Professional Development Artefact
Designing Learning Spaces
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Deep Transformational Learning

In an article by Jo Chandler, University of Melbourne, Wesley Imms shares his memories of Ms Richmond’s Grade 2 class of ’65.

“She decided to turn the classroom into a ship for a year, and she sailed us around the world in the SS Discovery,” recalls Associate Professor Imms, from the Melbourne Graduate School of Education.

When researching teaching methods and impact, interviewers went back and found some of Professor Imms’ fellow students; “They all said they could remember almost nothing of the rest of their schooling, but that year was crystal clear.”


Reflection

How can the manipulation of an environment cause such a memorable learning experience?
How can we provide experiences for teachers and students alike where they are able to “try on” new learning strategies and approaches?

Can we create safe learning spaces where it is possible for each unique style and shape of learner to find the right fit for their specific needs and interests?

How does our understanding of pedagogy, space and technology influence decisions regarding the planning and designing of such learning spaces?
PATHWAYS FORWARD

This document is not prescriptive, but rather a guide, to inform and equip your school community to make design decisions that support pedagogically sound environments for both students and staff.

The task is to assist stakeholders in planning stimulating and effective learning spaces.

We will consider 6 learning spaces and evaluate the strengths & challenges of these in regard to teacher
What can you imagine?

Resources and ideas will be presented and reflected upon as we merge pedagogy with visualising, creating, managing and adapting learning spaces with technology.
Your Challenge

“Learning Space Literacies”

To attain knowledge, skills and attitudes that are required to:

RECOGNISE

UTILISE &

ADAPT

learning spaces to allow the personalised learner to engage with their learning.

(Keppel, 2014)
RECOGNISE

Let's identify the 6 Learning spaces to be considered in the design process.

Discuss what your school community already has (knowledge, resources) in relation to the 6 learning spaces.

Consider and strategise how you will move forward in the design process, capitalising on current resources and being led by the school's ethos and vision for 21 century learners.

Prezi on different 6 learning spaces

http://prezi.com/0kdbwex97wee/?utm_campaign=share&utm_medium=copy
Johnson and Lomas (2005) point to a series of steps that combine “to create an iterative dialogue among the design team and other stakeholders in the design process.” The process suggested is organic and begins by considering the institutional context (its values, strengths and limitations) and the learning principles that are to be promoted.

**Understand your unique vision, strategy, and approach for digital and academic innovation.**

The JISC report argues that “a learning space should be able to motivate learners and promote learning as an activity; support collaborative, as well as formal, practice; provide a personalised and inclusive environment; and be flexible in the face of changing needs”. It states that the design of individual spaces within an educational building needs to be:

- **Flexible**
  - Changing and evolving pedagogy
  - Ability to be reallocated & reconfigured

- **Brave & Enterprising**
  - Looking beyond and into the future

- **Creative**
  - Inspire and Engage

- **Supportive**
  - Assist members of the school community
As you progress through the stages of planning, design, development and evaluation, Table 1 - Pedagogy-Space-Technology (PST) Design and Evaluation Framework, may give helpful guidance.

<table>
<thead>
<tr>
<th>Life-Cycle Stage</th>
<th>Focus</th>
<th>Conception and Design</th>
<th>Implementation and Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>What is the motivation for the initiative?</td>
<td>What does success look like?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is intended? What initiated the project? Who are the proponents and opponents? Who has to be persuaded about the idea? Why?</td>
<td>Is the facility considered to be a success? By whom?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What lessons were learned for the future?</td>
<td>Why? What is the evidence? Does this relate to the original motivation or intent?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What lessons were learned for the future?</td>
<td>What lessons were learned for the future?</td>
<td></td>
</tr>
<tr>
<td><strong>Pedagogy</strong></td>
<td>What types of learning and teaching are we trying to foster? Why?</td>
<td>What types of learning and teaching are observed to take place? What is the evidence?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Why?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Why is this likely to make a difference to learning?</td>
<td>What evaluation methodology or approach was used and what methods were used to gather and analyse data?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is the theory &amp; evidence?</td>
<td>Who was included in the data gathering and analysis? Students? Faculty? Staff? Administration? Senior Leadership? Facilities managers and technology staff?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What plans will be made to modify programs or courses to take advantage of the new facilities?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Space</strong> (including environs, furniture and fittings)</td>
<td>What aspects of the design of the space and provision of furniture and fittings will foster these modes of learning (and teaching)? How?</td>
<td>Which aspects of the space design and equipment worked and which did not? Why?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who is involved in developing the design brief? Why?</td>
<td>What were the unexpected (unintended) uses of the space and facilities that added learning or facilitated teaching? Do these present ideas for future projects?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Which existing facilities will be considered in developing concepts? Can we prototype ideas?</td>
<td>How was the effectiveness of the use of space to aid learning and teaching measured? What were the different metrics used?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who is involved in the assessment of concepts and detailed design? Why? What are their primary issues and concerns?</td>
<td>Where do synergies between this and other spaces that enhanced learning?</td>
<td></td>
</tr>
<tr>
<td><strong>Technology</strong> (ICT, lab and specialist equipment)</td>
<td>What technology will be deployed to complement the space design in fostering the desired learning and teaching patterns? How?</td>
<td>What technologies were most effective at enhancing learning and teaching? Why?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In establishing the brief and developing concepts and detailed designs, what is the relationship between the design of the space and the selection and integration of technology?</td>
<td>What were the unexpected (unintended) impacts (positive and negative) of the technology on learning and teaching?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What pedagogical improvements are suggested by the technology?</td>
<td>How did technology enhance the continuum of learning and teaching across the campus and beyond?</td>
<td></td>
</tr>
</tbody>
</table>

