SACPPA Conference: Learning Space, Teaching Space August 25 – 27, NOVOTEL, BAROSSA



NEW LEARNING ENVIRONMENTS PTY LTD

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RUBIDA RESEARCH



Masterplanning and procurement: place, space & pedagogy

Introduction

The Planning and Design Process

Collaborative Design

Key Masterplan Issues

Educational basis

Planning Principles





Dr Kenn Fisher & Ana Sala-Oviedo

Space, place and pedagogy through the lens of critical theory

Team

Emma Marshall & Lizzie Davis fuse architectural and educational perspectives

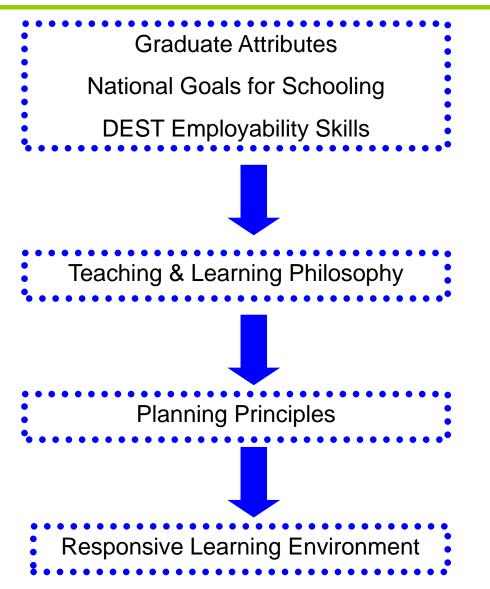
Rubida Research aims to create new learning environments through:

- Research based on the alignment of pedagogy & space
- Interaction with educators, students and communities at all levels
- Interaction with design teams
- Providing a link between educators, designers and research
- Learn more about us at www.rubida.net

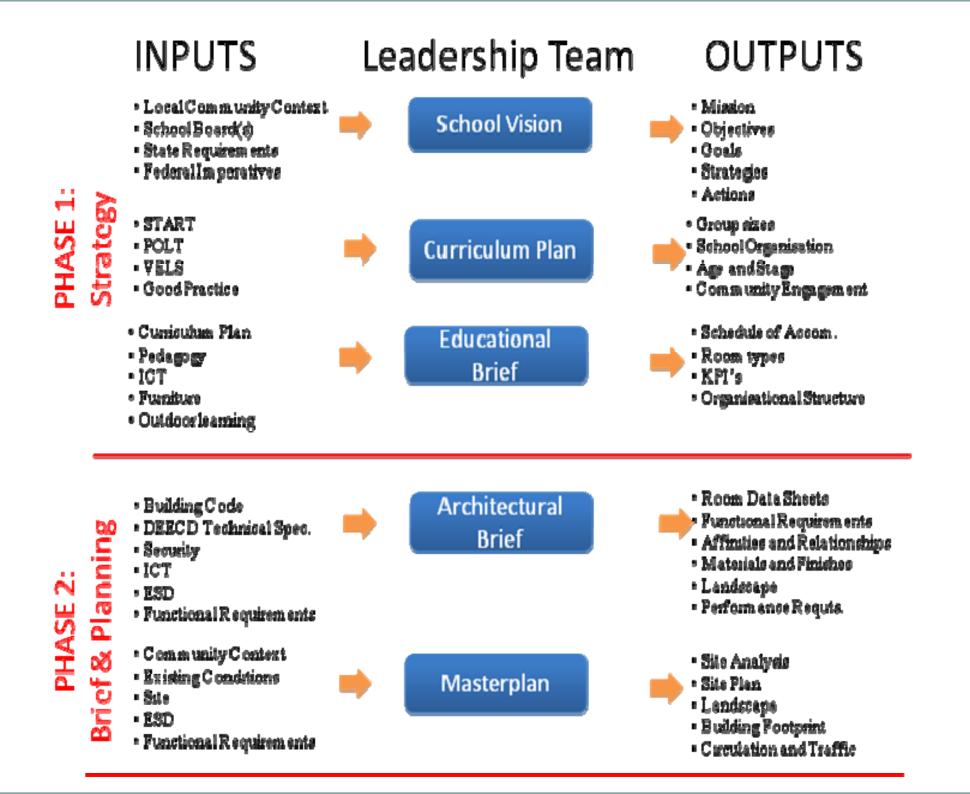


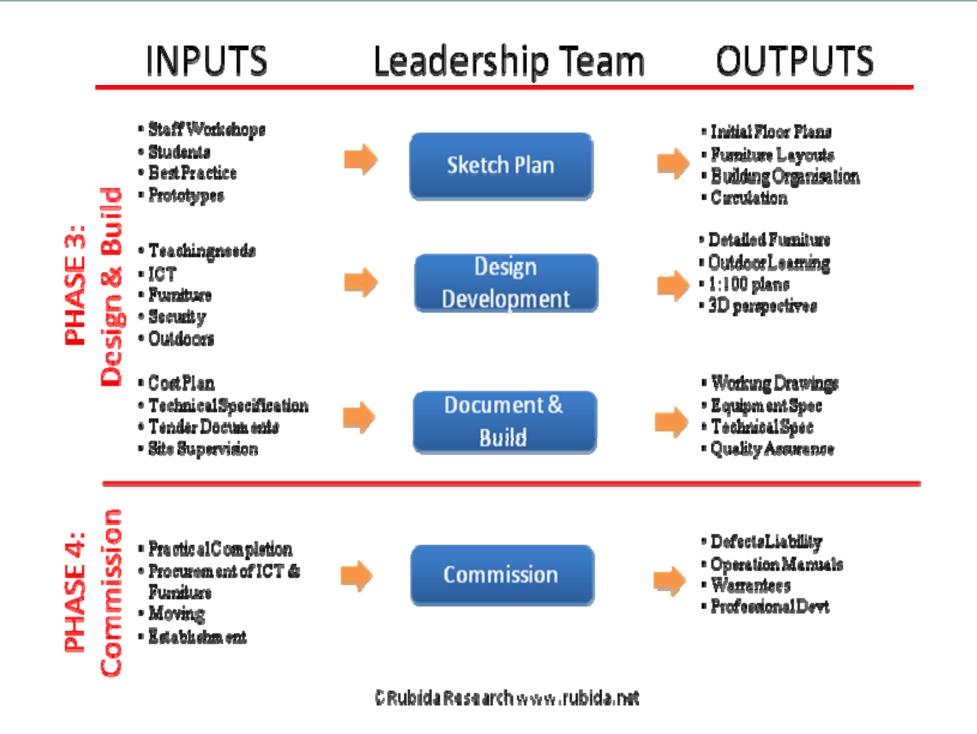


The Planning and Design Process - Example









The Collaborative Design Process

The design process has now become a highly collaborative event, in which communication between experts in different fields is the key for the success of the design.

