

A proposal for the development of the Cynefin site to incorporate greater outdoor and adventurous learning in keeping with the Australian curriculum guidelines.

This paper is a justification for how the grounds at Cynefin could be developed to support adventurous activities and outdoor learning suitable for children over the age of twelve years. It will demonstrate how the changes will contribute to the development of physical literacy, health and well-being. The site will be developed based on the requirements found in the Health and Physical Education Curriculum for Australia (*F-10 curriculum | v9 Australian curriculum*, 2024) More specifically, within Australia there are individual state education systems, and this paper will focus on the Queensland requirements (*Health and Physical Education senior subjects*, 2024).

Physical Literacy can be defined as a philosophical approach to living an active life incorporating academic theories and studies (Whitehead, 2001). First coined by Margaret Whitehead the term has developed in meaning over the last few decades and it is now used in various scenarios. The phrase has become part of the standard language of outdoor and physical education and as such it is increasingly difficult to give it a defined meaning can vary depending on how the educator is choosing to interpret and implement it into their practice.

When the World Health Organisation (WHO) commented on the decline of physical activity at all ages (*WHO guidelines on physical activity and sedentary behaviour*, 2020) many education systems around the world took up the challenge to formally present a curriculum that could promote physical activity (Roth, 2004). At a similar time to these developments, the Australian government updated the school curriculum (Senior secondary, 2023), and the world was faced with developing a process of dealing with the aftermath of the COVID-19 pandemic. A new strategy was then required to engage secondary-age pupils in being active. It is from this starting point that the senior management team of the Discipline of Sport and Healthy Living at UWTSD have requested a paper to explore the development of the Cynefin site.

The transformation of Cynefin into a specialist educational centre is planned to supplement the requirements of school students being more active. To this end, Cynefin will provide resources that both schools and local community groups. The primary aim of the centre is to promote the development of regular physical activity amongst school students. However, the space can also be utilised to supplement other aspects of the curriculum and school students' lives.

The long-term plan is to not only create infrastructure for specific outdoor activities, but to also build an environment where students are able to experience diverse native flora and create pathways throughout the site that promote well-being and mindfulness (see Appendix B image 2). The purpose of this change is to promote and raise awareness of the importance of the place of flora in our environment and to encourage students to think about the sustainability of the environment (Waite, 2020). The trees will be planted throughout the site starting as you enter the site, then continuing around to the current position of the bike track before joining the existing forest behind the car park. The purpose of the area will change with the removal of the bike track but keeping the flows and ridges of the landscape of the bike track will make the footpaths diverse and help Physical Literacy teaching by having uneven ground as well as height differences (Barnett et al., 2016). The development will utilise the existing large trees that are present on the site, with footpaths planned ahead of time to ensure their survival through the modifications, thus reducing the impact of human contact (Hessburg *et al.*, 2019). It would also provide a safe space to allow for immersive nature walks that promote mental health or other specific curriculum-related activities (*Cross-curriculum priorities*, 2024).

Outdoor learning spaces would be developed within this environment to support subjects such as biology, ecology, geology and geography. Thus, lessons could be held in these outdoor learning spaces, or resources from the natural flora could be collected and used to supplement traditional indoor classroom learning (Mann et al., 2022).

The Queensland curriculum states, “Students have frequent opportunities to participate in physical activities, including in outdoor settings, to value the importance of active recreation as a way of enhancing their health and throughout their lives.” (*F-10 curriculum | v9 Australian curriculum*, 2024). The proposed changes to Cynefin would support this goal as it provides a challenging environment for the participants as well as developing healthy habits for them to use throughout their lives.

Within the Queensland curriculum there is also a focus on giving every Australian child an opportunity and encouragement to participate in keeping themselves fit, active, and happy (*Health and physical education | v9 Australian curriculum*, 2024). It also promotes the positive improvement of the student’s local community through physical activity.

Creating spaces where people can be active is critical, especially ones that supplement the local environment instead of diminishing it. Having a diverse environment like a native forest would provide a nutrient-rich exercise space (Bennett *et al.*, 2020). The proposed forest would help build confidence and ability within the person for a healthy-minded lifestyle.

