



TRANSITIONS

INHABITING INNOVATIVE LEARNING ENVIRONMENTS

AUSTRALASIA - MELBOURNE 2017



**What is needed to help teachers better utilise
space as one of their pedagogic tools?**

An international symposium for research higher degree students.

TRANSITIONS 2017 AUSTRALASIA

***What is needed to help teachers better utilise space as one of their pedagogic tools?
An international symposium for research higher degree students.***

Friday June 2nd, 2017.

StudioFive, Level 5, 234 Queensbury Street, the University of Melbourne.

Organised by ILETC, Innovative Learning Environments and Teacher Change.

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Schedule



8:30 - 9:00 **REGISTRATION OPEN**

9:00 **CHAIR**
DR. MARIAN MAHAT

9:00 - 9:10 **WELCOME REMARKS**
PROF. JULIE WILLIS

9:10 - 9:30 **KEYNOTE ADDRESS**
MARY FEATHERSTON

9:30 - 10:50 **SESSION ONE: INHABITING DESIGN**

INTERLOCUTOR
RICHARD LEONARD

[Dr. Anna Peterson](#)

Inhabiting educational design: Intentions, tensions and implications

[Sarah Healy & Carol Morrison](#)

The Gadfly: Doing data differently

[Peter Walker](#)

The pure and the polluted: A spatial study of one co-located special school

[Dr. Donna Wheatley & Thomas Hansen](#)

Radical disruption: Co-creating education masterplans

DISCUSSION

10:50 - 11:30 **MORNING TEA**

11:30 - 12:30 **SESSION TWO: TEACHER PRACTICES**

INTERLOCUTOR
ASSOC PROF. CRAIG DEED

[Dr. Emily Nelson](#)

Addressing the challenges of Innovative Learning Environments for practicum:
Socio-spatial entanglements

[Dr. Janet Buchan](#)

Learning without boundaries: Reconceptualising the curriculum in Innovative
Learning Environments

[Vicky Leighton](#)

Teaching space

DISCUSSION

12:30 - 14:00 **LUNCH + POSTER SESSION**

14:00 - 15:00	SESSION THREE: CHANGE AND RISK INTERLOCUTOR STEVE COOK Chris Bradbeer Into the great wide open: Navigating teacher opportunity, agency and structure in a collaborative ILE Tamara Jones Mitigating perceptions of risk and improving impact in ILE Suzanne Trask Reconstructing senior science education in flexible learning spaces DISCUSSION
15:00 - 15:30	AFTERNOON TEA
15:30 - 16:30	SESSION FOUR: MEASURING IMPACT INTERLOCUTOR PROF. JOHN HATTIE Dr. Terry Byers What does teaching and learning look like in different classroom environments? Ji Yu Learning space and student learning in higher education: An exploration through a comparative case study in China Dr. Scott Alterator Teacher adaptation to ILEs: Identifying key skills for teachers in 21st century ILEs. We're going through a phase DISCUSSION
16:30 - 17:00	CLOSING REMARKS PROF. TOM KVAN
17:00 - 18:30	COCKTAIL RECEPTION

Keynote address



MARY FEATHERSTON

INTERIOR/PRODUCT DESIGNER



Mary Featherston has practiced as a product and interior designer for 50 years, her passionate interest in design for young people has grown into a personal research project and advocacy for radical change to school education. She has been commissioned to design learning environments in cultural institutions and for all age levels in schools.

Since the 1970s she has helped to establish Community Child Care, Community Schools, the Children's Museum (Museum of Victoria) and the Reggio Emilia Australia Information Exchange. Mary lectures and contributes to research projects at RMIT, Melbourne and Monash universities and she is an Honorary Senior Fellow University of Melbourne, a Life Fellow and Inaugural Inductee of the Design Institute of Australia Hall of Fame and an emeritus director of the Robin Boyd Foundation.

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Session 1: Inhabiting design

Interlocutor



RICHARD LEONARD

DIRECTOR OF HAYBALL PTY LTD, AUSTRALIA



Richard is a Director of Hayball Pty Ltd, a Melbourne based medium-sized design practice offering architecture, interior design and urban planning services.

Richard has more than 25 years of architectural experience in Australia and the United Kingdom and is Director in charge of educational and institutional projects at Hayball. Many institutional projects have been completed under Richard's guidance including aged care and specialist facilities for the Commonwealth Scientific & Industrial Research Organisation (CSIRO) – however, education remains Richard's primary professional passion.

He is a strong advocate for the collaborative design process to integrate modern education philosophies into school facilities. In this capacity, he has collaborated with a number of leading education specialists in Australia, including Associate Professor Peter Jamieson, Mary Featherston and Dr Julia Atkin.

