

Next Generation Learning Spaces

2008 Colloquium Report

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Cover image: Professor David Radcliffe, Plenary Speaker for the Colloquium.

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Background

For many learning space initiatives the focus is often technology; only occasionally are pedagogical intent and outcomes considered. Within the tertiary education system, there is a growing recognition that a focus on the *relationships* between pedagogy, space and technology in the design and operation of a variety of types of learning space is a vital part of the whole process. The goal of the Next Generation Learning Spaces Project is to fully develop, rigorously field test, thoroughly evaluate and widely disseminate a new design framework. This framework is based upon the Pedagogy-Space-Technology relationship (PST) and acknowledges the needs of different academic disciplines.

A strong inter-reliance exists between pedagogy, technology and the design of teaching and learning space. As a direct result of the Inaugural Colloquium, the relationship between these three is now recognised and discussed within higher education institutions.

The importance of evaluating new learning spaces sits equally with the relationships between pedagogy, space and technology and as such was the focus of the second Next Generation Learning Spaces Colloquium. Various approaches to evaluation and assessment of learning spaces were demonstrated through case studies from national higher education institutions. The information presented led to passionate discussion about the role and approach of evaluation in the future of learning spaces.



Fig 1. Students using the Science Learning Centre.

“If campuses exist to foster specific kinds of learning, they should inspire and foster this work physically as well as intellectually.... No longer can we assume that any old furniture and any old room arrangement will do—we know better.”

—Nancy Van Note Chism

Second Colloquium

The objective of the Colloquium was to bring together individuals with experience and expertise in the many aspects of teaching and learning spaces in higher education institutions who were interested in the role evaluation plays in learning spaces.

Case studies of new learning spaces from the University of Queensland, Queensland University of Technology, Bond University, Victoria University, Monash University, Griffith University, Charles Sturt University, the University of Newcastle, the University of Melbourne, James Cook University, the University of Southern Queensland, and Swinburne University of Technology were presented.

These case studies provided delegates with an overview of the approaches to and the importance of evaluating new learning spaces, and possible solutions for the many challenges that arise once learning spaces are operational.



Fig 2. Delegates attending case study presentations.

The second NGLS Colloquium provided a unique opportunity to demonstrate the operation of the Advanced Concept Teaching Space (ACTS), the “lecture theatre of the future”, and informal learning spaces at the University of Queensland including the Science Learning Centre and the interactive Learning Centre.

Fig 3. Delegates enjoying the atmosphere in the Science Learning Centre.



Following the 2008 Colloquium, delegates were invited to complete a survey of their perceptions of the Colloquium content and had the opportunity to provide comments. The responses are summarised below.

Delegates identified the following as stimulation for change in team approach:

- ❖ case study presentations, especially 'Lab 2.0', 'Swinburne Hub', and 'Problem-Based Learning'
- ❖ approaches to the evaluation of learning spaces
- ❖ the quality of information regarding learning centre and library spaces
- ❖ a greater understanding of challenges and potential solutions
- ❖ viewing a campus as one connected space for learning rather than many distinct spaces
- ❖ willingness to share information and discuss solutions to common problems
- ❖ stimulus for considering alternative, more effective, uses for existing spaces



Fig 4-6. Speakers and delegates sharing knowledge and experience in the evaluation of learning spaces.

Advanced Concept Teaching Space

The Advanced Concept Teaching Space (ACTS) in the General Purpose North 4 building at the St Lucia campus is a research teaching space. A tour of this space and an explanatory talk were given to delegates as part of the Colloquium program. ACTS is a 'state of the art' teaching and learning space, and plays a key role in enabling research into new pedagogies, teaching technologies, and teaching space design.

Increasingly, students are using a variety of technology in their lifestyles and learning, and ACTS explores ways to integrate this using wired and wireless networking and direct USB connection. ACTS is a laboratory for teaching technology and is capable of rigorously evaluating each proposed practice. It will allow the best emerging technology to be tested and adopted into mainstream UQ teaching spaces.

As research into teaching methods and technology is the prime function of ACTS, a spacious observation room was provided. Wide windows and access to video cameras allow researchers to carefully monitor how students use the various technologies available. In addition, the observation room has a duplicate computer and control system to allow an operator to assist with complex presentations.



Fig 7-8. Delegates participating in a demonstration of the Advanced Concept Teaching Space.



Informal Learning Spaces

During the Colloquium, delegates had the option to attend tours of several informal learning spaces at the St Lucia campus. The Science Learning Centre, interactive Learning Centre, the Maths Room and Garden Area, are all spaces designed to meet student needs in terms of informal collaborative learning environments within the Faculty of Biological & Chemical Sciences. An impromptu tour of the First Year Engineering Learning Centre, a highlight of the Inaugural Colloquium in 2007, was given on the second day.