The abandoned building at the back of the car park would be an ideal building to convert into an adventure learning space, as the size of the building provides enough area to facilitate multiple activity groups at the same time. The fact that is already a two storied building provides plenty of space for conversion and safe storage of kit.



Figure 1: Overview of the site

In red the building to be converted (Google Earth, 2024)

To change the building to facilitate caving would require major renovations to the structure internally. Part of part the floor which divides the building into two stories would need to be removed. Then it would be possible to install a plastic caving system and a few chambers with multiple roots and ‘high gain’ areas. The other part of the top floor of the building would house a bouldering room. The way to fit everything in within the existing structure would be to place the caving and bouldering areas at the back of the building.

If facilitated correctly, caving is a physical activity as well as a mentally challenging sport providing growth and development opportunities (Antoni *et al.*, 2017). The inclusion of a novel, fun and challenging sport is something that in the authors opinion has been lacking through mainstream education. Providing a safe space to where the participant, can not only be physically but mentally challenged, is a crucial point to ensure the participants remain active though out there life (Prentice and Waliczek, 2021).

The Queensland curriculum emphasizes building the whole person and making physical activity fun and sustainable for lifelong engagement (*Health and physical education | v9 Australian curriculum*, 2024). Caving is a fun and very physical activity and although the participant may not continue caving after their experience the mental and physical benefits will remain after they leave (Barry, 2024).

Lubans et al defines fundamental movements as an aspect of physical literacy that have been developed to encourage movement skills within a person from the time they are born (2010). These skills take the motor development theory (Ekström, 2022) and pose them for everyday activities not just athletic development, with a focus on how crawling leads to walking then running and how the environment and challenge builds subconscious knowledge and skill (Barnett *et al.*, 2016). Caving, being a very physical sport, builds on the McClenaghan and Gallahue (1978) fundamental theory to develop a person whether they are achieving athletic prowess. This is an advantage within the school system where there is a tendency for teachers to encourage those that gain sports notoriety for the school instead of continuing the development of all participants evenly (University of the Sunshine Coast *et al.*, 2017).

With the removal of PE Lessons from the Year 11 and 12 curriculum (*F-10 curriculum | v9 Australian curriculum*, 2024) there is a significant problem with the continued development and maintenance of Physical Literacy and Fundamental movement skills. If these skills are lost, the person's physical development journey will have been less than ideal and the participant may not continue with a physically active lifestyle.

Introducing caving in the last year of PE would be a less structured activity that would change the PE outcome from being goal based to a fun activity as it uses the body in a new and novel way. This novelty, with a structured lesson like climbing, would be a good balance between goal-based teaching and keeping people play based (Zosh *et al.*, 2017). This would help to build healthy habits and keep the participants naturally active (Roth, 2004).

The abandoned building which will be developed for caving at Cynefin can also be used to construct the climbing wall. This would minimise the need for a planning application and still allow for new activities that fulfil the Australian curriculum requirements. Using the building for both the climbing and the caving activity will allow for shared use and secure storage of the safety equipment. This dual use of the building can be achieved by converting the front half

of the building so that it does not have any floors to allow for rope climbing. The rear of the building would be utilised as a bouldering area on the first floor, and caving on the ground floor. All of this would need to be compliant with Workplace Health and Safety Standards (WHS) ((Housing, 2019)) for the safety of both participants and staff.

The growing popularity of indoor climbing and bouldering (Setiawan and Rodriguez, 2024) demonstrates that people are recognising the learning and growth that can be gained from the sport (GAGNON *et al.*, 2016). Learning the techniques and skills to climb harder and more technical grades is an obvious and easily trackable journey for the participants which works well within the curriculum guidelines (*F-10 curriculum | v9 Australian curriculum*, 2024).

One of the main objectives of the Queensland curriculum is showing improvement within a discipline over the time spent in school (*Health and physical education | v9 Australian curriculum*, 2024). The pathway of gain skills or “getting better” in a non-competitive way allows for more students to participate and develop at their own pace and ability (*P-10 Health and Physical Education assessment resources*, 2019). As these sports are adventurous, we would either need to hire or train staff to facilitate the learning through these mediums to ensure that we meet every individual's needs so effective learning can take place (*Australian climbing instructors association courses*, 2024).