- School teachers, staff, students
- Community
- Architects
- Engineers: Services, fire, sanitary, civil and structural, etc
- ESD
- Landscape
- Cost Planners
- Educational Planners

Key Masterplan Issues

- Information one can only know what one knows – case studies, present innovations, explore options, visit places...
- 2. Stakeholder consultation;
- 3. Educational Brief development; Educational Planning Principles
- 4. Urban Design Principles
- 5. Statutory planning regulations

Site:

- traffic (inc pedestrian, fire access, delivery etc);
- landscape (hard and soft);
- services (fire, sanitary, civil and structural, etc)
- building footprints;
- boundaries and edges; etc

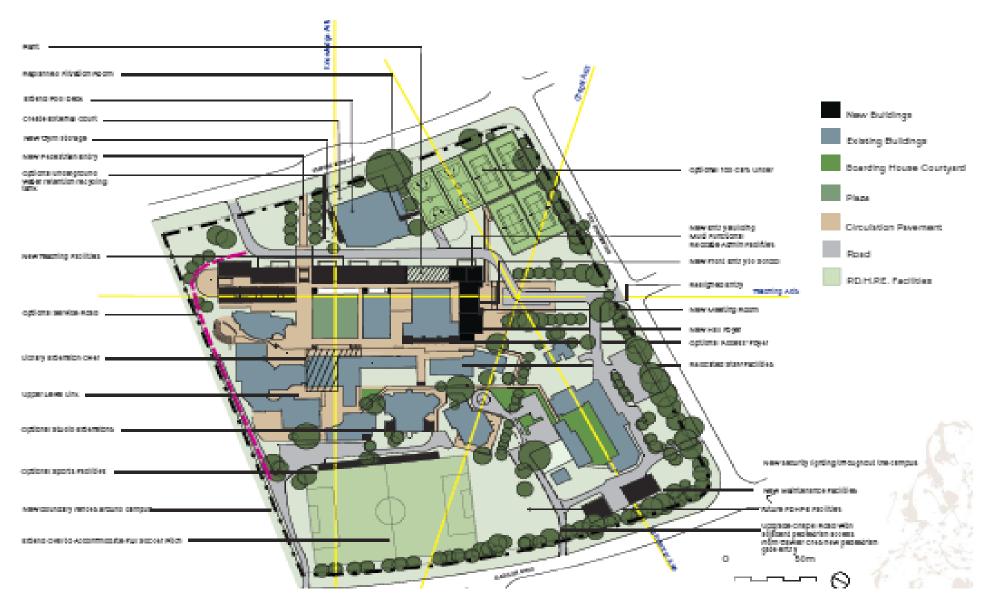
Buildings:

- connections
- morphology;
- materials and textures;

Educational Philosophy

- vision
- mission
- goals and strategies
- teaching and learning
- community links
- Etc,

Case Study: Process - CCGS



Example of Graduate Attributes (CGGS)

Graduates are:

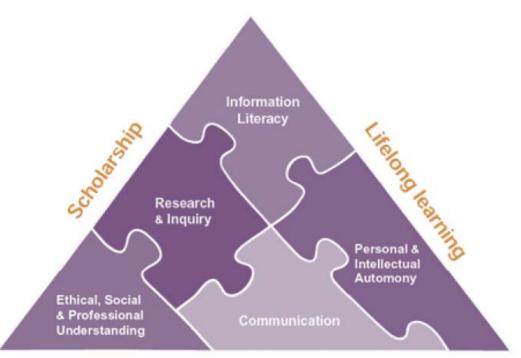
- Confident
- Ambitious
- Resilient
- Socially competent
- Academically capable

with:

- a strong sense of self
- a strong sense of justice
- respect for others
- enthusiasm for life
- cultural awareness
- well developed values and beliefs

who is:

- able to reason and make wise choices
- striving for her personal best
- ready for leadership
- imaginative
- -1spiritually alive
- a global citizen



Global Citizenship

the ability to analyse, problem solve, communicate effectively, plan and organise;

capacities which include self-confidence, optimism, self-esteem, and commitment to excellence;

the ability to exercise judgment, responsibility and rational decision making; the capacity for active and informed citizenship; employment related skills and positive attitudes to lifelong learning;

confidence in their ability to use new technologies creatively and productively;

the capacity to make a contribution to sustainable environmental development;

to have the knowledge, skills, attitudes needed to maintain a healthy lifestyle;

to understand the value of cultural diversity.

2007 Employability Skills (DEST)

Communication skills that contribute to productive and harmonious relations between employees and customers

Teamwork skills that contribute to productive working relationships and outcomes

Problem solving skills that contribute to productive outcomes

Self-management skills that contribute to employee satisfaction and growth

Planning and organising skills that contribute to long-term and short-term strategic planning

Technology skills that contribute to effective execution of tasks

Life-long learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes

Initiative and enterprise skills that contribute to innovative outcomes





What are the **CEO** educational objectives?

Holistic Learning

Developing the learner as a 'whole' being

Personalised Learning

Learner context, capital & learning style, & tailoring pedagogy to suit

ICT Rich

Understanding potential uses of ICT, current/ emerging technologies, ICT for learning, teaching & management

Trans-disciplinary Learning

Connections between old & new experiences & knowledge, & between different areas of knowledge

Stage-related Learning

Different needs at different stages

Active Learning

Question existing ideas, go beyond understandings, develop new skills

Critical Reflection

Reflection on what is being taught/ learnt, conditions that enhance/ diminish teaching & learning processes

Problem& Enquiry-Based Learning

Developing a range of thinking & learning styles which enable learners to experience & integrate different ways of knowing

What are the **CEO** educational objectives?

Figure 4.3 Other noteworthy ideas: Creative arts Action research Games A general atmosphere of safety, support, Literature Guided respect, enthusiasm reflection, Strategies and challenge prayer & supporting meditation multiple ways of knowing Values clarification **Co-operative** Case studies and moral Responsiveness to 'the learning dilemmas teachable moment' Graphic Crossorganisers disciplinary Lateral approaches thinking Students working Enquiryindividually and in Directed Field study based study groups as well as within learning the whole class

Future Trends (JISC & LDU - Bob Hunter, 2007)

- Refurbishment projects need to build in **contingencies** for future changes
- Expect the unexpected
- Provide wired networking and permanently fixed desktop computers, which will increasingly be supplemented by wireless networking and mobile devices
- **Provide power access**
- Consider the growing importance of **open** and **social** spaces
- Reflect the trend to more student-centred, collaborative and group learning
- Acknowledge access to online services from outside the traditional institutional boundary
- The use of learning technologies will continue to grow





Planning Principles

From an Educational Planning Perspective

Example of Planning Principles (CGGS) - Key Themes

COMMUNITY: School as a centre of meaningful relationships between the School, teachers, students, parents and the wider community

PEDAGOGY & SPACE: The School's built environment is flexible and adaptable

NEW PEDAGOGIES: The School values and supports teaching practices that enhance learning

HOLISM: The School promotes the holistic development of each individual

TECHNOLOGY: The School uses technology, with appropriate pedagogy, to enhance student learning

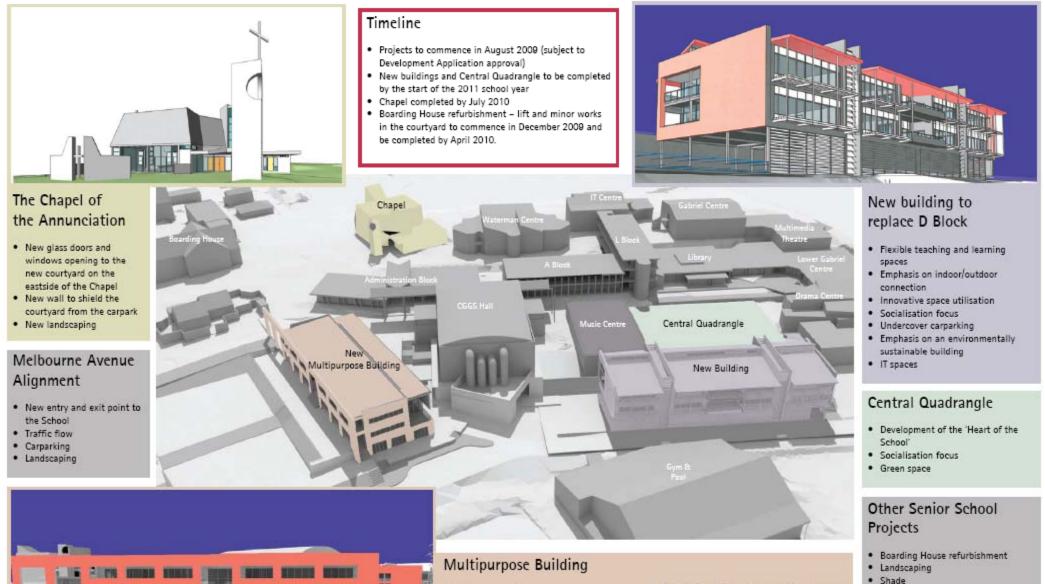
DIVERSITY: The School should be flexible and responsive to the learning needs of all students

LIFELONG LEARNING: The School provides students with learning opportunities which aim to develop the intellectual tools and learning strategies required for lifelong learning