Richard plays an active role in the education field, as Chair-Elect of the Australasia Region of Learning Environments Australasia and as Past-Chair of the Victorian Chapter, through involvement with Department of Education and Early Childhood Development (DEECD, Victoria), the Boyd Foundation and the Learning Spaces initiative and also the University of Melbourne. He regularly participates in various education conferences and seminars including organizing events for Learning Environments Australasia . In 2010, he presented at the OECD conference in Vienna: "Imagine: Exploring radical visions for tomorrow's schools". Richard has participated as a Linkage Partner with the University of Melbourne in three Australian Research Council projects focusing on education and also in the LEaRN initiative (Learning Environment applied Research Network), including the Innovative Learning Environments and Teacher Change.

Inhabiting educational design: Intentions, tensions and implications



ANNA PETERSON

QUEEN'S UNIVERSITY, CANADA

The natural and built environments of schools have a profound impact on our understanding of the world and our place within it. When billions of dollars are invested annually in public education infrastructure, it is essential to know how design affects the lives and work of students and teachers.

The broad purpose of this study was to explore the lived experience of educational design. Research questions included: (a) What can be learned from the experiences of architects and principals involved in the design of two exemplary public schools?, (b) How do students and teachers experience the design of these educational environments?, and (c) How can their experiences inform educational design? A qualitative, phenomenological, case study methodology was chosen to investigate educational design from the perspectives of 29 students, 10 teachers, 2 principals, and 3 architects at two comprehensive schools (Grades 1–9) in Helsinki, Finland. Students and teachers took over 1600 photographs and selected 400 for discussion at photo-elicitation interviews. Semi-structured interviews were conducted with principals and architects. Analysis identified the theme at the heart of the data as a lack of congruency between the intended purpose(s) and users' experiences of the design of their schools. This insight led to the development of the Educational Design Intentions (EDI) Model, which explores tensions within participant-identified design intentions and their implications for educational design.

This study identified: (a) key insights regarding participants' experiences of inhabiting their schools, (b) the need for post-occupancy evaluations, especially from an educational and humanistic perspective, and (c) how educators and architects can more fully inhabit a shared vision of educational design.

Knowledge regarding the interplay between educational stakeholders and the design and use of their schools has the potential to facilitate change at participant schools, increase knowledge in the field, diversify school design, and focus future research.

KEYWORDS: PEOPLE, PLACE AND PEDAGOGY • INHABITING EDUCATIONAL DESIGN • EDUCATIONAL DESIGN INTENTIONS MODEL • POST-OCCUPANCY EVALUATION • IMAGE-BASED RESEARCH



Anna Peterson is an early career researcher specializing in learning environments design and evaluation. With the support of the Social Sciences and Humanities Research Council (SSHRC) Joseph-Armand Bombardier Canada Graduate Scholarship, Anna recently completed her PhD in Education at Queen's University, Canada. Intrigued by the lack of congruency between the intended purpose(s) and users' experiences of educational design choices, her doctoral research led to the development of a conceptual model to capture and communicate evidence-based knowledge regarding the ways in which students and teachers inhabit educational design. Anna's research contributes an educational and humanistic perspective to the study of school architecture and provides a unique approach to the burgeoning field of post-occupancy evaluation through the use of photography.

The Gadfly: Doing data differently



SARAH HEALY & CAROL MORRISON

THE UNIVERSITY OF MELBOURNE, AUSTRALIA

Socrates referred to himself as a gadfly - a horsefly with a nasty bite that, while irritating, does not do serious harm. Socrates-as-gadfly continually provoked citizens of Athens to show that they did not know what they thought they knew.

Like Socrates, we present provocative questions with 'bite' to draw different methodological approaches into the learning environments applied research conversation. We argue that without methodological diversity, learning environments research risks reproducing existing knowledge by limiting itself to the development of understandings about how learning environments as pre-existing objects work, and how teachers as individual subjects make them work (or resist their pedagogic potential). To expand our view of what learning environments research could achieve, we turn to Studies of Science and Technology which show, through empirical case studies, that knowledge and reality are not distinct from one another. Rather, reality and knowledge of reality are assembled – that is they are co-produced in entangled sociomaterial practices (Barad, 2007; Latour, 2005; Law, 2004; Law & Mol, 2002; Mol, 2002). We ask: How do these studies move us toward a more nuanced knowledge of practices that assemble learning environments? What might be brought into view if we accept that the researcher, the researched, and the research approaches and tools co-produce each other? How does this inform our understandings of the practices that produce learning environments (or not) and the political questions about who they work for and why? Using Honan's (2014) 'Disrupting the habit of interviewing' as a model for how we might work empirical material differently, we present a data-performance from our own PhD research that entails a method of 'data talking, us talking data, and data talking back'. The overall aim of our presentation is to provoke critical dialogue about the theoretical assumptions underpinning our own research practices and learning environments research more generally.