These learning spaces are designed to cater to the technological and space needs of students without an overtly traditional design. Many informal learning spaces appear similar to the common or 'home' rooms in university colleges. They have comfortable seating, smaller tables, limited basic kitchen amenities and a relaxed, unstructured atmosphere. It is in these informal learning spaces that students choose to gather and work collaboratively. Students identify these spaces as their own and use them for learning and recreational activities. The provision of informal learning spaces on campus has increased the amount of time that students spend on campus as well as their informal interaction with academic staff.

By creating such spaces specifically for first year cohorts, the students are given a location that 'belongs' to them and reduces the social trauma of moving from a smaller secondary cohort into the much larger, more diverse university student community.

The positive responses to the creation of informal learning spaces at the University of Queensland has led to much increased demand for similar spaces in nearly all faculties and schools. The improved student-academic interaction and the development of a learning community have far-reaching positive outcomes for the University.



Fig 9. Students using the Science Learning Centre for informal collaborative learning.

Fig 10 & 11 (below). The Maths Room provides an informal and collaborative learning space for higher degree students.



Outcomes

Delegates showed keen interest in the success and approaches to evaluating new learning spaces, which was the primary intent of the Colloquium. Discussion in the Focus Session at the end of the Colloquium confirmed that the evaluation of new learning spaces should be an integral part of the process from design to post-occupation. Delegates stressed that it applies to all phases of planning and construction, and should continue well into the operational phase of the learning space as an ongoing assessment. The PST framework developed by the NGLS project team, provided a sound basis for the evaluation of new learning spaces, from the initial concept to the assessment of learning outcomes.

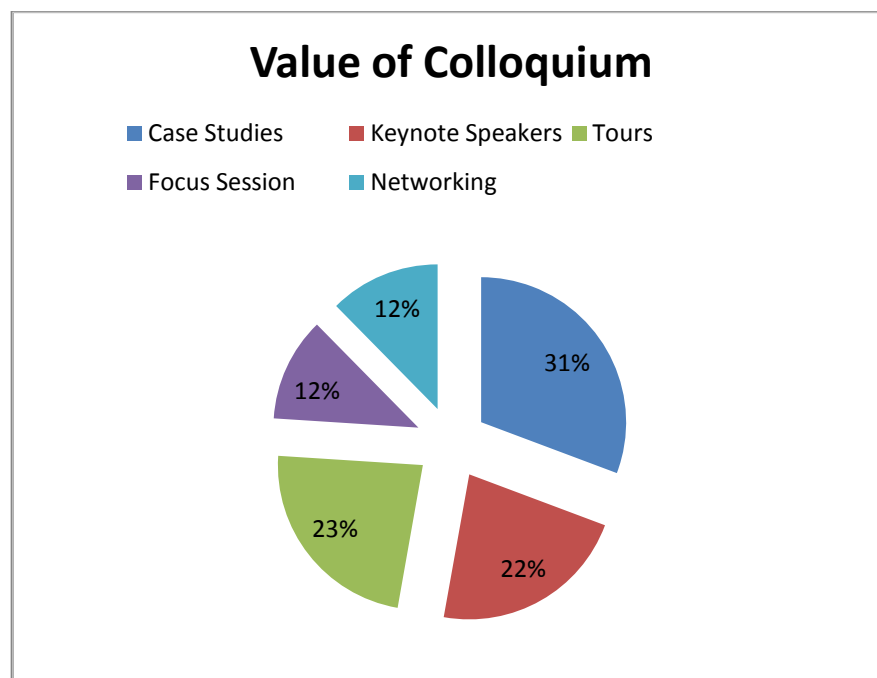


Fig 12. Perceptions of the most important aspects of the Colloquium. Taken from delegate responses in the post-event survey.

As Figure 12 indicates, the three most valued aspects of the Colloquium were the case studies, tours of ACTS and the Science Learning Centre, and the keynote speakers. Responses indicate that networking and the Focus Session were useful, but not necessarily the focus for most of the delegates. Although the Focus Session brought to light issues with evaluating learning spaces and possible solutions, delegates were primarily interested in seeing how spaces were working and hearing from colleagues about how they had met the challenges in evaluating learning spaces.

As a direct outcome of the information disseminated at the Colloquium, several institutions revised their approach to learning spaces on the basis of the overview of case study presentations, which gave them more understanding of the challenges arising and potential solutions.

Anecdotal evidence supports this change in approach to new learning spaces, and suggests that it has contributed to reducing the tension in planning committees, by improving understanding for all parties working toward a common end.

The second NGLS Colloquium was intended as a forum for the gathering and sharing of knowledge on the evaluation and assessment of new learning spaces in higher education institutions in Australia. Several institutions represented at the Colloquium were in the process of planning new learning spaces, while others had operational learning spaces and were reporting on their approach to evaluation.

It was revealed that several adaptations in delegates' approach to evaluating next generation learning spaces in higher education institutions were initiated following the Colloquium.

Design intent, process and evaluation were key components of the case studies, tours, and keynote presentations. The Colloquium was a means of disseminating this information to a wide range of higher education institutions.