ENVIRONMENTALLY SUSTAINABILITY: The capacity to make a contribution to sustainable environmental development

Canberra Girls' Grammar School Masterplan

Senior School Campus - Stages 2 to 4



- Entrance and Reception areas
- School Shop
- House Rooms
- Administration
- Landscaping

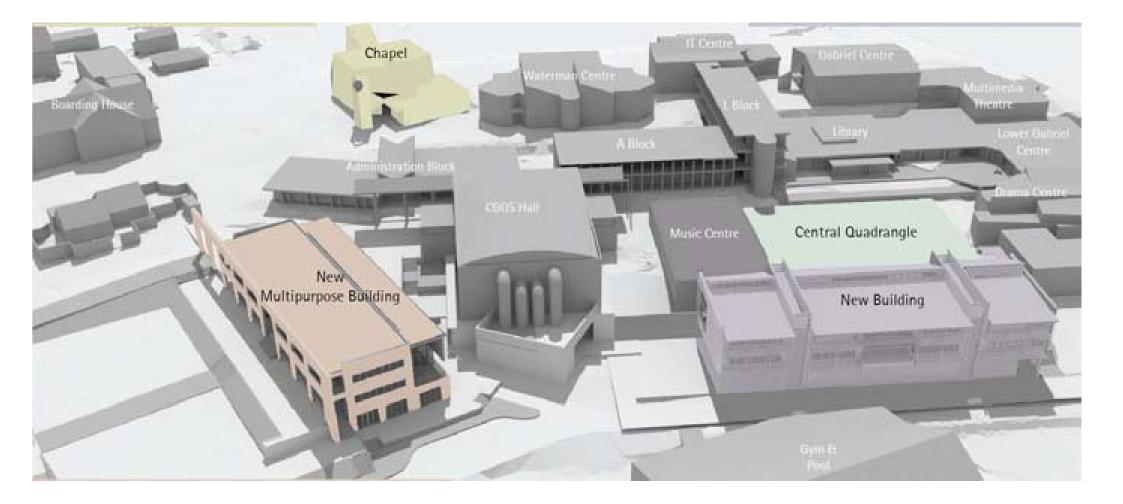
 Emphasis on an environmentally sustainable building

Carpet

Masterplan

Architects

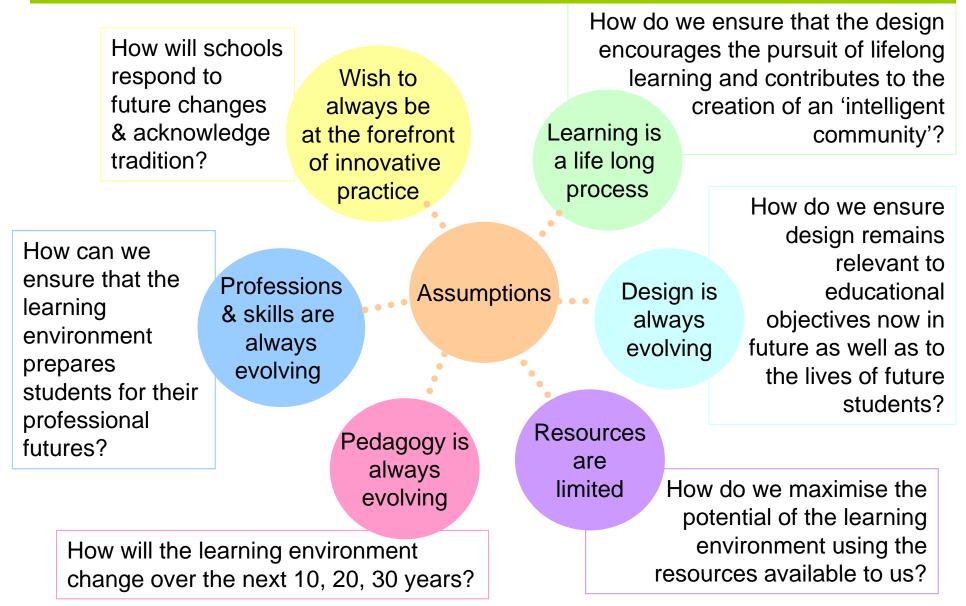
- Disabled access
- Indoor/outdoor connection
- Multi use space in forecourt
- Connection to the Hall



Planning Principles are important because...

- They encourage learning communities to **explore**, **understand and reassess their teaching & learning philosophies** in relation to space & environment
- They encourage learning communities to consider the ways in which the physical environment and the presence of the facility **impacts upon students**, **teachers & the wider community**
- They create a dialogue & a common language between the learning community & the design team
- They help to guide and justify choices in relation to design
- They ensure that the design process remains focused on the main objective, which is to enhance the learning experience for students and improve student outcomes

Planning Principles are based on several key assumptions...



General Planning Principles for all 21st Century Learning Environments

PRINCIPLE

The learning environment should **enhance teaching and learning** and accommodate•• the needs of all learners

The learning environment should serve as a centre of the community

The learning environment should result from a planning and design process that involves all community interests

The learning environment should provide for health, safety and security

The learning environment should make effective use of available resources

The learning environment should be flexible and adaptable

IMPLICATION

Research & implement best practice pedagogy & a thorough professional development strategy

Understand your context

Communicate & collaborate

Understand the effects of the physical environment on student well being, review the implications of liability & duty of care

Evaluate, prioritise & explore all options

Maintain a futuristic perspective

Case Study: Planning Principles : Meadows Community School

Key planning principles responding to educational philosophy

- **Community Hub** and Early Learning Centre contributes to a village environment which underpins family, social and educational philosophy of the school
- Entrance from both street frontages provides connections to community
- The school becomes an **icon** via architectural expression and raises expectations
- Sustainable
- Understanding disadvantage and poverty hand up not hand out
- Creating **age appropriate indoor/outdoor** learning spaces for personal growth through integrating formal and informal learning

Community Hub & Early Learning Centre as Heart of the School Gerbert Street

Educational Philosophy

The Community Hub and Early Learning Centre contributes to a village environment which underpins family, social and educational philosophy of the school.

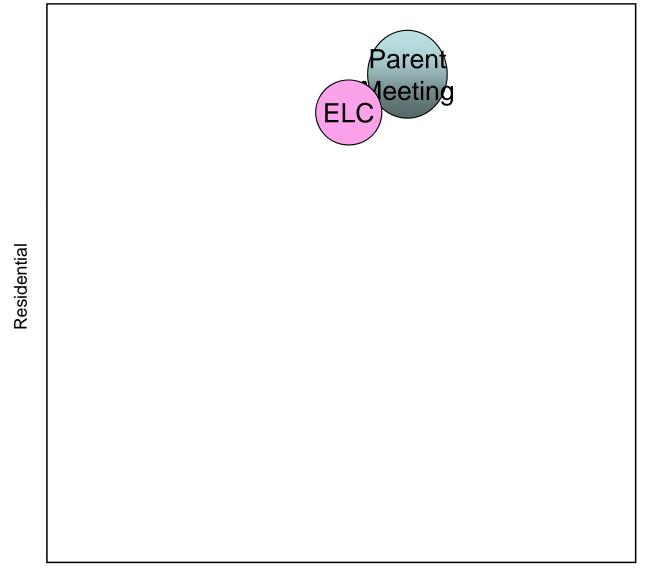
It provides a transition for young students entering

Planning Principle

schooling

the early years of

- Locate the ELC close to good public access. Provide links to P-1-2 and to kitchen and staff common room
- Access for families to refreshment facilities and meeting spaces