View the learning settings the school already has in place, considering which spaces need to be redesigned or altered as we take a closer look at the 6 learning spaces.

Keep in mind the fluidity needed, in physical spaces, as teachers and learners need as they move from mode of learning to another.
Personal Learning Spaces / Environments

“Our understanding of learning has expanded at a rate that has far outpaced our conceptions of teaching. A growing appreciation for the porous boundaries between the classroom and life experience…has created not only promising changes but also disruptive moments in teaching.”
EDUCAUSE Review, 2012

The diagrams below illustrate two interpretations of Personal Learning Spaces. Each Personal Learning Space will be as individual as the person who manages it.
https://www.flickr.com/photos/24823508@N04/6992313131

Personal Learning Environment: Janson Hews Taken on March 17, 2012
### Personal Learning Spaces (PLS)

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>Provides opportunities for development of pedagogical changes and expertise in teaching.</td>
<td>Always on a learning curve. What can I apply to my day to day teaching with the space and resources available?</td>
</tr>
<tr>
<td></td>
<td>Is my classroom equipped to apply new ideas in instruction and technology?</td>
</tr>
<tr>
<td></td>
<td>Being personalised increases motivation.</td>
</tr>
<tr>
<td></td>
<td>Learners are highly engaged when interacting with other learners. Development of online netiquette and cyber safety.</td>
</tr>
<tr>
<td></td>
<td>Lack of confidence, technological knowledge, cyber protection, focus/correct physical space or resources can diminish motivation.</td>
</tr>
<tr>
<td></td>
<td>Are there different modes of communication on offer for collaboration?</td>
</tr>
<tr>
<td>As the teaching role becomes less teacher centred, PLs will provide professional development in new to use new tools and technologies to enhance teaching.</td>
<td>Deciding on specific areas of focus.</td>
</tr>
<tr>
<td></td>
<td>Are the new tools and technologies available and easily accessible?</td>
</tr>
<tr>
<td></td>
<td>Are there spaces for development?</td>
</tr>
<tr>
<td></td>
<td>Personal learning spaces are self-directed so students can control the pace of learning.</td>
</tr>
<tr>
<td></td>
<td>They can also limit the quality and quantity of learning.</td>
</tr>
<tr>
<td></td>
<td>Are there spaces for individualised learning that may require controlled environments over a longer period of time?</td>
</tr>
<tr>
<td>Global access to information means an expansion of resources.</td>
<td>Choice / sifting information. Are there common areas to share my findings with others?</td>
</tr>
<tr>
<td>Wilson et al (2011) describe another major benefit of PLEs as being their ability to “enable a wide range of contexts to be coordinated to support the goals of the user” and their ability to “integrate learning experiences in a range of environments, including education, work, and leisure activity” (p. 5).</td>
<td>Does the teacher have opportunity, access and technological knowledge to collaborate and share findings with staff and students?</td>
</tr>
<tr>
<td></td>
<td>Does the teacher have the resources or time to match the strategy chosen?</td>
</tr>
<tr>
<td></td>
<td>Are the spaces flexible for volume control, individual and collaborative work?</td>
</tr>
<tr>
<td></td>
<td>How can the teacher facilitate and monitor this? Solving learning problems.</td>
</tr>
<tr>
<td></td>
<td>Classroom management, arrangement and skill training.</td>
</tr>
</tbody>
</table>

Wilson et al (2011) describe another major benefit of PLEs as being their ability to “enable a wide range of contexts to be coordinated to support the goals of the user” and their ability to “integrate learning experiences in a range of environments, including education, work, and leisure activity” (p. 5). Many elements of a personal learning space are technology based and interactive.
How will the school’s attention to design and planning cater for this?

