Assignment #4

Literature Critique

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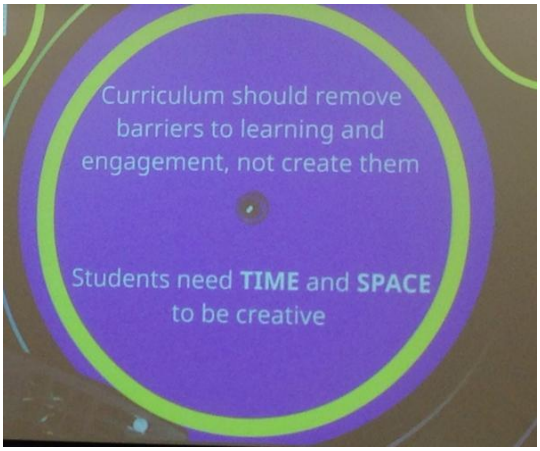

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Key Literature:

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If curriculum should remove barriers to learning and engagement, not create them (Green, 2014), then perhaps the same should be said for learning spaces. This paper will focus on library spaces in particular, within learning spaces in general.

Areas of Discord:

The key pieces of literature have been selected for their presentation of design theory and its use in library or learning spaces. Despite the many models of design theory, and learning or instructional design theory, there are several points of discord that are at odds with, or contradict, the real world practice of creating library and learning spaces for the improvement of learning outcomes, changing pedagogy and incorporating technology. The key points selected include:

1. Despite extensive research into the role of spaces in learning, in reality, most classrooms and many library learning spaces have barely changed in a hundred years.

This is best exemplified by the analogy (Elliot Burns, p.3, 2005), that technology aside, Captain Cook would have little difficulty identifying a 21st century classroom from one from 1770. That despite a long history of design theory, there has been little application of Alexander's position (as cited in Elliot Burns, p.5, 2005) that quality sustainable spaces must be partnered with '*the pattern of events which are to take place there*', in order to be truly holistic and balanced; combining the historical and contemporary, the aesthetic and the pragmatic and be most importantly, reflective. It appears that the interdependence of human experience and physical space have been expressed across diverse disciplines including marketing, business, architecture, psychology and more, with education being the almost sole exception.

Most evident in recent years, is the emphasis on designing social learning spaces, however the reality is that these are often refurbished computer labs containing trendy furniture, with little consideration of pedagogy, technology or the skilling of stakeholders in how to best utilise the space (Radcliffe et al. p. 22, 2009). In fact, there is little research or evidence of schools using colour, furniture, layout, sound and lighting to change **behaviour**, **pedagogy** and **outcomes**, in the way that corporations do, and where spaces were designed with this in mind, there is little data readily available to schools, on the resulting findings.

And of most concern, to this author, is the fact that there appears to be little coverage of the influence of physical spaces on learning in most Australian teaching degrees, and this is particularly so for a considerable number of secondary school teachers, who upgrade from a specialised degree to a teaching degree, through a one year Graduate Diploma. Elliott Burns

(p.3, 2005) refers to units on designing spaces for learning as evident only through Masters Courses in highly specialised areas of study, rather than in all teaching degrees, yet it is these very individuals who are most likely the driving force (or lack thereof) behind changes in learning spaces.

2. That designing a learning space is not just about a physical space, but involves a collaborative process, incorporating social and pedagogic-relational spaces (Willis, p.13, 2014), as well as digital ones.

The 'parachute principle' touted by Elliott Burns (p.4, 2005) is evident in multiple studies of learning space design (Bland, et.al., 2013; Hay, 2010; Staines & O'Neill, 2009), whereby a template and/or unrelated individuals are 'dropped' in to make decisions on learning spaces, without consultation with end users and their needs or providing adequate transitioning into how to make use of the new space.