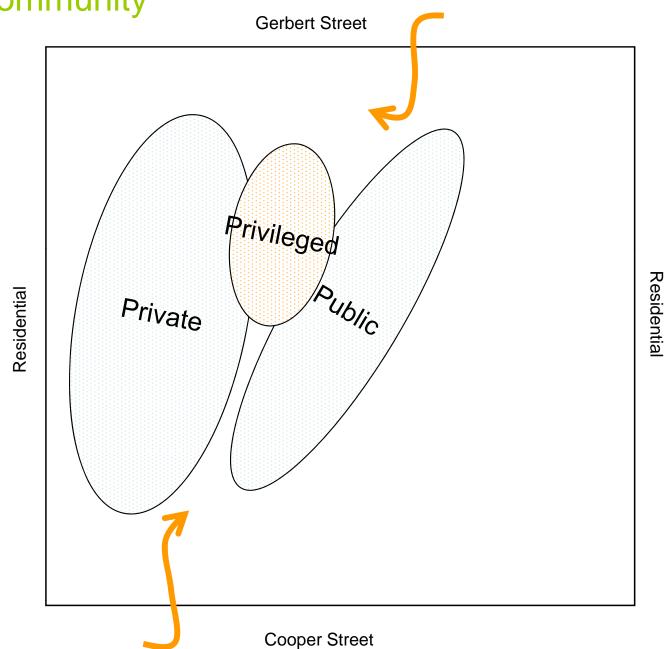
Connections to community

Educational Philosophy

- The Meadows
 Community School
 serves a diverse
 cultural and
 disadvantaged socio economic community.
- It also acts a social hub, shared resource and literacy centre for all residents in the neighbourhood

Planning Principle

 Entrance from both key street frontages provides strong connections to community



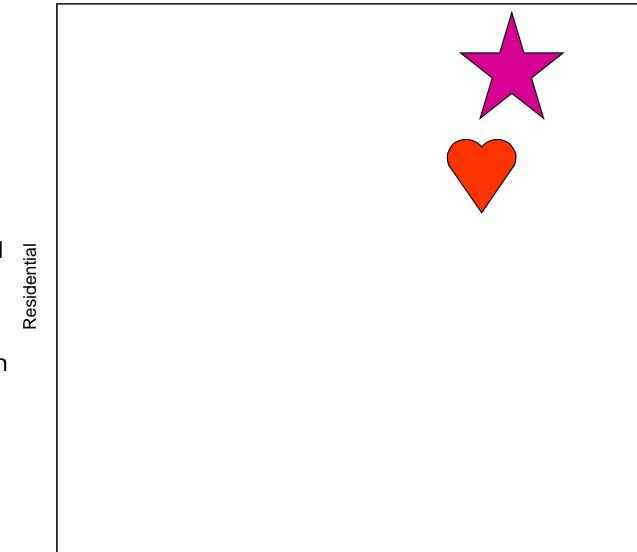
Architectural expression

Educational Philosophy

- The surrounding areas are lacking in civic institutions.
- The school will symbolically and physically support an ethos of aspiration and achievement

Planning Principle

 The school becomes an icon via architectural expression and raises expectations



Gerbert Street

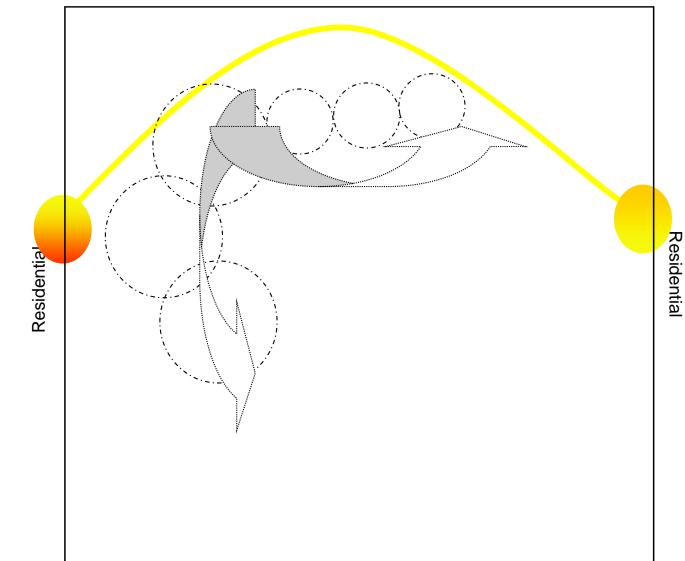
Sustainable

Educational Philosophy

- The School already uses the physical environment to demonstrate sustainable practices.
- The new school should extend these concepts through landscape and architecture

Planning Principle

- Use of passive methods:
- Cross ventilation
- Solar orientation
- Green spaces
- Insulation
- Water retention/reuse
- Thermal mass



Gerbert Street

Understanding disadvantage Gerbert Street **Educational Philosophy** Understanding disadvantage and poverty · Hand up not hand out Critical to changing the cycle in the region. • The MHUB is a key concept in this strategy ()ourpose Residentia Planning Principle¹ Hall esidential Design for 'good teaching' Festival and engaged learners ssem Connections to community authentic learning Variety of coordinated and stimulating learning spaces • Welcoming spaces to entice families to engage in their children's learning • Performance spaces, meeting & display - build essteem for students &

families.

Cooper Street 1. Haberman, M. (1991). Pedagogy of poverty versus good teaching. *Phi Delta Kappan, 73,* 290-294

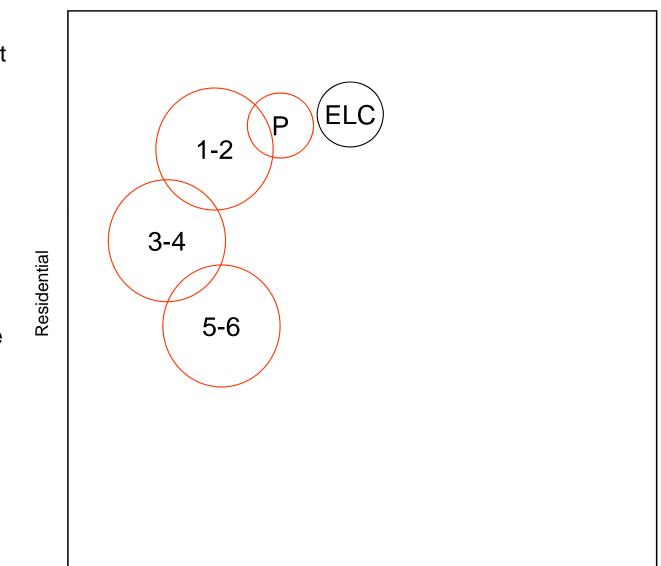
Variety of learning settings – age appropriate

Educational Philosophy

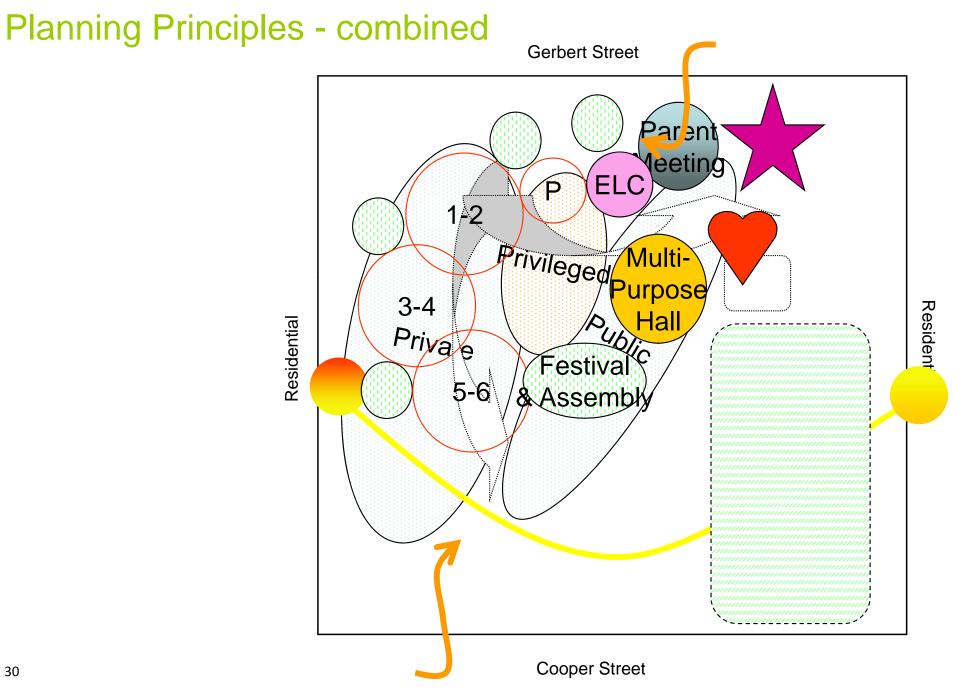
- Students display different behaviours and capabilities at different ages
- They also exhibit variations with age groups, suggesting the need for differentiation

