New Murrumbateman Primary School

Education Rationale

Aaron Cook

School Learning Environments and Change, SINSW

5/8/2020

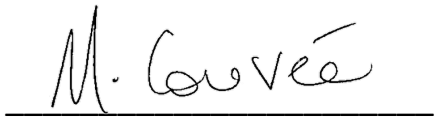
Applicable to	Infrastructure Projects
Document Owner	Executive Director, Service Planning
Status	Final
Version	1.0
Date of Issue	
Review Date	08/05/2020

Document History

Version	Date of Approval	Summary of Changes
0.1	Draft – Issued 08/05/2020	New Document
1.0	11/05/2020	No changes required

Endorsement

I have read and agree that the contents of this Education Rationale are a true reflection of the ideas and opinions of the consultative group.

Director, Educational Leadership 

Education
School Infrastructure

Education Rationale purpose and process

The purpose of this Education Rationale is to identify the desired service delivery model of the proposed new primary school in Murrumbateman.

This information will be used for the following purposes:

- Inclusion in the Final Business Case.
- Briefing for architect and design teams.
- Foundation for a school-specific transition plan.

The consultation process included:

- Meg Couvee, Director, Educational Leadership
- Phillip Katen, Principal, Berinba Public School
- Linda Langton, Principal, Yass High School.

Record of Consultation

Date	Title	Activities
08/05/2020	Discovery workshop	- Explored desired practices - Discussed adjacencies of learning spaces and core facilities - Explored hub and zone typologies

NSW GOVERNMENT Education School Infrastructure

Contents

Section A: Introduction

Section A is a generic introduction to the changing nature of education. It attempts to summarise the trends in the NSW Department of Education as shaped by the ever-evolving state of education internationally.

Education for a changing world

The nature and pace of change in recent years has brought into hard focus an acceptance that the competencies today's students need for a fulfilling life extend far beyond those required by young people from previous times (Lambert, 2017).

The CSIRO has predicted that the future will be characterised by several global megatrends (Hajkowicz, Cook, & Littleboy, 2012). The future will see us needing to make "more from less", given the challenge of supporting an increasing global population with a finite set of resources. We will see a continued loss of our biodiversity and ecosystems in the form of environmental degradation and species extinction. As the Asian middle class continues to grow, it will cause a shift in trade, markets and cultural influence globally. An ageing population will mean that society will benefit from their extended contributions whilst needing to adapt to respond to their changing needs. We will experience increased virtual connectivity brought on by continual technological advancements. Greater expectations will be placed on the quality, speed and availability of aspirational goods, services and experiences – extending to the desire for greater person-to-person connectedness as a counter to the growth in social media usage.

These, combined with the rapidly changing nature of work indicate that over 70% of the jobs that young people currently have will not exist in 10 – 15 years' time as we see changes in the labour market characterised by increased automation, globalisation and collaboration (Foundation for Young Australians, 2015). By 2030 it is predicted that we will, on average, spend 30 per cent more time per week learning skills on the job; spend double the time at work solving problems, spend 41 per cent more time on critical thinking and judgment, and 77 per cent more time using science and mathematics skills; utilise verbal communication and interpersonal skills for 7 hours a week each (up 17 per cent); and develop an entrepreneurial mindset due to having less management (down 26 per cent), less organisational coordination (down 16 per cent) and less teaching (down 10 per cent) (Foundation for Young Australians, 2017). Demand for enterprise skills has been rising over time; over the past three years, the proportion of jobs that demand critical thinking has increased by 158%, creativity by 65%, presentation skills by 25% and team work by 19% (Foundation for Young Australians, 2016).

These predictions alone provide us with a need for us to re-think how teachers teach and how students learn. At the centre of this re-think is the relative importance given to the competencies students need to acquire from their years of schooling.

Governments are recognising that while obtaining and retaining knowledge remains a fundamental competency it is but one of many competencies young people need to survive and thrive in a world recognised as volatile, unpredictable, complex and ambiguous (Lambert, 2017). While one important role of education is to prepare students for future work, its remit is much broader in that it should prepare students for life.

In a paper commissioned by the NSW Department of Education, Dr. Phil Lambert (2017) summarises drivers for educational change into five main themes:

- economic competitiveness: re-calibrating for a knowledge-based economy
- employability skills and dispositions for a changed and changing marketplace
- citizenship (and national identity)
- social cohesion, understanding and valuing diversity, respect
- personal growth.

In response to these drivers, most countries across the globe include or are looking to include in their curricula 21st century competencies.

At a national level, the development of these competencies are best represented through the seven general capabilities embedded in the content of the Australian Curriculum's eight learning areas as well as to some extent through the cross-curriculum priorities.

The seven general capabilities are:

- literacy
- numeracy
- information communication technology capability
- critical and creative thinking
- personal and social capability
- intercultural understanding
- ethical understanding.

These capabilities are integrated into learning area syllabuses to support deep knowledge and understanding of discipline content and skills.

Finally, we have evidence that the students of our generation come prepared and open to strengthening these capabilities. Contrary to negative popular stereotypes, our children have a real and deep concern for the wellbeing of others and society as a whole (Office of the Advocate for Children and Young People, 2016). We are fortunate to have students ready for positive, meaningful futures; as such, educators need to prepare them to create one.