The Gold Coast building code, in Queensland, says that for a building to be rebuilt it has to be compliant with the mandatory regulation standards for its size. As the building is underneath 450 square metres the regulations are for a large shed rather than a habited building. The plumbing and electrical work would still need to be at the standard for a habitable space, as this is a professional learning environment and needs modern amenities (*Do your building works need approval?*, 2024).

The mandatory standards include fire and water safety, building sustainability and general health and safety as well as a contingency for the maintenance of the building within the future (Housing, 2019).

If this project goes ahead the details of this will have to be compliant with the Australian building standard volume 2 as well as the Queensland government building standards website and documentation of the conversion of the building will have to be tracked and stored securely (*Development compliance*, 2024).

As this project has multiple adventurous activities built into the goals and aims of the curriculum the risk assessments [see appendix B] need to be specific and thorough for each activity (Rausand, 2011). The four main risk assessments would be a general site-specific assessment, a risk assessment for climbing, another for caving plus the risk assessment for the forest. This would be one of the more critical as the risk of the flora and fauna on people's lives would have to be considered when planting the forest as well as the fauna that might be attracted by the new habitat. Examples of this include trees increasing the bush fire risk, falling branches, ditches, burrows, snakes, spiders and other associated risks, see appendix B Table 3. The main risks for the climbing and caving activities would come from human error or negligence as well as poor maintenance of the infrastructure over time. To mitigate this, we would have a thorough maintenance schedule as well as in house training for the staff in charge of the sessions. This would be done in the Australian Climbing Association QLD (ACAQ) standard as well as the Australian rock-climbing association. See appendix B Table 1 for the risk assessment.

The development of this site is aimed for upper high school students, years 9 and 10 specifically, to provide challenging activities as well as enjoyable ones. The group's ratio would be 1/8 to ensure safety as well as providing adequate support for the learning outcomes.

The curriculum being suggested would be run half a day a week, for each group, between 8:45 and 12:00 to minimise the risk of environmental damage to the property and to avoid the hottest part of the day for the comfort of the participants. This would fit with the student's normal school hours. Transportation would require greater commitment from the participants and the school and would have to be negotiated.

Conclusion

This proposes for a climbing and caving education space as well as the development of a forest to provide physical and education support is in keeping with the Australian and QLD curriculums. would provide a unique and challenging activities in a safe manner as well as incorporating curriculum rate related studies in a fun and novel way.

Climbing and caving providing trackable physical and mental development is one of the key aspects of this proposal as well as expanding the grounds of the forest to not only provide mental health support but to be used to help teach other subjects like the sciences.

The development of the site will be advantageous and the keeping of the main site would be a good way to supplement educational learning.

Thank you for your consideration of this proposal.

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Appendix A

general risk assessment

General risk assessment						
Hazards	Risk	Who would be hurt	Likelihood	Overall	Mitigation	after mitigation
Slip Trips and Falls	3	Visitors Team members Teachers and staff	3	6	Recusing the fall hazards and cleaning up if and spillage occur Maintain the baths Appropriate footwear	Low
Thing falling	4	Visitors Team members Teachers and staff	1	5	That the trees are monitored and trimmed when needed	Low
Fire	4	Visitors Team members Teachers and staff	3	7	Establish fire brakes around the site Clear excavation policy Daily check of fire risk and weather forecast Back burning or leaf litter pick up	Low medium

General risk assessment						
					Have the site made out of fire retardant matorials Non-smoking site	
Cuts and bruises	2	Visitors Team members Teachers and staff	4	6	Protective clothing Briefing them in the safety chat Closed in shoes Touches	Very low
Safety of the site	3	Visitors Team members Teachers and staff	2	5	The people who use the site need to be signed in And having staff monitor the people on site	Low
Weather	4	Visitors Team members Teachers and staff	4	8	Check the weather forecast every day and though out the day Plan activity's accordingly	Low
Temperature	4	Visitors Team members Teachers and staff	4	8	Ensuring that there are enough blubberers (drinking fountains) around and that there is	low medium