Planning Principles

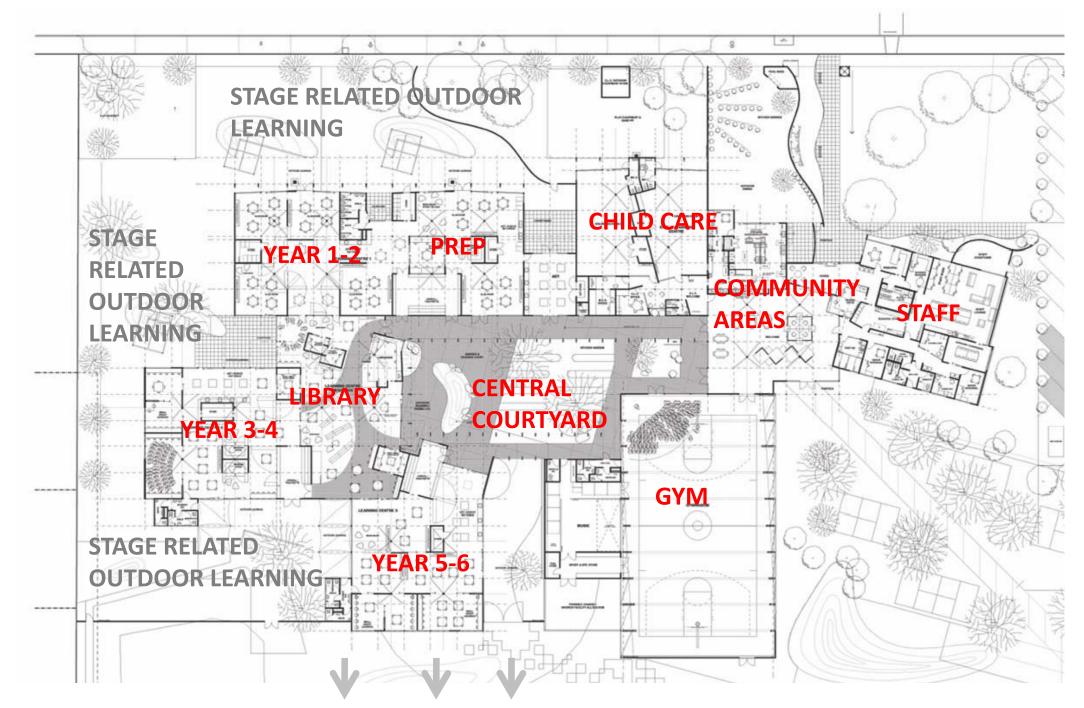
- Creating age appropriate indoor/outdoor learning spaces for personal growth
- Integrating formal and informal learning



Residentia



GENERAL PLAY AREAS



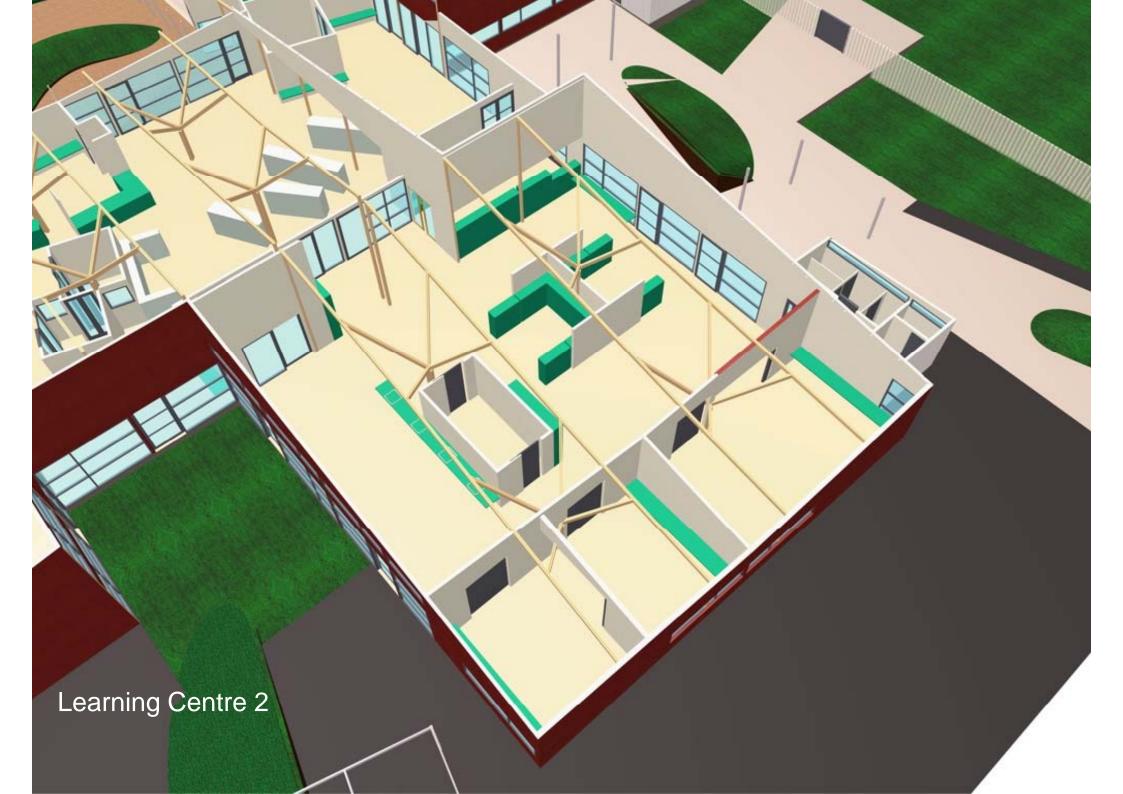












Learning Centre 3

Learning Centre 3

Group Exercise

Please refer to the sheets in your tables

We will only refer to one Example

THEME: COMMUNITY

The school as a centre of meaningful relationships between the School, teachers, students, parents and the wider community

ISSUES & CONCEPTS

Help meet a community's leisure, recreational, and wellness needs

Encourage more active parental involvement in school activities.

Support relationships with local businesses that are productive to students and supportive of the local economy

Promote participation by members of the community in a variety of ways, including mentorships, apprenticeships, and other learning opportunities based on work and service

SPATIAL IMPLICATION

Be accessible to people of all ages

Establishing a school parent resource centre, for example, sends a powerful message that parents are welcome and encouraged to take part in their children's learning.