General delegate responses to the Colloquium:

- ❖ A very useful range of case studies and tours was presented
- ❖ Case studies were very informative and enjoyable
- ❖ the Colloquium was a very timely and useful event
- ❖ Session case studies included a good variety of learning spaces and provided balance in addressing evaluation
- ❖ Sessions were thought-provoking and will certainly drive change
- ❖ An exchange of great ideas and experiences
- ❖ Discussion raised issues for implementation and further consideration of evaluating learning spaces
- ❖ Content contributed significantly to the undertakings needed on the journey of developing learning spaces and provided direction for other national institutions
- ❖ Inspirational
- ❖ importance of evaluating new spaces with attention to directed outcomes
- ❖ recognition of the need to research and evaluate new spaces, with results feeding into the next learning space development

Delegates expressed an interest that future colloquia provide:

- ❖ more information on design philosophies
- ❖ have a focus on the holistic nature of spaces and how individual spaces complement each other within a campus
- ❖ research into measuring the impact of learning spaces on teaching and learning
- ❖ small (discipline) group discussions

Summary

The second NGLS Colloquium was a great success in terms of dissemination, research and discussion of the issues involved in designing and evaluating learning spaces. Many delegates expressed an interest in the continuation of a forum through which the newly formed community developed in the course of the NGLS colloquia can grow, share ideas, and meet the challenges together. There are no immediate plans for a third forum, although a biannual forum hosted by universities involved in the development of learning spaces would be of immense value to the academic and student community.

The higher education sector in Australia has recognised that the physical learning environment has a significant impact upon learning and the student university experience. Although academic excellence has long been seen as the drawcard for universities, the focus is now shifting to include the physical elements on offer, and new learning spaces are a major player in attracting and retaining student interest.



Fig 13. Delegates attending Plenary talk by Professor David Radcliffe.

Next Steps

Current Research

The NGLS research team are involved in the ongoing development and evaluation of new spaces at the University of Queensland. Evaluation and assessment of learning spaces is informing the process of developing new learning spaces from the initial brief. As the success of new approaches is shared, other institutions are adopting more rigorous testing and evaluation of learning spaces and better understand the improved outcomes achievable from a more directed design brief.

New Learning Spaces

Construction of the Advanced Concept Teaching Space (ACTS) and the Collaborative Learning Centre in GPN4 was completed in late 2008 and these spaces will be operational from first semester 2009.



Fig 14. The newest Collaborative Learning Centre at the St Lucia campus of the University of Queensland.

Other new learning spaces at the Gatton and St Lucia campuses are in the planning stages and the NGLS project team has provided input into their development and design.

References & Suggested Reading

- Acker, S.B. & Miller, M.D. (2005). 'Campus Learning Spaces: Investing in how students learn.' *EDUCAUSE Research Bulletin*, 8:1-11.
- Brown, M. (2005). 'Learning Spaces.' In *Educating the Net Generation*, (Oblinger & Oblinger Eds.) www.educause.edu/educatingthenet.gen
- Chickering, A.W. & Gamson, Z.F. (1987). 'Seven Principles for Good Practice in Undergraduate Education.' *The American Association for Higher Education Bulletin*, March.
- Jamieson, P. (2003). 'Designing more effective on-campus teaching and learning spaces: a role for academic developers.' *International Journal for Academic Development*. 8(1-2):119-133.
- Johnson, C. & Lomas, C. (2005). 'Design of the Learning Space: Learning and Design Principles'. *Educause Review*. July/August, 17-28.
- Long, P. (2007). *Learning Spaces: Why classrooms are so 20th Century*. Next Generation Learning Spaces Colloquium. www.uq.edu.au/nextgenerationlearningspace/presentations
- Norwani, N. (2005). 'Learning Outcomes at Higher Learning Institutions: Do institutional environments matter?' *Proceedings of the 2005 Forum of the Australasian Association for Institutional Research*. www.aair.org.au/Forum2005/Norwani.pdf
- Oblinger, D. (2005). 'Leading the Transition from Classrooms to Learning Spaces: The convergence of technology, pedagogy, and space can lead to exciting new models of campus interaction.' *Educause Quarterly*. Number 1. National Learning Infrastructure Initiative (NLII).
- Oblinger, D.G. & Oblinger, J.L. (2005). *Educating the Net Generation*. Educause.
- Oblinger, D. (2006). *Learning Spaces*. www.educause.edu/learningspaces.
- Phillips, D.C. (2000). *Constructivism in Education: Opinions and Second Opinions on Controversial Issues*. University of Chicago Press: Chicago, Illinois.
- Scott-Webber, L. (2004). *In Sync: Environmental Behavior Research and the Design of Learning Spaces*. Ann Arbor, Michigan, Society for College and University Planning.
- Taylor, P.G. (2000). 'Changing Expectations: Preparing students for flexible learning.' *International Journal for Academic Development*, 5(2):107-115.
- Van Note Chism, N. (2006). 'Challenging Traditional Assumptions and Rethinking Learning Spaces' In: *Learning Spaces*, (D. Oblinger, Ed.). Educause.
- Watson, L. (2006). *Designing Learning Spaces for the 21st Century*. JISC Conference: Building for the Net Generation.

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