Section B: Executive summary

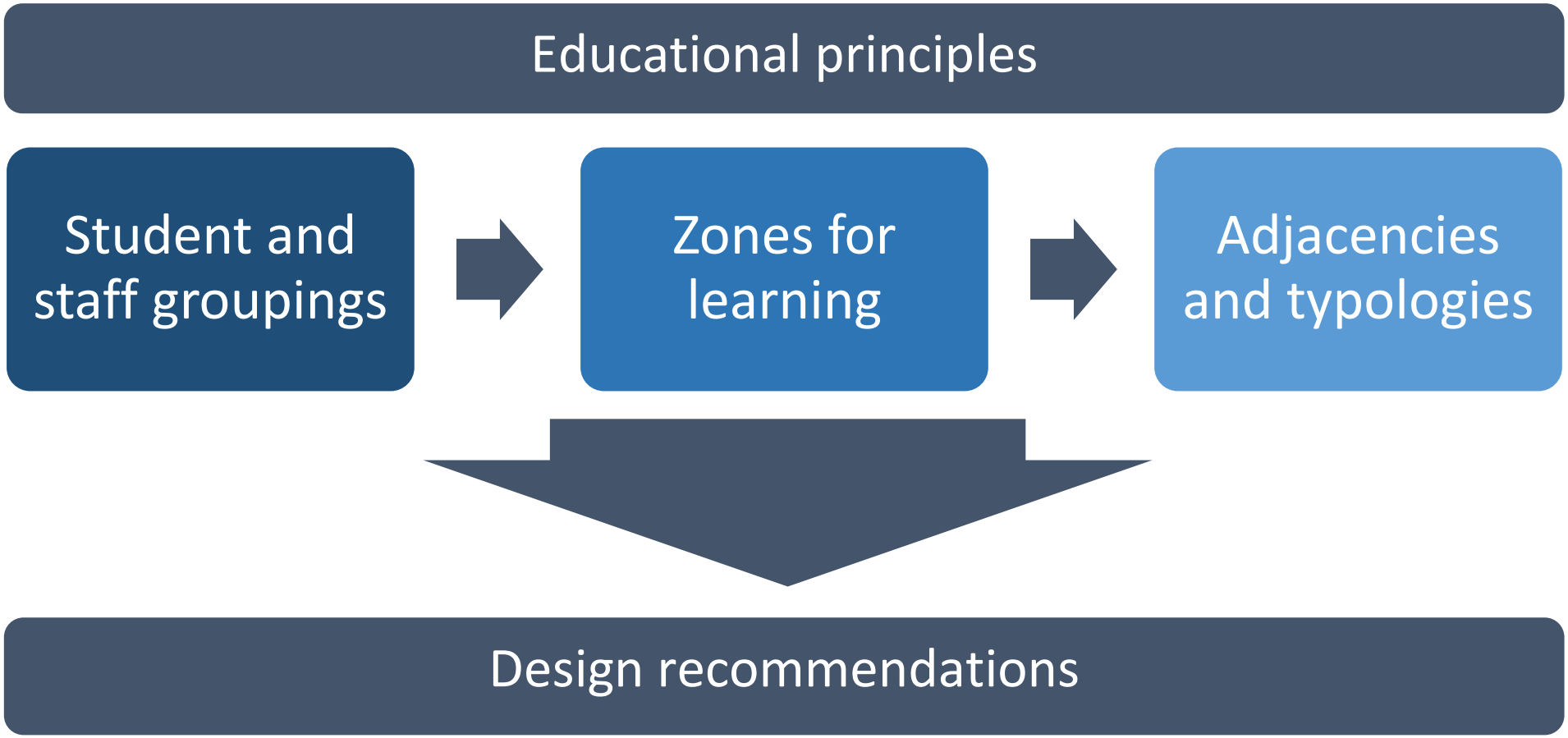
A new primary school is proposed in the town of Murrumbateman. The proposal at the time of this document creation is for a core 21 school, initially with 16 learning spaces and room for future expansion.

The school should be designed to initially support the practices that we know to be beneficial to student learning and wellbeing, as well as being adaptable to long-term changes in pedagogy, curriculum and technology.

Learning environments should support:

- a range of formal and informal learning activities
- a sense of belonging and community within the school
- collaborative teaching practice
- the full curriculum including creative and visual arts; science and technology; personal development, health and physical education; and the general capabilities (see page 6)
- A connection to the natural environment and the local Aboriginal histories and culture.

Section C: Educational vision



This section seeks to define, in general terms, the educational vision for the new school. This vision will inform the design of learning environments and their adjacencies.

Education principles

EFSG General Education principles

The NSW DoE Educational Facilities will:

Education Principle 1: First and foremost, focus on the **needs of learners and learning**.

Education Principle 2: Build **community and identity** and create a culture of welcome, inclusion and belonging that reflects and respects diversity within the school's community.

Education Principle 3: Be aesthetically pleasing.

Education Principle 4: Provide **contemporary, sustainable learning environments** that:

Promote learning for students and teachers through collaboration, social interaction and active investigation

Encourage learner self-management and self-direction

Support a full range of teaching strategies from direct explicit instruction to facilitation of inquiry and authentic project and problem based learning

Facilitate learning and connection anywhere, anytime by providing seamless access to ICT and integration of learning resources throughout the learning spaces

Be integrated into, and maximise the use of the natural environment

Enable aspects of the buildings, building design and outdoor spaces to be learning tools in themselves—for example, learning from the ecologically sustainable features of the design and associated energy management systems

Are age and stage appropriate

Education Principle 5: Embed the potential for **re-configurability**, both in the present for multi-purpose use and over time for changing needs

School-specific education principles

The following principles elaborate on general education principle 1, to describe "the needs of learners and learning". This is done so in the context of the NSW Department of Education Strategic Plan 2018-2022:

Our goals

1. All children make a strong start in life and learning and make a successful transition to school.
2. Every student is known, valued and cared for in our schools.
3. Every student, every teacher, every leader and every school improves every year.
4. Every student is engaged and challenged to continue to learn.
5. All young people have a strong foundation in literacy and numeracy; deep content knowledge; and confidence in their ability to learn, adapt and be responsible citizens.
6. All young people finish school well prepared for higher education, training and work.
7. Education is a great place to work and our workforce is of the highest calibre.
8. Our school infrastructure meets the needs of a growing population and enables future-focused learning and teaching.
9. Community confidence in public education is high.
10. Our education system reduces the impact of disadvantage.

[1]

Learning is differentiated and personalised
Learning is designed to support, extend and challenge all learners in all aspects. Educators respond to the needs of learners through formative assessment and tailoring learning experiences that set high expectations and engage learners.

Learning is meaningful and connected
Learning is integrated across curriculum areas and connected to self, community and the world in meaningful and significant ways. The natural environment, and local Aboriginal histories and culture are considered in using the outdoor environment as a learning resource.