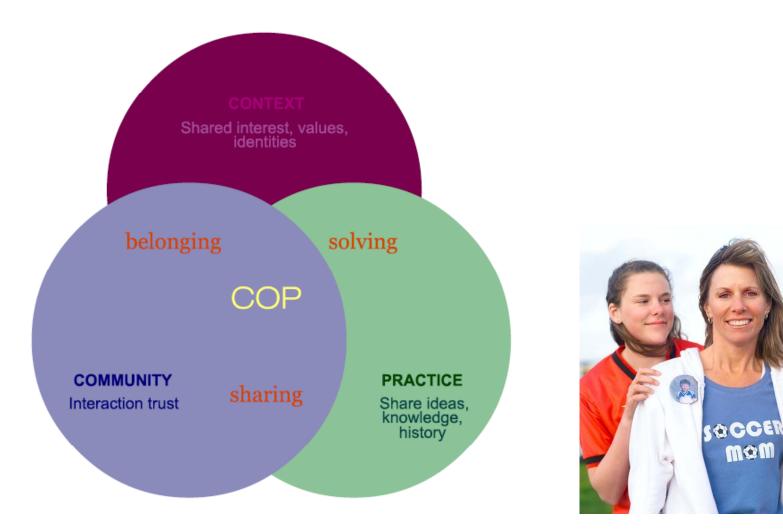
Contain shared public spaces that are accessible year round, but are zoned: public/privileged/private

Be places where creative space configurations expand school use

Serve as visible symbol of community pride

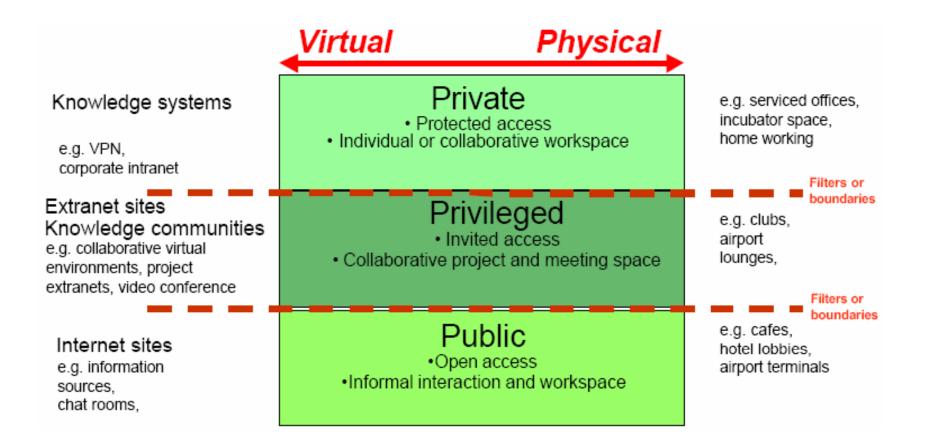
INSERT 1 PRINCIPLE PER GROUP

THEME: COMMUNITY - COMMUNITIES OF PRACTICE

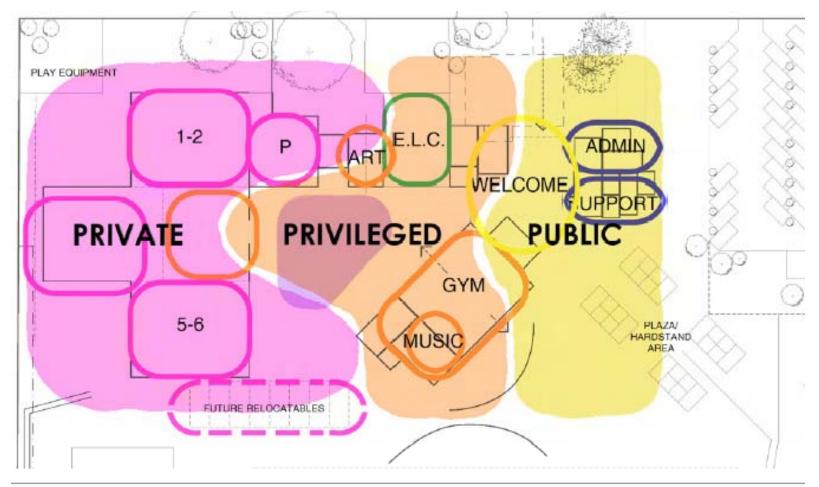


THEME: COMMUNITY - ZONING (public, privileged, private)

Three zones are applied to **regulate access** to different areas. This ensures the **safety** of the building's inhabitants and enables the removal of internal barriers.



THEME: COMMUNITY - ZONING (public, privileged, private)



Cowland North Architecture Interiors Design + Rubida Research

THEME - PEDAGOGY & SPACE

The School's built environment is flexible and adaptable

REFER TO SHEET: DISCUSS, RECORD, RESPOND, RANK

ISSUES & CONCEPTS

As community needs evolve, as new educational programs and strategies are developed, and as new technologies are incorporated into the teaching and learning process, the demands on schools are changing at an unprecedented rate.

Flexible, open structural systems that allow spaces to be reconfigured over time will best accommodate change

The best school designs allow for spatial flexibility

A thorough educational rationale is consistently updated and applied

SPATIAL IMPLICATION

Spaces are driven by pedagogical rather than operational drivers

The space does not respond to any one modality of learning, but to many.

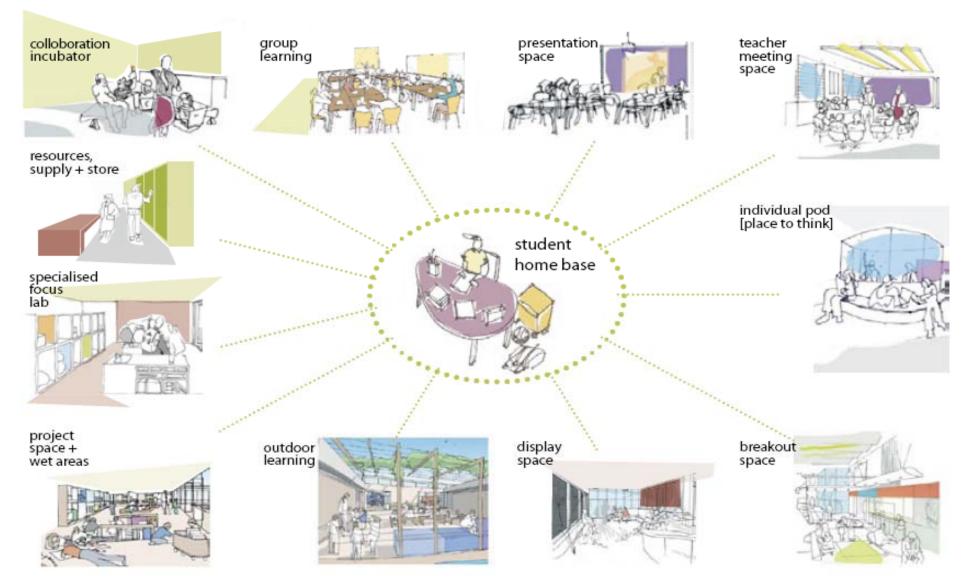
The space is zoned accordingly to ensure appropriate acoustic properties.

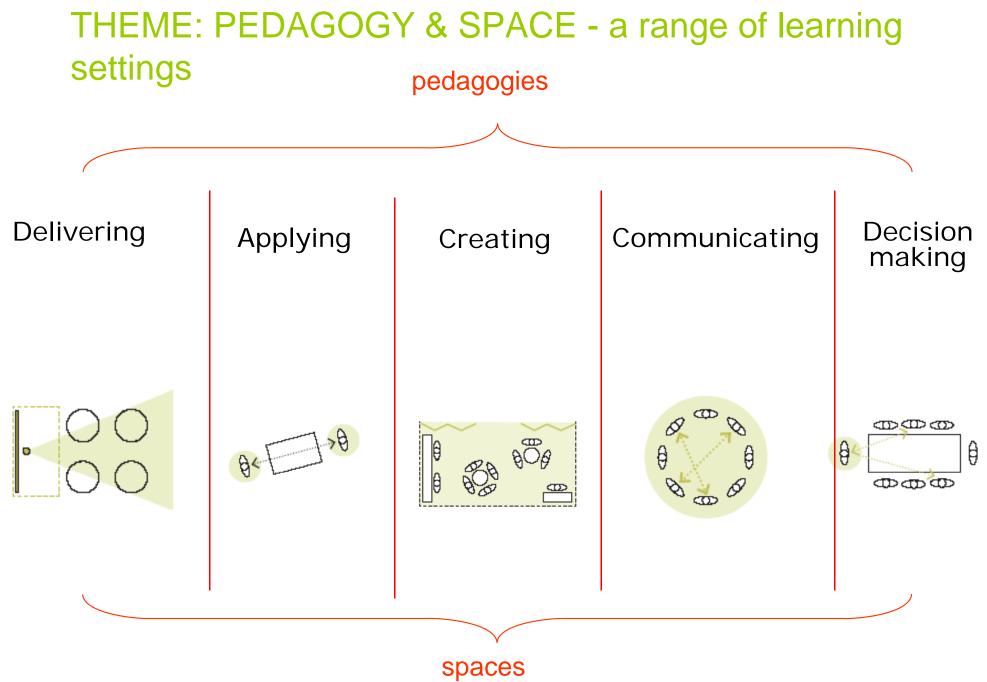
Spaces respond to specific pedagogical functions as well as the curricular needs of the school learning program