It will require interactive classrooms with personalised ICT solutions.

The Department of Education in Victoria has put together a document detailing proposed planning principles. When linking pedagogy to space, there are points to consider when designing and providing personal learning spaces that are largely self-directed.

How do we link the physical spaces with the virtual learning spaces? It’s important that the physical space is integrated with the E-Space, but this is sometimes easier said than done. These are strengths as well as challenges, high use of technology

<table>
<thead>
<tr>
<th>As new spaces are developed the technological solutions need to be:</th>
</tr>
</thead>
<tbody>
<tr>
<td>affordable and sustainable • reliable • secure, with appropriate access • can expand when needed • flexible with other technologies • accessible with common systems for sharing information • versatile &amp; trustworthy</td>
</tr>
</tbody>
</table>
The Espace

How important is the Espace?

What are some of the advantages and strengths that benefit both the teacher and student?

https://www.youtube.com/watch?v=gyPQ4Qr8xks

The espace gives both teachers and students the opportunity to access, manage and interact with content that meets their personal needs and interests. This is an inbuilt motivator and capitalises on the natural curiosity of an engaged learner. Arnone et al (2011) testifies to this important motivating factor but points out that “students may be curious; the relevant resources may not be available to satisfy that curiosity” (p.182). The espace has the ability to provide opportunities to engage learners.

Due to the wide range of resources and amount of information available, both teachers and students will need digital literacy skills to sift, organise and manage content. If information is overwhelming or not relevant to personal needs or interest, motivation can diminish. This “useability challenge” is an opportunity to learn how to access and interact with relevant information from global resources. Issues surrounding Cyber Safety and Digital Footprints need to be addressed, as do ethical standards and Netiquette.
A school on the Northern Beaches in Sydney has come up with one solution in their collaborative learning space. Placing a high value on technology, the Espace and the flexibility to flow in and out of different learning modes was a high priority.

**Reflection**

How will the physical spaces in the school accommodate and capitalise on the opportunities the virtual space provides?

How do the physical spaces within the school support teacher pedagogy that embeds digital technology in curriculum content and presentation?

Is there student equality in regard to the use of technology?

How might teacher pedagogy and content shape student technological knowledge, access to information and autonomy in learning?
The very nature of the e-space affords group, collaborative and co-operative approaches to pedagogy. Settings are provided whereby socialisation and construction of ideas and products combine. 21st Century Learners expect learning to be anytime, anywhere. Web 2.0 Tools allow both teachers and students to create, collaborate, edit and share user-generated content online.

Does school policy and student welfare cater for:

Mobile tools and their ability to podcast, blog, tweet, media share, and Facebook?

Community Tools from Wikis to social networks?

How is this supported by the design and layout of the physical spaces within the school?
### Shared Spaces for Group, Collaboration, Co-operative Teaching and Learning

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>More flexible, creative use of instruction time</td>
<td>Loss of teacher autonomy, have to share instruction space</td>
</tr>
<tr>
<td>Greater ownership of student learning</td>
<td>Communication demands on varied student needs</td>
</tr>
<tr>
<td>More reflective on teacher practice</td>
<td>Role shifts, insecurity</td>
</tr>
<tr>
<td>Less isolation, motivated</td>
<td>Differing philosophies on pedagogy and practice, differing needs and interests</td>
</tr>
</tbody>
</table>

Do classroom and school spaces offer room for:

- groupings of students? i.e. table layout, seating arrangement, sound barriers
- access to technological devices and tools? i.e. smartboards, cameras, speakers, headphones, monitors, large screens, phones
- collaboration and presentation of content to wider audiences? i.e. video tools, screens, sound, lighting, personal devices
- flexibility to construct spaces capable of quick reconfiguration to support different kinds of activity? i.e. moveable tables and chairs, whiteboards, stools.

One school found the selection of particular types of furniture allowed the learning space to be flexible, and student engagement and teacher pedagogy benefitted in ways they didn’t expect.

The Classroom and School Space

Pedagogy Influencing the Physical Environment

The interactive whiteboard in this classroom is positioned in one of the learning stations, and students are working collaboratively using the board to construct a representation of their ideas and thinking using some mind-mapping software.

Derrek Wenmoth, the Director of eLearning CORE Education Ltd, states that this is quite a contrast to the perception that mounting technology in one place anchors the focus to that place. He adds that we “need to move the debate away from regarding the technology as the villain (or hero) and instead focus on the pedagogy here.”

As educators adapt pedagogy to a more student-centered approach, more power and responsibility is given over to the students and the direction and development of their learning. They are given opportunities to share, critique and reflect upon their own learning and the learning of others.