Learning allows for inquiry and problem solving
Students are actively engaged in learning through exploration and discovery with resources available at the point of need to research, hypothesise, test and evaluate. Learning sparks curiosity and engagement whilst building skills in design thinking.

Learning is a skill to be gradually developed
Primary school offers the essential experiences for a child to develop their passion for, and ability to learn. Students in kindergarten require high levels of explicit instruction. As they practice their skills, they begin to develop independent learning skills that are utilised more frequently as they progress through school.

Learning is collaborative
Teachers work together to create diverse experiences for their students that build a sense of community. Teachers model collaboration by working together to flexibly group students to best leverage expertise, space and resources for student learning.

Learning is flexible
Educational practices are continually evolving with educators engaged with current and emerging research and best practice. Learning and teaching is flexible enabling fluid transition between strategies. Educators maintain a cycle of reflective practice and ongoing professional learning for themselves and as part of learning networks to build capacity.

[1] *Icons sourced from flaticon.com*

Practices for future-focused learning and teaching

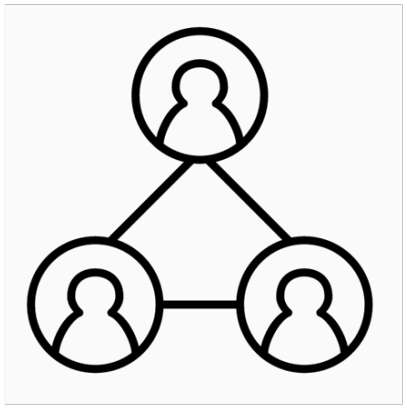
The following considerations provide guidance for design discussions by focusing on the teaching, learning and organisational practices that are desired for the new school. While there is an acknowledgement that these practices will change over time, and this should be reflected in the adaptability of the school design, there needs to be a starting point. This starting point – the initial spatial configuration – must be aligned to the practices desired at each school.

A series of practices are presented in this section. These practices have been explored with the consultative group, and their preferences presented as a heat map. This heat map seeks to provide an indication for the starting point of learning and teaching practices at schools in this network.

These practices are developed from the OECD Framework for Innovative Learning Environments:

Figure 1 OECD Framework for Innovative Learning Environments

Responsive (active) learning



Flexible grouping

Collaborative teaching

Responsive (active) learning

Also known as differentiated or student-centred learning, this practice describes learning in which students can easily move between different learning modes (below). This leads to a more engaging learning experience, and one in which the activity best matches the desired outcome.

To support responsive learning, the following spaces (zones) should be available to support the range of learning modes:

- Whole class presentation or instruction
- Small group (max. 4 student) targeted instruction (the engine room)
- Quiet, focused, independent work
- Small group collaboration and discussion
- Hands-on, experiential learning
- Retreat – a quiet place for a sensory break
- Play/outdoor learning.

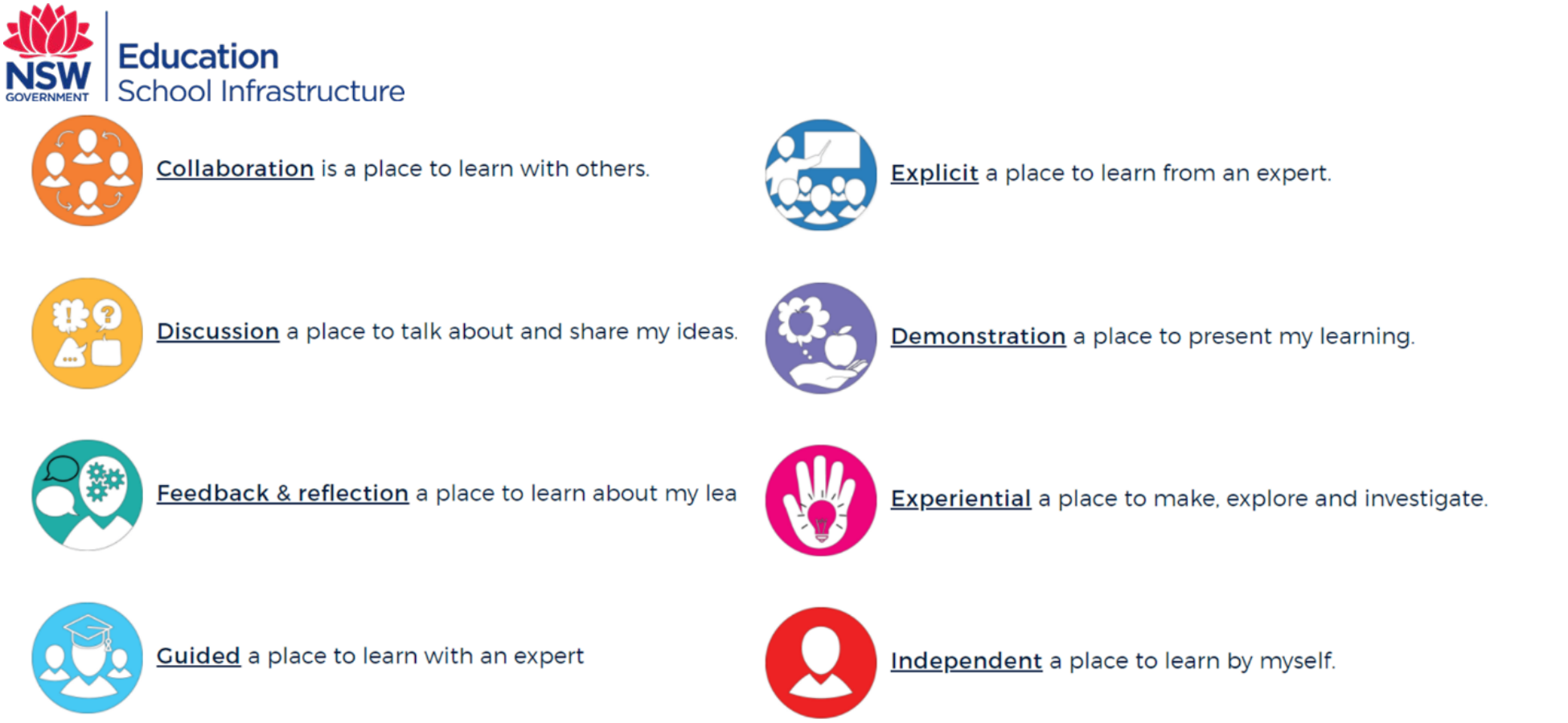
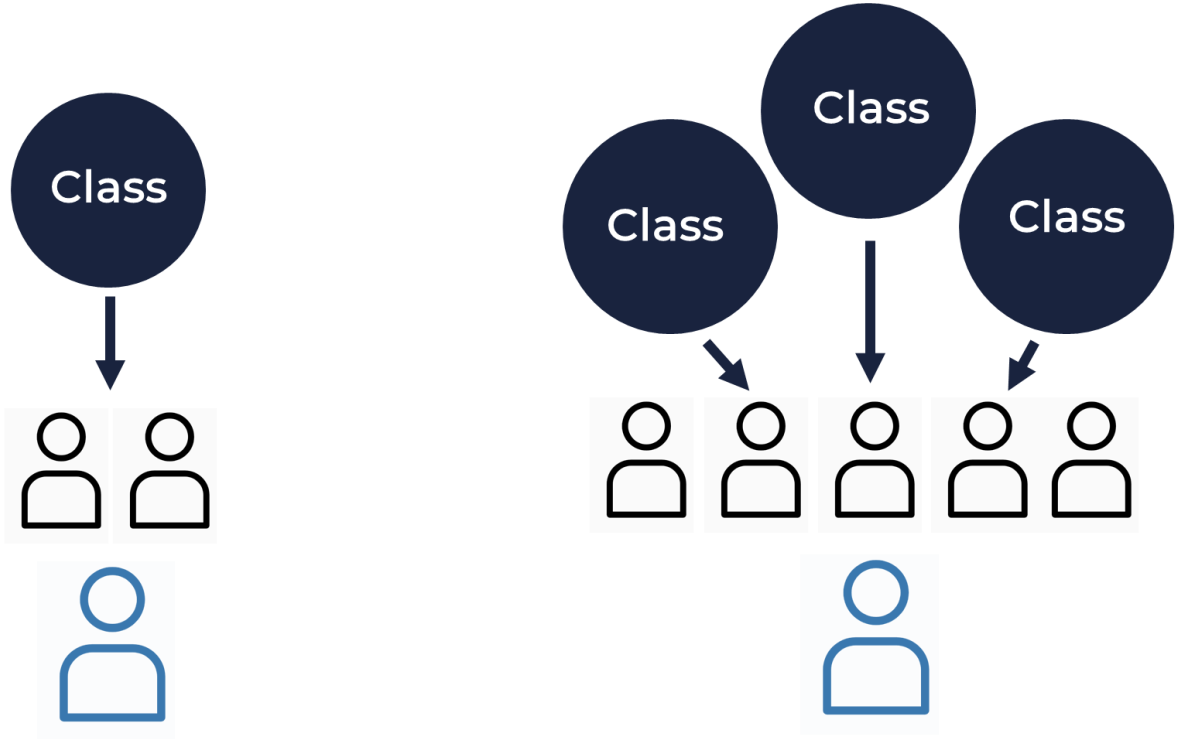