The space is a true representation of the educational philosophy & ethos of the school

INSERT 1 PRINCIPLE PER GROUP

THEME: PEDAGOGY & SPACE - a range of spatial responses





THEME: PEDAGOGY & SPACE - learning settings & modalities instructor controls presentation delivering focus on presentation passive learning controlled observation one-to-one applying informal active learning multiple disciplines leaderless/egalitarian creating casual/active learning • research knowledge is dispersed impromptu delivery communicating organise information information is shared 000 decisionmaking 9

- leader sets final direction
- semi-formal to formal
- make decisions

50

Source: SCUP/Scott Webber, 2004

8

THEME: PEDAGOGY & SPACE - zones (reflective, creative, interactive)

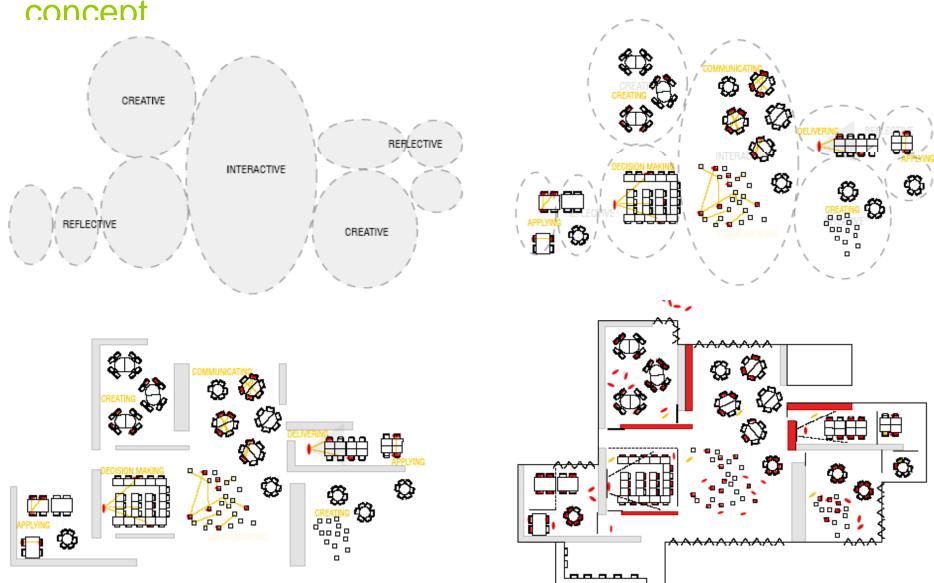
Summary	Dictionary definition (Shorter Oxford)	Pedagogy	Spatial principles/ alternatives	Furniture arrangements
Reflective • One or two persons • Quiet • Acoustically & visually private	 Meditative, thoughtful Reflected back to oneself To throw or cast back again To turn one's thoughts back on or fix the mind or attention on a subject 	 Personal space Individual quiet working Computing, reading Small group 1-3 students Literacy or collaborative work 	 Space for max students = 10 Acoustically and visually separated Small screened meeting spaces or rooms Edges of spaces with benches 	 Bean bags Bean bags Lounges Cloth covered foam blocks Movable desks
Creative • Small groups • Some noise • working independently • Some separation from other larger groups	 To bring into being To cause to exist To produce, to originate To make, form, constitute 	 Space for processing information Space for making things in small groups Problem, project, resource – based learning 	 Space for max 1 x 25 students = 25 Resource and technology rich Flexible arrangements Links to outdoors Some access to non specialist wet spaces 	 Round tables for 4-6 persons Chairs on casters
Interactive • Larger groups • Potentially very noisy • working interactively • Little separation between groups as they are interacting	The interval between To act on each other To act reciprocally	 Space for more social and interactive learning Team teaching Larger groups Open space 	 Space for max 3 x 25 students = 75 Flexible furniture for large groups Less acoustic and visual separation Links to outdoors Specialist wet spaces/ studios shared with other larger groups 	 Round tables for 4-6 persons Views to multiple data projectors Access to multiple pinup spaces Wet areas along walk near door to outside

QUIET

ACOUSTIC DIVISION

NOISIER

Element 40. De de se sie al 7-----



THEME: PEDAGOGY & SPACE - applying the zoning concept

THEME - NEW PEDAGOGIES

REFER TO SHEET: DISCUSS, RECORD, RESPOND, RANK

The School values and supports teaching practices that enhance learning

ISSUES & CONCEPTS

New models include such strategies as cooperative, project based, and interdisciplinary learning.

Students move about, work in groups of various sizes, and be active

Increased emphasis on learning styles and the special needs of each student

"Keeps abreast of current educational research and is open to innovative practices"

current research and practice emphasize new educational models that are characterized by active student participation rather than passive listening 5and watching

SPATIAL IMPLICATION

The learning environment is student centred where students can access teachers, peers & resources as required

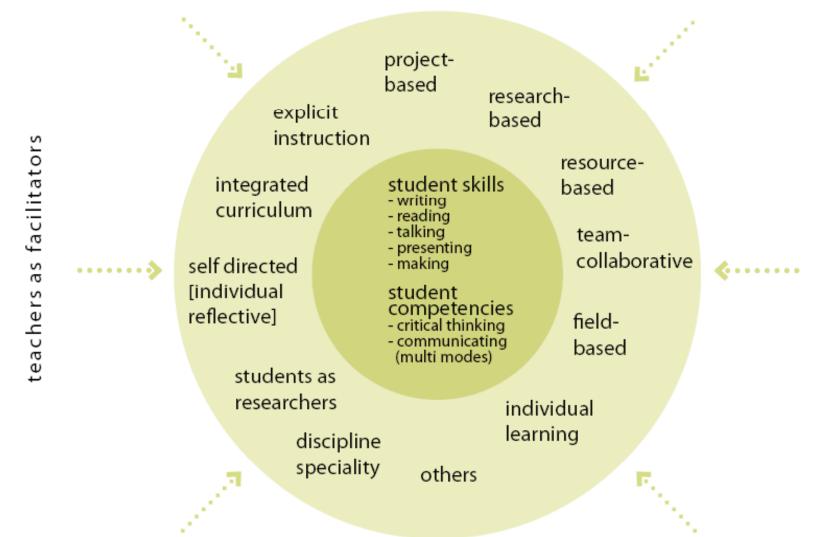
The learning environment reflects the increasingly collaborative nature of learning

The learning environment can cater to the personalised learning experience

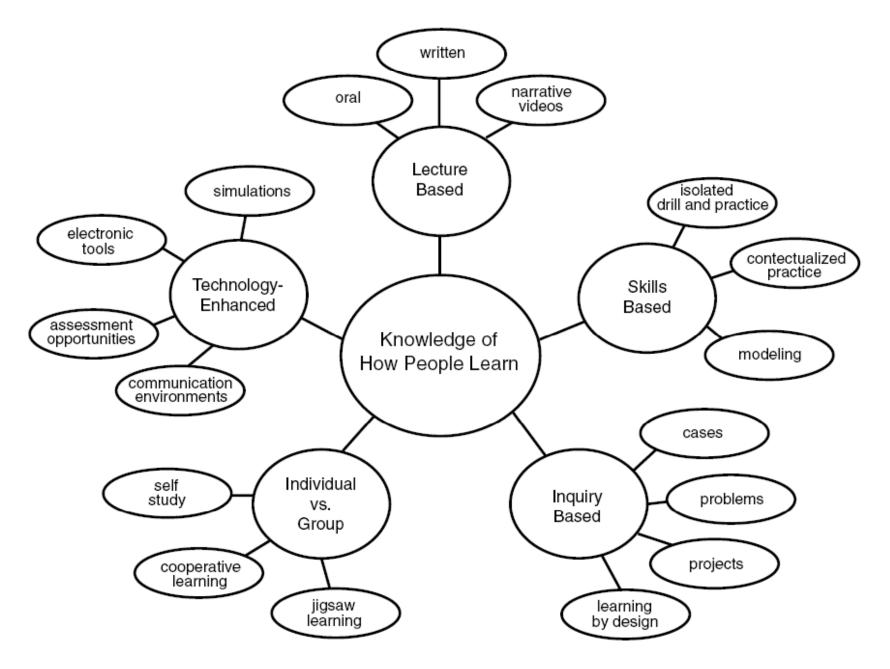
Increased emphasis on skills based learning - authentic learning opportunities & spaces that support the learning process