Maker and STEM pedagogy are interdisciplinary and applied approaches within classrooms and schools. Their group, collaborative and cooperative strengths foster:

- exploration and participatory learning
- informal learning opportunities where connections between home, school, and community are enabled and encouraged.
- learning where educators and students pool their skills and knowledge and share in the tasks of teaching and learning;
- the development a culture of creating as opposed to consuming

The challenges to this approach are:

Connecting knowledge and skills, connecting ideas across curriculum areas, finding appropriate contexts for learning, supporting student interaction and group work skills, accessing and supplying resources and materials, and available space and time restraints.

What could this look like in your school?

There are many resources available to view and engage with other teachers who have integrated Maker pedagogy within the classroom and school setting.
Redesigning a Classroom (click on link)

Fantastic ideas to meet the needs of a 21st Century learner. New opportunities, that can be created over time. Shifting mindsets and imaging your classroom can be flexible and fluid and ever changing to the needs and learning opportunities that arise. What can you do to make your classroom a creative, stimulating space where teachers and learners collaborate together?
Beyond the Classroom

**Decenteredness**: Following the principles of socioconstructivism, spaces are able to convey co-learning and co-construction of knowledge.

Considering the whole school property as a learning space rather than emphasizing classrooms downplays the message that the room has a front or a “privileged” space.”

**Considerations/Challenges**: cost, environmental factors for year round usability, environmental impact, accessibility, age of students, OH&S issues, lighting and sound issues in hallways and alcoves, furniture and movability.

**Community**: Learning has been a community activity for hundreds of years. A social setting encourages social learning. Upholding the principle that learning connects strongly with community means making connections beyond the classroom. The value of incursions and excursions gives students and teachers the opportunity to develop socially and emotionally, as they are exposed to new and novel experiences in a non-threatening way.
Social theorists, Lave and Wagner, support the idea that context, culture and social interaction are all vital factors in education. Students retain more information when contexts are relevant and interesting.

Another strength pertains to modelling behaviours and understandings of: the expert, liminal spaces, new understandings and experiences, experiences that push personal boundaries.

Challenges to consider when integrating situated learning practices are: conducting risk assessments, checking compliance to insurance and health and safety requirements, costs involved, accessibility, matching content and experiences to curriculum goals and outcomes, evaluation of experiences, monitoring student learning.

Other considerations would be assessing buildings and facilities that bring the community into the school and ICT facilities that support curriculum links to professional and community practice.

Learning becomes authentic when students see the links between the community and integrated, problem and resource based learning. Students are motivated and interested in content that has a purpose.

Stephanie West-Puckett in her article on designing Makerspaces for transformative classroom learning, informs us that Museums, libraries, community centers and after-school programs have designed physical and virtual "makerspaces" to host communities of supportive peers and mentors invested in creating everything from nail polish design and webpages to jewelry and robots . . . and now, even school curriculum.

The ultimate objective is that, with the right tools and connections, young people can develop the literacies to remake our world into a more democratic, equitable and humane place.
The Liminal Space

“Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly alters our way of being in the world.” (O’Sullivan et al, 2002, p. 11)

In developmental theory, the periods of greatest personal growth are thought to lie in these somewhat intangible periods of “nothingness”, or thresholds. The state of not knowing, constructing theory and ideas, of not being sure or certain, of not fully understanding is emotionally and psychologically challenging.

How can we design spaces that allow students to feel comfortable in this stage, spaces that encourage students to enter this stage or even facilitate it?

As stated by Meyer, J. et al. (2010), the most significant aspect of learning lies not in the outcomes of learning, but in the process of learning. Understanding this process and how best to facilitate it is thus essential to our work as educators.

Critical reflection and questioning should be encouraged, different perspectives embraced and pondered upon, time given for thinking through processes and testing theories.

This is challenging for both teachers and students who are often time poor or restrained by curriculum demands and time or space restraints.

How can we create spaces and design areas that validate the Liminal Space?

If we follow the educational principles below, we may create and give validity to the Liminal Space.

Learning for all – respect different learning styles and processing of information.

Pursuit of excellence – developing resilience and skills to develop study habits that encounter, reconstruct and transform thinking.

Engagement and Effort – reward and give time, resources and space for activities that pursue excellence and self-development.

This very task will usher you into the Liminal Space. How you exist there as an individual and with others, will impact learning and outcomes. Referring back to the Design and Evaluation Framework on page 11 of this document, understanding the process is just as important, if not more so, than the resulting outcome.
References


Fraser, K. (2013). Learning Environments and New Spaces Literature review. RMIT University.