Figure 2 The department's learning modes describe the range of formal learning activities a student will engage in

Flexible grouping

Teachers use formative assessment to determine the right learning for a student at the right time. For efficiency, this is often done in small groups. When teachers have more students from which to create groups, more students can benefit from this instruction.

It's therefore desirable to provide opportunities where students are able to learn with peers from other classes. This demands classes that are easily accessible to one another, so that teachers can work together to create groups for instruction. For this school context, it's likely these groups will be formed from classes within the same year and stage group. Therefore, all classes within the same stage should be within easy access.



When adjacent classes are more accessible, teachers can create larger groups for targeted instruction. This creates efficiencies and offers targeted teaching for a greater number of teachers.

Collaborative teaching

Collaborative teaching (or co-teaching) is when two or more teachers working together sharing students, spaces and/or resources. This affords in-situ professional learning and provides students with access to different expertise and support. The spaces in this school should strongly encourage co-teaching between teachers of the same year group.

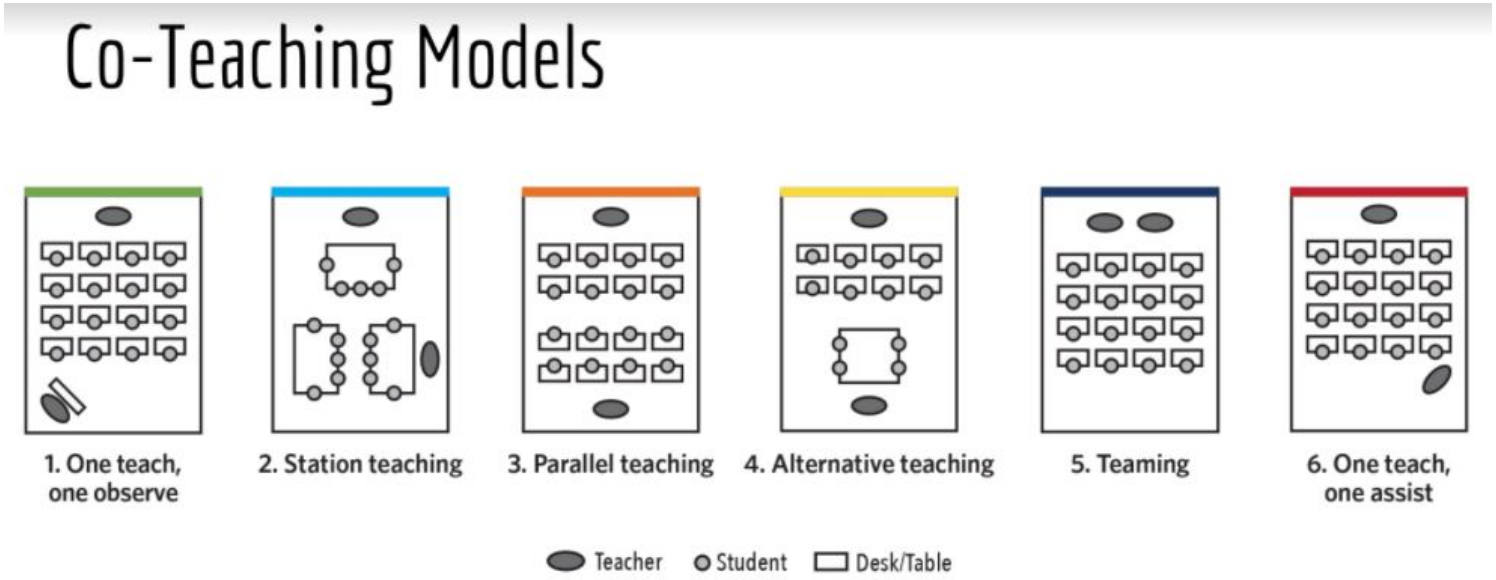


Figure 3 Different approached to collaborative teaching

Inclusion and universal design

Learning support classes should be located in a centralised space to maximise integration with the rest of the school. Reference should be made, where possible, to universal design principles for the accessibility requirements of students with a disability.

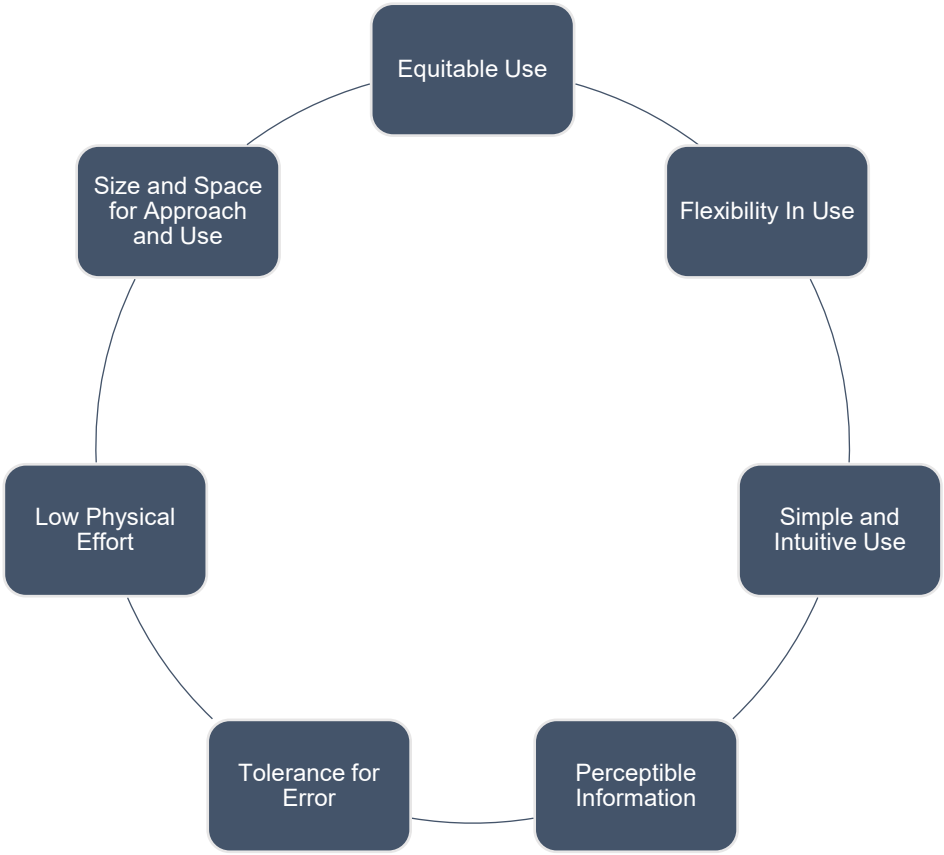


Figure 3 7 Principles of Universal Design- The Centre for Universal Design (1997)

Section D: Design recommendations

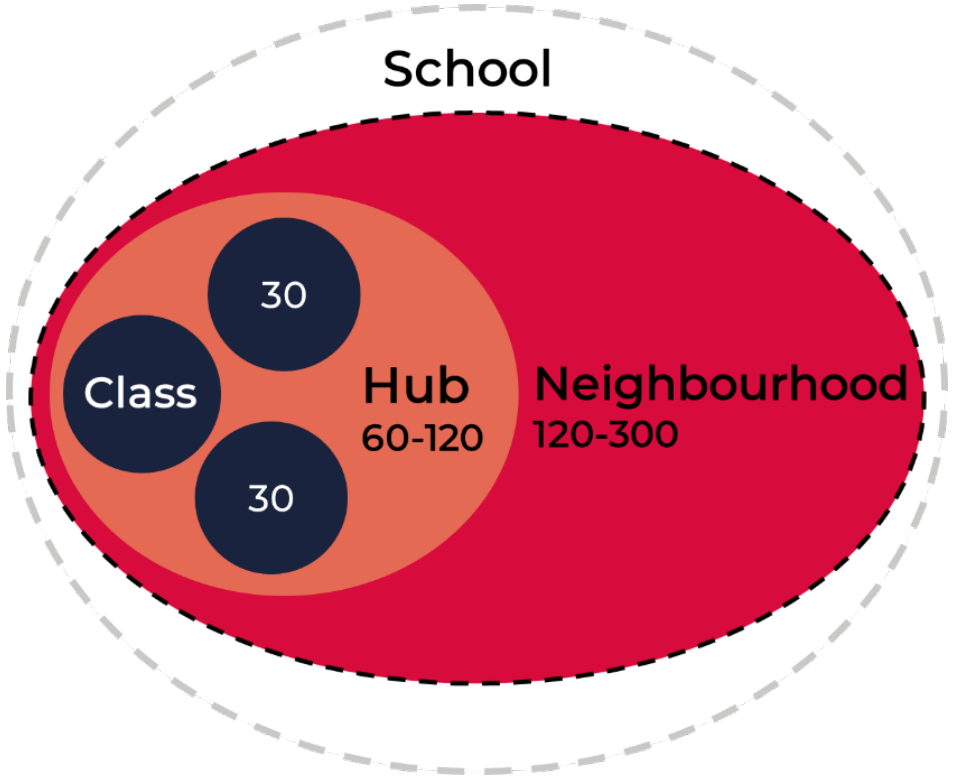
A tiered framework for learning environment design

The EFSG assumes learning environments are owned by a particular group of people – typically a **class** – for a period of time. Exceptions include core facilities that are shared across the **school**.