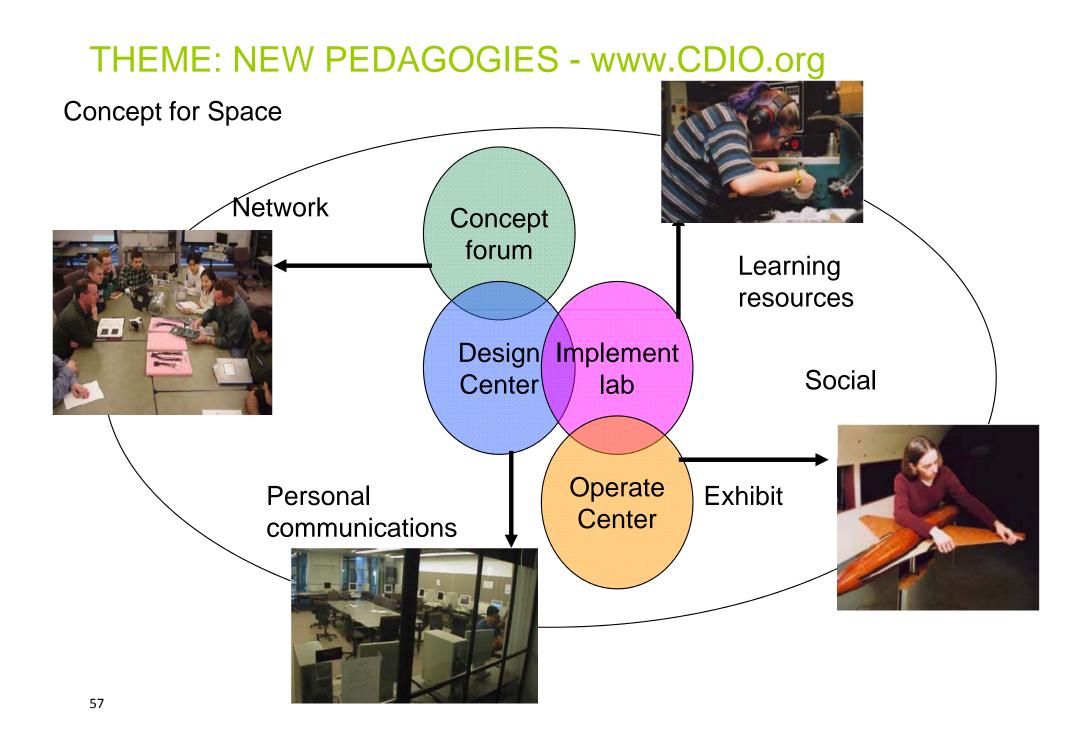
Insert 1 principle per group

THEME: NEW PEDAGOGIES - student centred learning



THEME: NEW PEDAGOGIES - How people learn

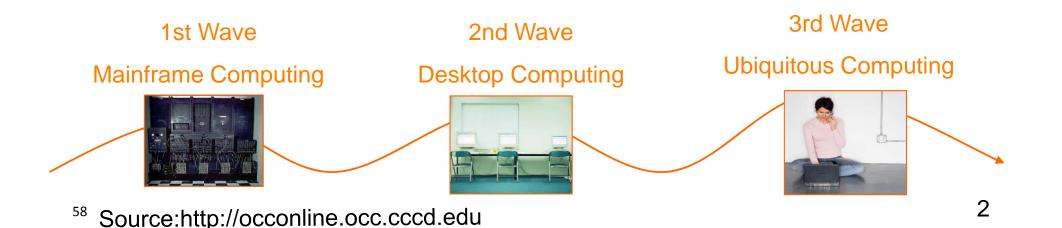




THEME: TECHNOLOGY - third wave computing (Mark Weiser)

Weiser) Ubiquitous computing names the **third wave** in computing, just now beginning. First were mainframes, each shared by lots of people. Now we are in the personal computing era, person and machine staring uneasily at each other across the desktop. Next comes ubiquitous computing, or the age of **calm technology**, when **technology recedes into the background** of our lives.

Ubiquitous computing is roughly the **opposite of virtual reality**. Where virtual reality puts people inside a computer-generated world, ubiquitous computing **forces the computer to live out here in the world with people**. Virtual reality is primarily a horse power problem; **ubiquitous computing is a very difficult integration of human factors, computer science, engineering, and social sciences**. Mark Weiser



THEME: TECHNOLOGY - Designing for the Digital Native



Digitally literate

Use variety of IT devices Surf the Net Experimental

Multiple media literacy

Comfortable in visual rich environment Able to weave together images, text, sound Visual interfaces, streaming media, gaming

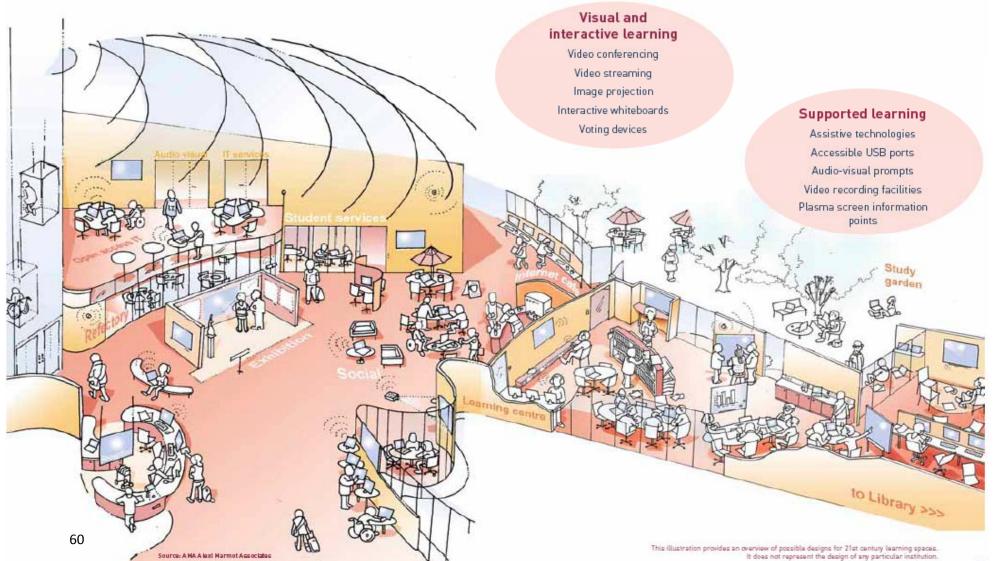
Always connected

Mobile phones, laptops, PDA, IM, web cams, wireless, blogs, email, wikis, chat, gaming

Immediacy

Expect information, communication, entertainment to be 24/7 Immediate responses & instant gratification High expectations

THEME: TECHNOLOGY - visual, interactive & supportive ICT



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Insert 1 principle per group

THEME - TECHNOLOGY

The School uses technology, with appropriate pedagogy, to enhance student learning

ISSUES & CONCEPTS

SPATIAL IMPLICATION

Use of innovative IT

Use of personal ICTs

Anytime, anywhere learning increased mobility and decreased size

The impact of technology in all realms of existence - Virtual Church (Luscombe) Ubiquitous internet access

Responses to personal ICT use - power access, internet access

Designated labs for special function e.g. CISCO, but not for general computing

Thank you



ana@rubida.net