Willis (2014) proposes that it is rare for end users (teachers and students) to be involved in designing or collaborating on physical or virtual learning spaces; and that they are rarely adequately prepared for the transition required to make optimal use of those spaces. This is supported by Shove et.al. (as cited in Kimbell, 2011) that innovative products (spaces) require innovative practices. The resulting lack of understanding of why the space was designed the way that it was and how to utilise it in new ways is stressful, rather than empowering, to the end users (Wilks, 2009 cited in Willis, p.4, 2014), resulting in the loss of opportunity to incorporate new instructional pedagogies, to maximise the design. A shared vision for pedagogic change is therefore, necessary to remove the lack of transparency that often accompanies new physical and virtual spaces.

The synergy of interactions between social and physical spaces is only in recent times being considered, and still relatively infrequently (Elliott Burns, 2011, cited in Willis, 2014), and collaborative redesign of learning spaces can leverage significant pedagogical change (Willis, p.13, 2014).

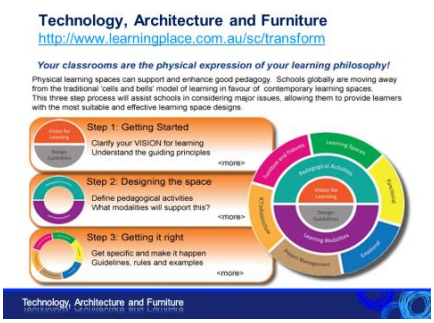
3. And that there is a disparity between who and what is valued in many learning spaces. (Elliott Burns, p.5, 2005)

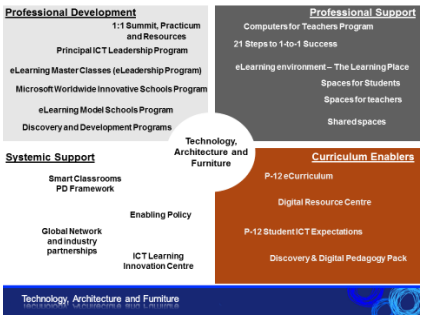
This is evidenced by focus on design choices, rather than how teachers teach and students learn, and how the technology can better facilitate both; and Elliott Burns' (p.1, 2005) reference to the puzzles, confrontations, assumptions and dilemmas associated with the rhetoric-gap between what educational policies state and require and what educational facilities provide.

Elliott Burns (2005) identified that the Queensland curriculum documents of the time, described learners as knowledgeable, creative, complex, reflective and independent, self-directed thinkers. Yet, such publications failed to explore the implications of the "physical/geographic situated nature of learning" (Groundwater-Smith cited in Elliott Burns, p.3, 2005) in developing such learners and providing such learning experiences. Fisher (as cited in Elliott Burns, 2005) posited that the built spaces of 'asphalt, concrete and chain wire mesh' were designed to 'herd and corral students', by demanding constant visibility and minimising the independence and interdependence of the individual, thereby treating them as untrustworthy and undisciplined. More recent curriculum documents from ACARA (2014), reiterate providing relevant, rigorous, challenging learning programs personalised to suit individual needs using curriculum, instruction and learning spaces (with specific reference to changing equipment, furnishings, buildings and classrooms); demonstrating a move toward creating a connection between learning spaces and the end users. So if today's learners are 'digital, mobile, independent, social and participatory' Beetham & Sharpe, 2013 cited in Willis, p.3, 2014), then their learning spaces need to be flexible, welcoming, spacious and capable of digital and social interaction and collaboration.

4. Most importantly, though, there is a distinct lack of emphasis on a user-centred focus, involving practitioners and end-users, at least in the initial stages, (De Bont, p.100, 2013) when considering barriers and enablers in library and learning space design; with many library and learning spaces not being designed for experiences or considered scenarios (p. 85, 2013) or to identify new uses and innovations.

That the design of library learning spaces and learning spaces in general, could be better considered social innovations, aimed at improving the learning outcomes, was proposed by Staines & O'Neill (2009 as cited in Hochstrasser, 2014), in the Future Libraries professional development, offered to Education Queensland schools during the BER funding. Linking pedagogy to space (Scott-Webber, 2005; Fisher, 2005) was introduced in an attempt to match each institutions learning vision with the space at hand, at the beginning of the professional development, yet the majority of the presentations' emphasis was on furniture and design, within a small selection of templates of what BER would build.