The SINSW tiered framework for learning environment design considers "**zones**" that can be shared across classes in order to create the diverse offering of spaces that best support contemporary learning and teaching practices.

Two new organisational tiers (beyond class and school) are introduced to consider these new ways of learning, teaching and designing spaces. These tiers are:

- **Hubs**, a small number of classes learning as a community, sharing spaces, resources and teacher expertise. This group is typically between 60 (2 classes) and 180 students (6 classes).
- **Neighbourhoods**, a cluster of hubs, typically arranged by year or stage group. While a neighbourhood is less likely to learn together as a whole community, they can share spaces less frequently needed, such as a large presentation space. Neighbourhoods may be themed to represent different learning areas, for example a STEM or Performing Arts neighbourhood.



Zones

To consider what types of spaces are needed in a school, the concept of zones is introduced. A zone is a purposefully designed space to effectively support desired practices and behaviours.

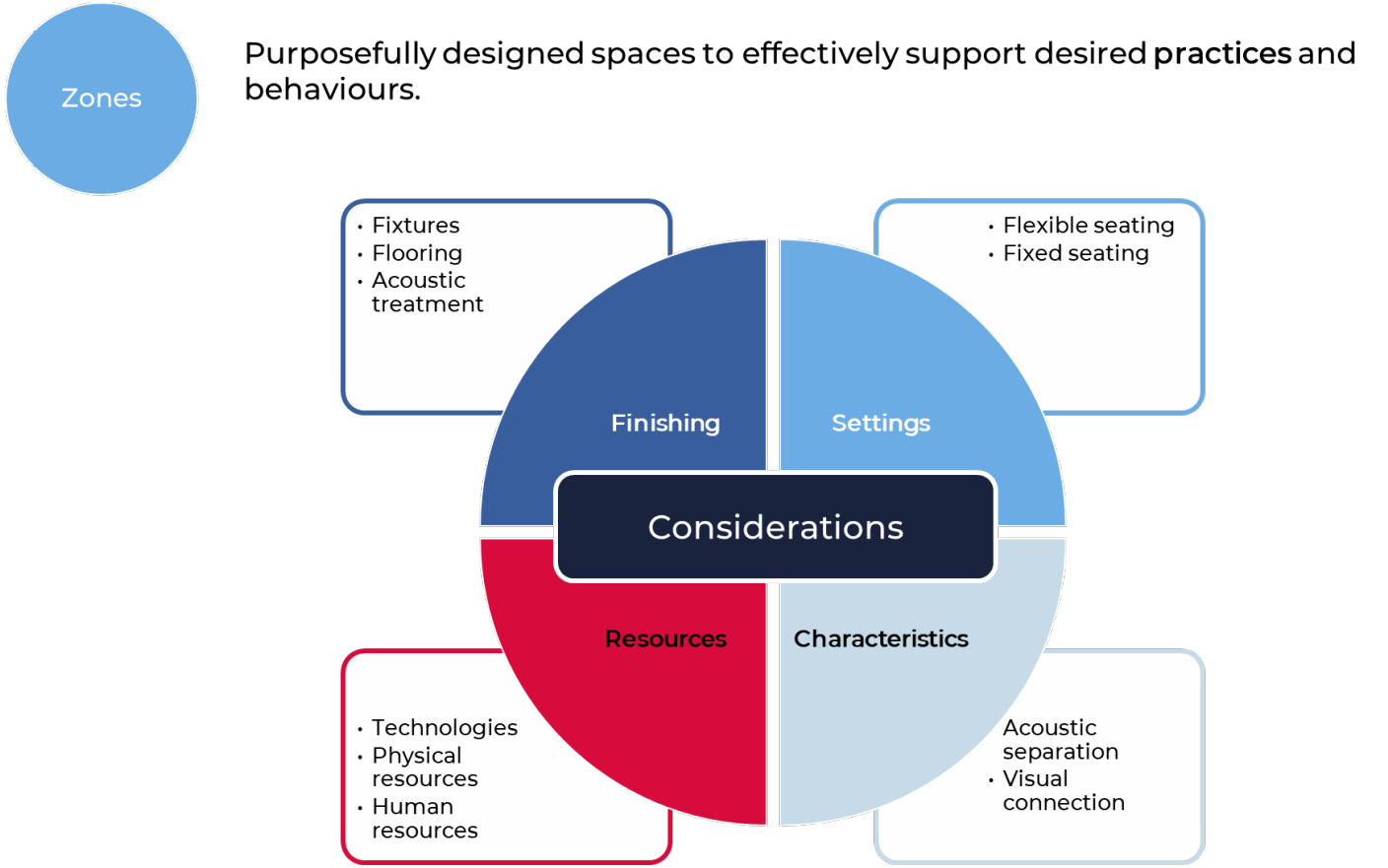


Figure 4 Design of zones should consider the spatial characteristics that best support the desired activities of the groups who will occupy the zone

