mackay also recorded in observational notes that it provided the intrinsic motivation to continue reflecting on their designs to ensure they met the stakeholders' needs.

The Importance of Prototyping for Experiential Understanding and Learning

As the interviews progressed, another theme emerged about the importance of creating physical prototypes in the design process. As one student explained:

> Prototyping allows you to share a physical thing with the stakeholders so they can see what it will be. Thus, we could show the [primary students] what it would look like and get their feedback. Because a prototype is more like a physical thing…you have an idea of the function and what it would be. Furthermore, with the prototype, you can get their feedback and then change that, evolving the prototype to fit better, whatever their needs are.

Prototypes allowed the students to present ideas to real-world users (most often primary school students) and collect direct input, which was essential for deepening understanding and gathering valuable stakeholder feedback. Prototyping clarified the product's function and design, offering a more tangible representation than verbal, written, or digital descriptions. This, in turn, enabled the collection of more actionable feedback, which was crucial for refining their designs. Mackay's recorded observations also revealed that a hands-on experiential learning approach was valued. It allowed the students and their stakeholders to reflect on their experiences within the school environment and provided context. Access to the adjacent nature space during the design process proved invaluable as they could fully immerse themselves in the context of their work in an authentic experiential space.

The Value of Working as a Group
The value of working as a group to develop more innovative and refined design solutions was reflected in both comments from the students and Mackay's observations. For example, one student commented:

> Four people were in our group. Each of us designed a specific aspect of the nature space. For example, some of us designed a lounge area, while others designed an actual walk, shelter, and flower bed. We designed parts and created a whole product that everyone could use…I would also add that collaborating as a group, getting ideas from other people, and some inspiration from your mates helped our designs.

Mackay observed animated discussions and debates within each group regarding the overall and individual design elements for the nature space. This dynamic, cyclical, and reflective process enabled innovative and creative design solutions best suited to stakeholders.

The Importance of Real-World Projects to Study and Career Direction
After co-designing the nature space, one student admitted, "I had no idea what I wanted to do after school before project commencement, but now I want to focus on landscape architecture". This student's remaining Design Technology projects and assessments focused primarily on designing outdoor education spaces for children. The student also graduated from school and was accepted into the University of Queensland to study a Bachelor of Architecture Design, majoring in Landscape Architecture.

This real-world project provided valuable insight and direction for students, particularly in shaping their career aspirations. This highlights the significant impact of experiential real-world learning on career choices and aspirations.

The Value of Collaborating on Projects Across Subject Disciplines
Students expressed the value of working with stakeholders and the knowledge gained from other subjects in the overall design solution:

> We collaborated with students in other subjects. For example, design students collaborated with art and science students. When we have stakeholders, they are often a wide range of people. We must all work together and find a way to make everything fit together for the best outcome.

Mackay observed that a multi-disciplinary approach to design, achieved through communicating with stakeholders with alternative subject experiences, was highly valued by the students and culminated in more creative design solutions.

Discussion
This research demonstrated that collaboration between higher education institutions and schools may enhance community engagement, encourage innovative learning approaches, and contribute to developing more effective educational and health-related programs tailored to the needs of young people. A key aspect of this collaboration was the

incorporation of outdoor nature-based environments within educational settings. This research builds on the findings of Carta et al. (2015) to reveal that such environments positively impact students, particularly in creativity and mental well-being. Furthermore, the study established that encouraging boys to express their views and actively participate in their learning processes promotes intrinsic motivation, a sense of agency, and self-determination to build on the findings of Hofer et al. (2021). As research by Gwyther et al. (2019) shows, these projects have the capacity to demonstrate improved "efficacy, competence, negative affect, and depressive symptoms" following interventions with a "focus on experiential learning and shared activity". Our research also demonstrated that empowering boys to voice their opinions and concerns builds their confidence and contributes to their development as autonomous and engaged individuals. This empowerment is essential for boys' mental and emotional health, as we demonstrated from their feedback that it allows them to feel heard and understood. Through this process of self-expression and reflection, boys can gain a deeper understanding of themselves, their experiences, and their ability to effect change in their lives and communities (Gwyther et al., 2019).

Building on research by Gray (2018), we also found that the students discovered more meaning and intrinsic motivation by grounding education in real-world, place-based learning contexts. They could better understand and navigate their challenges effectively, including establishing study and career paths. Experiential learning further enhanced this by allowing students to engage with real-world issues, fostering critical thinking skills, and reinforcing the importance of academic and emotional intelligence in addressing personal and social challenges, as established by Mann (2018).

Finally, the student experience suggests that incorporating place-based learning within the existing curriculum can assist schools in enhancing the well-being and educational outcomes of boys. This approach also facilitated University research within a school environment. When thoughtfully designed and implemented, these programs can contribute significantly to the care and development of boys throughout their learning, not just as an extra-curricular activity. By integrating these initiatives into the curriculum, MBBC utilised University researchers to support academic success and the boy's physical, emotional, and mental health needs for complete well-being.

A SketchUp model was created using the Secondary students' maps and individual product designs. Mackay plans to adapt this plan into a Virtual Reality experience for the school community to enjoy. The school Student Wellbeing Plan now includes strategies to care for boys through relationships, student voice, agency, and outdoor learning environments. This research contributed to these strategies and impacted the school's approach to well-being and learning.

Figure 14: Render of one aspect of the final Sketchup design reflecting student-designed elements.

Conclusion

Integrating outdoor nature and place-based learning, a real-world focus, and experiential learning strategies was key to the observed positive outcomes of this project. This combination of approaches to learning filled a gap in addressing the well-being of boys within school environments. The benefits of each (both unique and shared) are combined to deliver well-being benefits beyond what they can provide individually.

In conclusion, this project has highlighted the significance of creating real-world partnerships between universities and primary and secondary schools to advance scholarship and practice in community design research. Key challenges were overcome through the development of contractual arrangements and close collaboration with the school including conducting the research within an existing modified curriculum. By fostering these partnerships, we can bridge the gap between theory and practice, offering students an enriched learning environment that connects academic knowledge with well-being outcomes.

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