(Table 1. Examples of slides from Staines & O'Neill, 2009)

So, despite the inclusion of tables demonstrating the storyboard of considerations of curriculum context, pedagogy and space, and planning principles, when linking spaces with learning modalities (Fisher, p.0.01, 2005), budgets and a suite of cookie cutter space templates became the predominant influence on developing Future Library and learning spaces. This observation is supported by the research of Bland et.al. (2013) on the results of the BER program.

Design theory, for all its complexities and issues of lack of unity in the field; the multiple paradigm shifts in the analysis of the field; the fragmentation of design theories across disciplines and the challenges of forming testable hypotheses for empirical evidence (Hatchuel & Reich, cited in Le Masson et.al., p.1, 2013), does provide the means to overcome this disparity between the space, its' use, technology and the end-users.

Design considerations:

Radcliffe, et al. (p. 13, 2009) provides a selection of examples of definitions of library learning spaces from JISC, Oblinger (2005), Jamieson et al. (2005) and Siddall (2006) that clearly demonstrate the move towards including all stakeholders in the design process and reflecting on what they do and why. Applying this information into the design process within school institutions, requires the inclusion of a common language; user-centred information and ideas; a strong common learning pedagogy and ongoing reflection and review.

There are many design theories and ways of design thinking that schools can choose from, but it seems that, given the diversity of theories, a combination of a few, applied at different times during the process, could address many of the factors that one theory alone may not. For the purpose of this essay, a selection of frameworks that are considered useful, are presented as follows:

One of the design considerations of many library designs is the branding or rebranding of the space. If this is done using the **Brand Driven process** and the qualities a brand needs to fulfil the requirements of the stakeholders (De Bont, p.130-131, 2013), it positions the library with a clear vision of its' role within the school. Understanding the internal and external drivers (p.128, 2013) provides further clarity to the development of the vision.

The **Pedagogy-Space-Technology Framework (PST)** provides a clear connection between how we learn, and how the spaces we learn in and technology we use can facilitate or block this learning; providing a model to overcome the often significant disconnect between those who use the space, design the space and provide technology in the space (Radcliffe et al. p. 19, 2009). The use of these questions can eliminate many of the situations experienced during the BER program, where spaces were designed with the technology in mind, effectively discounting the impact on teaching and learning pedagogy (Bland et.al., 2013). In particular, the Life-Cycle Stage of the PST Framework and the Jamieson Space Design Principles Evaluation Framework (Radcliffe et.al. pp.15, 70-71, 2013), provide clear driving questions to guide designers through the conception, design, implementation and **operation** of a new space. Being able to apply such driving questions, and using the inclusive and common language, as provided by the **Values, Activities, Sites/Systems and Technology template** (Heath, 1989, cited in Elliott Burns, p. 6, 2005) is beneficial toward moving from the actual to the preferred/ideal. Consequently, it is feasible to apply a different framework at different stages of the process, to ensure that all aspects are being addressed.

Ouden's **Value framework** (as cited in De Bont, p.175, 2013) includes the values of Economy, Psychology, Sociology and Ecology, which provide a much broader view of the design considerations that end users could consider. Like Heath's (1989) VAST Framework, it provides novice collaborators with a common language and driving questions to better enable brainstorming and maximise value for all involved.

User-centred Design philosophy sets an expectation that end users have a central role in the design process, and is important to note that this role does not need to occur through every stage (De Bont, p. 35, 2013). Some of the barriers evident in a user-centred approach, include: how to facilitate communication between the designers and the users; accessing tacit (know without articulating) and practical (how things are currently done) user knowledge; and gaining a time commitment from the 'right', and willing, users, who can provide information on the generation, evaluation and optimisation of task flows in the space (pp. 54-55). De Bont (2013) identifies only a handful of organisations (IDEO and ThinkLabs) that actively seek out a multi-perspective review from a

diverse group of users, in order to gain insights into differing or even conflicting requirements, so applying the frameworks provided by these organisations would be worth considering.