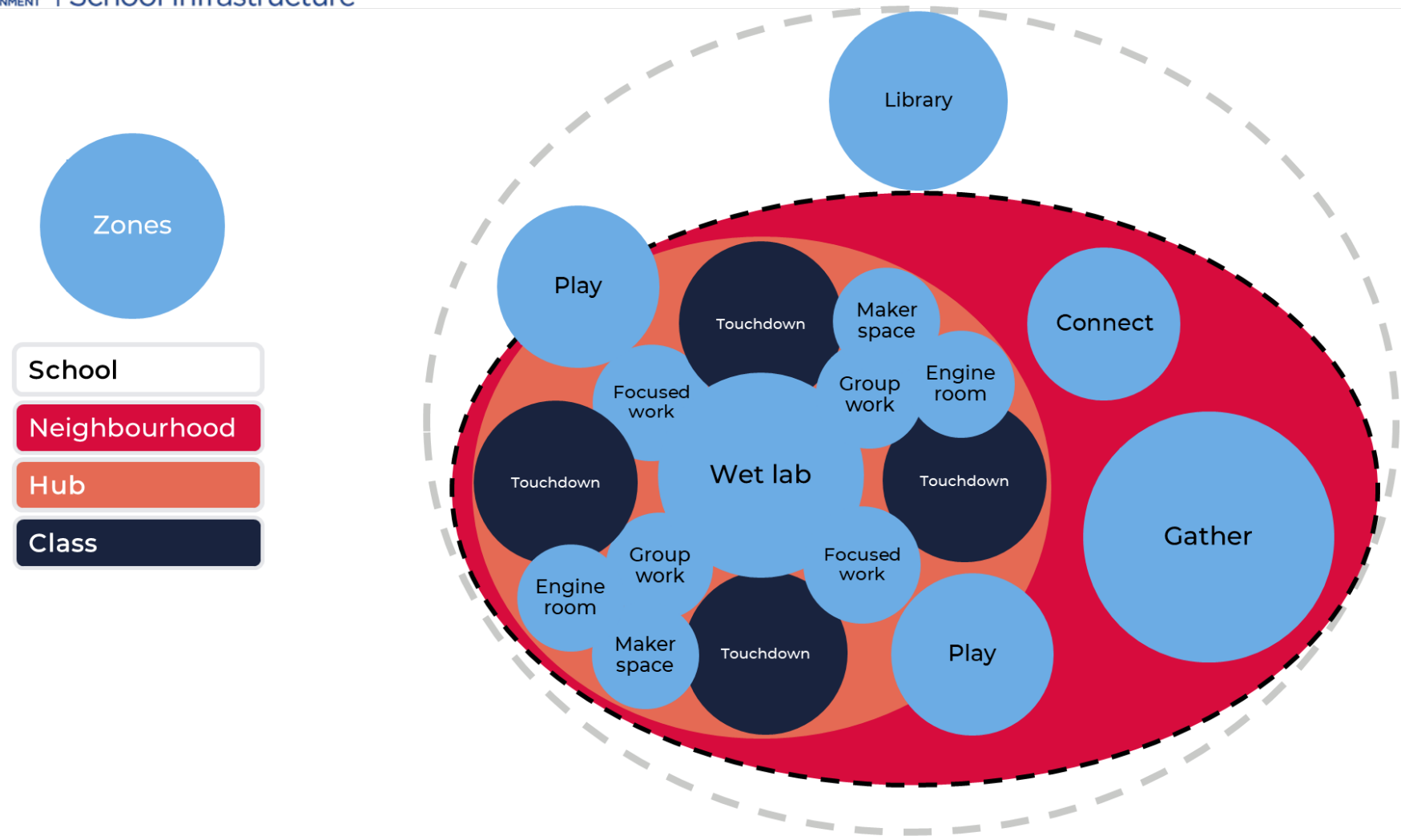
Zone	Description	Group size	Learning mode(s)
Touchdown	A whole-class presentation space for the teacher to share intentions and instructions for activities and create a sense of belonging to their class group	Up to 30	Demonstration Explicit Guided
Engine room	Targeted, explicit instruction where a teacher can model, guide and give feedback to students	Up to 4	Explicit Guided Feedback and reflection
Focused work	Students can work independently in a quiet, private space	1	Independent Feedback and reflection
Group work	Students work together in small groups on a shared project	3-6	Collaboration Discussion
Maker space	Students can create, make and work intermittently on long-term projects	Up to 10	Experiential Collaboration
Wet lab	Students engage in visual arts, science and other hands-on projects	Up to 30	Experiential Guided
Retreat	Students can take a break from the stimulus of a class learning environment	1	Independent
Play	Students can direct their own learning in a way that is creative, tactile and expressive	Up to 30	Experiential Collaboration
Connect	Students connect with nature by experiencing and learning about, in and with the outdoor environment	Up to 30	Discussion Experiential
Gather	Students meet in large groups for presentations, special events and assemblies to build a sense of community with their peers	Up to 120	Demonstration

Distribution of learning zones map

The distribution of zones across the tiers is dependent on:

- the group(s) using the zone
- how often the zone is needed.

The map on the next page presents the desired zones assuming a **combined hub of four classes**.

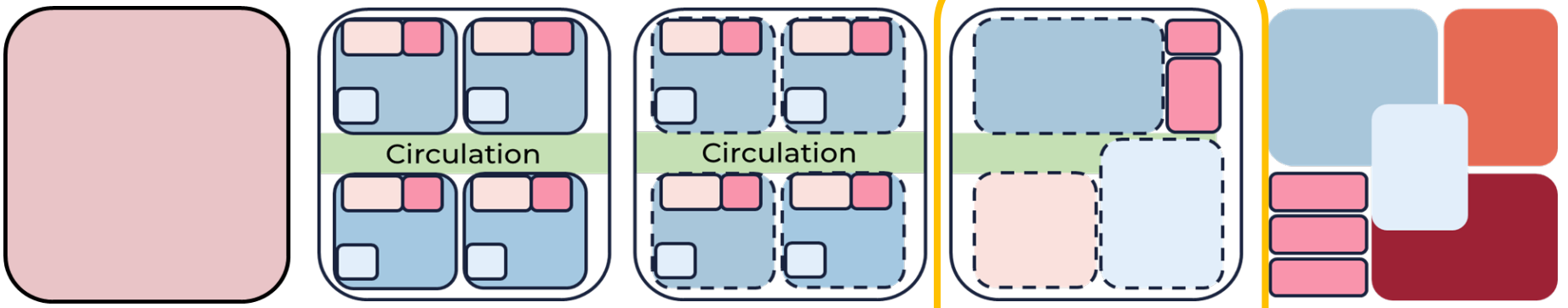

Zones
School
Neighbourhood
Hub
Class
Library
Play
Touchdown
Maker space
Connect
Focused work
Group work
Engine room
Touchdown
Wet lab
Touchdown
Gather
Group work
Focused work
Engine room
Maker space
Touchdown
Play

Hub typologies – primary schools

The types of primary school design possibilities were evaluated against their ability to facilitate the practices described in section C.