General risk assessment						
					enough shade to hide from the sun The leader is monitoring the participants even inside to make sure that they are ok	
Road	5	Visitors Team members Teachers and staff	2	7	Have clear warnings of where people are likely to cross the road and reduce the speed limit	Medium
Cars	5	Visitors Team members Teachers and staff	3	8	Have clear warnings of where people are likely to cross the road and reduce the speed limit	Medium

caving risk assessment

Caving risk assessment						
Hazards	Risk	Who would be hurt	Likelihood	Overall	Mitigation	after mitigation
Slip Trips and Falls	3	Visitors Team members Teachers and staff	3	6	Recusing the fall hazards and cleaning up if and spillage occur	Very Low
Equipment fitted improperly	4	Visitors Team members Teachers and staff	4	8	A thorough briefing to all participants as well as having <u>staff continuously</u> checking gear	Low
Hair and jewellery trapped in cloths or equipment	3	Visitors Team members Teachers and staff	4	7	Having the parapentes remove all jewellery or secularly tuck it out of the way And long hair is tide up and not dangling	Low

Caving risk assessment						
Getting stuck	3	Visitors Team members Teachers and staff	4	7	Having the leader control the groups way though keeping the challenge appropriate for the ability And having a good knowledge of the exits	Low
Artificial cave failure	4	Visitors Team members Teachers and staff	4	8	The cave being maintain as well as any broken bits being repaired or replace ASAP	Low
Cuts and bruises	2	Visitors Team members Teachers and staff	4	6	Protective clothing Briefing them in the safety chat Closed in shoes Touches	Very low
Bangs to the head	4	Visitors Team members Teachers and staff	3	7	In the safety brief that the importance of helmets staying on and being properly fitted is critical	Low

Caving risk assessment						
Panic attacks	3	Visitors Team members Teachers and staff	5	8	Closely monitoring the group Encourage the group to participate don't force Know the exits Have soft skills	low medium
Heat torch dying	2	Visitors Team members Teachers and staff	2	4	The leader has spare headtorches which are charged Know where the exit <u>are</u> . Have torches charged between groups	Very low
Locked inside the cave	3	Visitors Team members Teachers and staff	1	4	Have a group check at the start and end of the activity and check the cave before locking	Very low

Rock climbing risk assessment

Rock climbing risk assessment						
Hazards	Risk	Who would be hurt	Likelihood	Overall	Mitigation	after mitigation
Slip Trips and Falls	3	Visitors Team members Teachers and staff	2	5	Recusing the fall hazards and cleaning up if and spillage occur	Very Low
Equipment fitted improperly	4	Visitors Team members Teachers and staff	4	8	A thorough briefing to all participants as well as having starve continuously checking gear	Low
Hair and jewellery trapped in cloths or equipment	3	Visitors Team members Teachers and staff	4	7	Having the parapentes remove all jewellery or secularly tuck it out of the way And long hair is tide up and not dangling	Low

Rock climbing risk assessment						
Being dropped or falling of the wall	5	Visitors Team members Teachers and staff	4	9	Having the leader control the speed of the decent and ensuring the leader is in the position of most usefulness	Low
Belaying and belay device	4	Visitors Team members Teachers and staff	4	8	Either the leader will belay or monitor the <u>belaying</u> and the participant will be train and assessed in proper belaying techniques.	Low
Walking around	3	Visitors Team members Teachers and staff	3	6	The walk way will remain uncongested and in the safety brief to communicate the importance of looking up whilst walking around and to not walk underneath anyone who's above you	Low

Rock climbing risk assessment						
Gear maintenance	5	Visitors Team members Teachers and staff	4	9	That the team members are constantly monitoring the condition of the gear as well as a full logged inspection every 6 months to ensure that the gear is still fit for purpose	Low
Peer belaying (bell ringing)	3	Visitors Team members Teachers and staff	4	7	Having a team member holding the end of the rope to ensure that the participant <u>is secure at all times</u> In the safety brief <u>stress</u> the importance of team work.	Low

Rock climbing risk assessment						
Cross loading karabiners	3	Visiting Children, Team Leaders, Teachers and Staf	4	7	Not overloading the karabiners and making sure that the climbers are in line with belayer	Low
Karabiners not being tightened	4	Visiting Children, Team Leaders, Teachers and Staf	5	9	In the safety brief ensuring the importance of making sure that the karabiners are locked before the climber leaves the floor Aswell as staff monitoring throughout	Low
Clipping in to gear loops	4	Visiting Children, Team Leaders, Teachers and Staf	3	7	Providing the participants with simple harness with minimal extras to mitigate confusion In the safety brief <u>stake</u> which loop needs to be clipped in to.	Very Low