Conclusion:

The papers selected demonstrate that design theory and design thinking is beginning to influence more and more library learning spaces, though there are few examples of this occurring well in schools. Perhaps then, the key tension between the time and effort required to obtain user-centred information prior to making design changes and achieving a 'finished' product, is the fact that 1. There should never be a 'finished' space and 2. Such innovations require innovative use, and therefore transitions and skilling in potential uses must be ensured for all users.

Applying the concepts of being user-centred, organisation-centred and society-centred (De Bont, p.25, 2013) enables the design process to consider the values of a much wider audience and set of end-users, which promotes more consideration of the unknown unknowns. This is supported by Radcliffe et al. (p. 20, 2009) that the campus be considered as a whole and that all spaces have the potential for learning, resulting in a connected network of learning spaces. Such models open to the prospect of catering to all learning styles and requirements, and finding, sometimes serendipitously, unexpected spaces to accommodate the 'Watering Holes, Caves, Campfires and Holodecks' of Thornburg (2013). To maximise the potential of these spaces, protocols such as that of Ball State (Bidwell, 2014) whereby only those who have received professional development and observations may utilise the innovative spaces, is worthy of consideration.

The most surprising observation of this research was the lack of **ongoing** reflection, review, evaluation and 'tweaking', based on empirical data gathered when the spaces have been in use, particularly given the global assumption that decisions within educational institutions are founded in current research.

Of vital importance then, is the understanding that flexibility, not prescription, is key; that what works with one key learning area, group of students, year level or even from one year to the next, may not work in another instance, making reflection and being willing to adapt the space in an ongoing way, imperative. The *reflective practitioner* (Schon, 1995 cited in Elliot Burns, 2005) seems to be the missing link from the application of design theory in learning spaces in schools, with the general culture being that once a space has been 'designed', it no longer requires attention or funding for 'at least another ten years'.

Such reflection can highlight how the space and technology are supporting the dominant learning modes, by having the practitioner record the percentage of time spent on didactic/instructional, collaborative, and reflective modalities and feedback. If the space is not conducive to a particular learning mode, it is almost impossible for it to be applied there.

Powell (Radcliffe et al. pp. 26-29, 2009), emphasises the importance of review and reflection in the ongoing design of any learning or library space, identifying such criteria as numbers, usage and geographic patterns, satisfaction levels, meeting goals and achieving outcomes, when evaluating how we and the spaces that we are working in, are growing and changing. In addition, the use of surveys to determine the ways in which spaces are being used; the pedagogical approaches being adopted and the strengths and weaknesses of the fit-out (pp.45-51, 2009), provide empirical data on whether or not the spaces need further change, monitoring or support. This post-occupancy evaluation policy is rarely seen in learning space research, and a pleasing inclusion in the Radcliffe (2013) documentation. It is this integration of understanding, communication and action (Buchanan, pp.5-16, 1992) across all disciplines, indeed the flexibility of placements, which is necessary to achieve a connection between design spaces, technology and users and their needs.

Furthermore, it is the understanding that the educational institution is a whole, within a community, rather than an isolated teaching, learning or library space that must be ‘fixed’, which must guide and lead any changes to the spaces. Gathering valuable insights and information from all users, through the use of a common language of such frameworks as PST, VAST, and Values, all have a place in determining the design of new learning spaces. Applying this information, with a view to considering the (known and unknown) whole community, the whole space and an unknown potential of uses, would constitute best practice in providing spaces that clearly speak to all who enter, that these spaces value all learning modalities and the learner, all teaching modalities and the teacher, and an ever evolving array of 21st century technologies and practices. And finally ensuring that all practitioners and their students have multiple opportunities to ‘learn’ the capabilities of the space, be it real or digital, in order to maximise its potential.

And each time that educators redesign a space, they have the opportunity to gather and produce data to act upon and share across their professional networks.

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