A **combined** type for **four classes** was identified as that which would best support:

- collaborative teaching across a year group
- access to a range of zones for learning
- equitable and flexible grouping of students across classes.



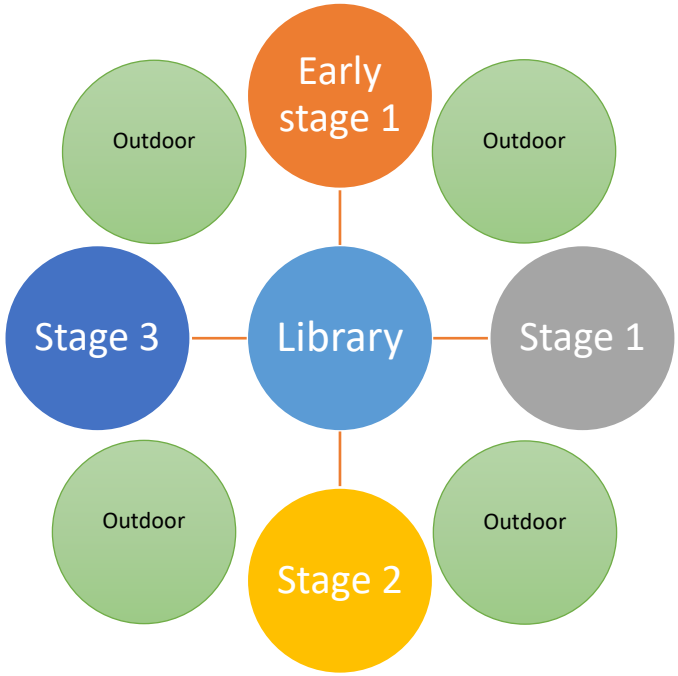
Open	Enclosed	Connected	Combined	Communal
An ambiguous and flexible space that can be modified to suit a need	Learning spaces that operate independently	Learning spaces with flexible connections	Learning spaces with flexible connections and combined allocations	Learning spaces with combined allocations and less distinct separation

Figure 5 colours represent allocations from EFSG, e.g. withdrawal room, practical activities area.

Neighbourhoods

Stage-based neighbourhoods are desired, with each having equitable access to:

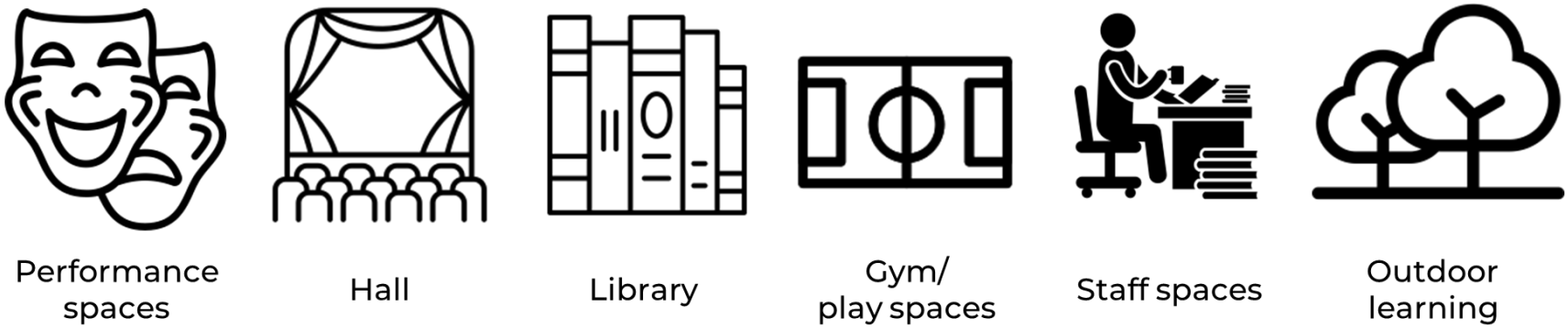
- play-space
- library
- hall
- outdoor learning spaces such as yarning circles and edible gardens.

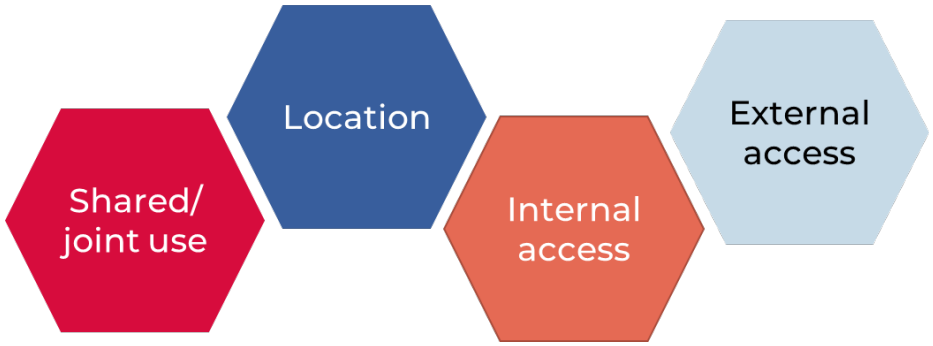


Core spaces are provided at the school level, such as a school hall. Considerations must be given to the roles of and relationship between these spaces with the other tiers.

Questions to consider include:

- Is there a desire to share this facility with other schools, or the community?
- Who will use this space, when, and how?
- Should the space be centralised, at the front of the school, or distributed across neighbourhoods?





Library

- centralised (one building)
- Located for equitable and easy access to all neighbourhoods

Staff spaces

- Hot-desking for the small number of staff who are off class at a time
- Supports collaborative work, for example, for stage meetings and workshops
- Is sufficient for non-teaching staff and casual staff
- There are enough spaces for executive staff and interviews

Outdoor learning

- Is designed in consultation with local Aboriginal Education Consultative Group (AECG) to support the local histories and cultures.

Hall

- Includes one special programs room (from library) for music and creative arts.
- Is adjacent to a COLA for larger groups
- Includes canteen to cater for events.