Rock climbing risk assessment						
Knowledge and skills	5	Visiting Children, Team Leaders, Teachers and Staf	5	10	That the staff have the current and up to date knowledge and skills With the staff being industry trained where possible and inhouse sign off if not.	Very Low
Falling object	3	Visiting Children, Team Leaders, Teachers and Staf	4	7	That all thing stored above head hight are secure and all holds, and other climbing points are attached to the wall and roof secularly with a backup system for the anchor points	Very Low
Falling from hight	4	Visiting Children, Team Leaders, Teachers and Staf	3	7	That the balcony is maintained as well has having guard rails which are check and maintained when needed	Low medium

Rock climbing risk assessment						
Low level traversing	4	Visiting Children, Team Leaders, Teachers and Staf	3	7	Ensuring the participants are briefed on the activity as well as the leader not allowing them to get too far off the ground	
Asthma and other medical concerns	2	Visiting Children, Team Leaders, Teachers and Staf	2	4	the leader will have been told about any medical concerns before the group arrives and planned accordingly stuff first aid train and they will inform the teachers where the first aid kits are as well	Low
Vising teachers "helping"	4	Visiting Children, Team Leaders, Teachers and Staf	4	8	teachers being briefed in their role before the activity as well as clearly communicating who's in charge and when	Low

Rock climbing risk assessment						
Mis matched group	3	Visiting Children, Team Leaders, Teachers and Staf	4	7	the groups have been split into appropriate size and weights whilst keeping adequate and safe group ratios	low
Group ratios	4	Visiting Children, Team Leaders, Teachers and Staf	3	7	with group sizes and time constraints it is important for the leader to maintain their group size as well as the planning staff to give the appropriate group size for the activity	low

forest risk assessment

Forest risk assessment						
Hazards	Risk	Who would be hurt	Likelihood	Overall	Mitigation	after mitigation
Slip Trips and Falls	3	Visitors Team members Teachers and staff	3	6	Recusing the fall hazards and cleaning up if and spillage occur Maintain the baths Appropriate footwear	Low
Thing falling	4	Visitors Team members Teachers and staff	1	5	That the trees are monitored and trimmed when needed	Low
Fire	4	Visitors Team members Teachers and staff	3	7	Establish fire brakes around the site Clear excavation policy Daily check of fire risk and weather forecast Back burning or leaf litter pick up	Low medium

Forest risk assessment						
					<u>Non smoking site</u>	
Plants	2	Visitors Team members Teachers and staff	1	3	As the construction of the forest the plants being developed need to be non-venomous, pointedness and not spiky to reduce the risk of harm The monitoring of the <u>plants</u> development will show if unintentional species have been introduced and then removed before they establish	Low
Animals	4	Visitors Team members Teachers and staff	4	8	The sites perimeter will be monitored and maintained however reptilians and birds would	Medium

Forest risk assessment						
					be impossible to keep <u>out</u> so the monitoring of which species are on site and the removal of undesired ones are necessary	
Cuts and bruises	2	Visitors Team members Teachers and staff	4	6	Protective clothing Briefing them in the safety chat Closed in shoes Touches	Very low
Safety of the site	3	Visitors Team members Teachers and staff	2	5	The people who use the site need to be signed in And having staff monitor the people on site	Low
Weather	4	Visitors Team members Teachers and staff	4	8	Check the weather forecast every day and though out the day Plan activity's accordingly	Low

Forest risk assessment						
Temperature	4	Visitors Team members Teachers and staff	4	8	Ensuring that there are enough blubberers (drinking fountains) around and that there is enough shade to hide from the sun The leader is monitoring the participants even inside to make sure that they are ok	low medium

Appendix B - google earth images of the site and of the forest expiation

Image 1



Image 2



google earth images of the site.
as the proposed development sites

google earth of the forest expiation
location

Image 3



google earth image of the site

Image 4



google earth image of the building being
proposed to be converted