KEYWORDS: AFFECT • LEARNING ENVIRONMENT • PEDAGOGY • EMOTION • DATA GENERATION



Sarah and Carol are both late-stage PhD candidates at the University of Melbourne's Graduate School of Education. Prior to embarking on her PhD, Carol was a primary teacher for 17 years and a primary school principal for 8 years. She is now researching policy practices of new generation learning environments in Melbourne Catholic schools. Meanwhile, Sarah's background is in the creative industries and visual art education. She is now researching affective pedagogies across in/formal learning environments. Sarah and Carol share an interest in poststructural theories related to new materialities. Their respective research projects intersect on an onto-methodological level. This collaborative presentation explores that intersection, inhabiting the in-between spaces of researchers, research contexts, and 'data' from an in/formal educative site – a taekwondo club.



The pure and the polluted: A spatial study of one co-located special school



PETER WALKER

FLINDERS UNIVERSITY, AUSTRALIA

This presentation focuses on one of four co-located, case study, purpose-built, special schools within a doctoral thesis. The thesis explores the extent to which co-locating special schools might facilitate increased inclusive practices.

My study of Flinders Special School utilises Soja's ThirdSpace as a conceptual framework to view and analyse both place and space. Such an approach includes analysis of physical space (e.g. walls, fences, gates), planned or idealised space (e.g. architectural design), and, lastly, a ThirdSpace which looks beyond the binary of mainstream/special schools to explore and identify new meanings behind the construction of new, innovative schools. The credibility of the final analysis is increased through the member checking of major themes within an interview of two school leaders.

The results show significant differences between the school plans. Tensions between schools occurred as a result of increased enrolments, the spatial demands of transportation, and budgetary restrictions. Although physical connections between schools were planned for, spatial contestation and budgetary limitations has resulted in these connections not occurring. An analysis of classrooms, playgrounds, and shared spaces, such as corridors, indicates a pedagogical desire to promote student learning and increased independence, over spatial control of student behaviour. Connections are made with the literature on 'pollution' and schools utilising spaces to define, restrict and protect against certain populations and behaviours.

KEYWORDS: INCLUSION • THIRDSPEACE



Peter has worked in both general education and special school settings for over 20 years, both in South Australia and New South Wales. Following 5 years as a school principal, Peter returned to Adelaide to teach in both undergraduate and postgraduate programs at the School of Education, Flinders University. His current research interests include the Australian Curriculum, inclusion, behaviour (Positive Behavioral Interventions & Supports), and autism. In 2016 Peter presented a Ted Talk at Tedx Adelaide on the theme of 'inclusive education'.

Radical disruption: Co-creating education masterplans



DONNA WHEATLEY & THOMAS HANSEN

WARREN AND MAHONEY, AUSTRALIA

New education campus or building masterplans need to consider how the sector can be radically disrupted. We know that schools and universities that offer new concepts, creative environments, increase engagement and position students for success will rise to the top. But we don't have a methodology that can help yield insights into what these concepts and environments should be for each school and campus.

At Warren and Mahoney we have developed a design methodology that fosters co-creation by incorporating known disruptions and workshopping new ones. This research paper presents the results of these workshops tertiary masterplanning projects. Comparing these outcomes with standard briefing outcomes demonstrates the value of introducing the concept of disruption when co-creating at a masterplanning level.

For the tertiary sector we typically work with four stakeholder groups: students, academic staff, technical experts and, depending on how the campus is structured, commercial research partners as well. We use multiple modes of data presentation and data collection: cloud based surveys using ipads, videos, overlays on campus maps, value-time modelling, and future scenario clustering. One of the key challenges is consolidating the ideas from the stakeholder groups to arrive at a synthesised masterplans.

These outcomes provide evidence to education space managers and architects that introducing concepts of disruption will result in more relevant as well as more innovative ideas when co-creating education masterplans.

KEYWORDS: LEARNING SPACES • CO-CREATION • TERTIARY • WORKSPACE



Dr Donna Wheatley is an experienced strategist and designer with an extensive portfolio covering major education, masterplanning, cultural, and workplace projects. Donna is a Registered Architect and holds an impressive academic portfolio; a PhD (Architecture) from the University of Sydney; two first class bachelor degrees, and is a sessional academic at UNSW, UTS and University of Sydney. Her PhD examined the notion that spatial design can impact behaviour, innovation, interaction and productivity. While her approach to space planning is evidence based and data driven, it also draws on broader social and economic influences on space and behaviour.



Thomas Hansen is a registered architect with experience on award-winning educational facilities, multi-residential apartments, mixed-use, corporate fit-out, health, master planning and commercial projects. Thomas's approach to design lies in clear and open communication, robust thinking, and forming close relationships with clients and the design team in order to understand and identify the project aspirations and fulfil strategic objectives.

Session 2: Teacher practices

Interlocutor



CRAID DEED

ASSOCIATE PROFESSOR IN EDUCATION
LA TROBE UNIVERSITY, AUSTRALIA



Craig Deed (PhD) is an Associate Professor in Education, School of Education; College of Arts, Social Science and Commerce, La Trobe University, Australia. His research interests include the interaction between space, teaching and learning at all levels of education. This includes investigation into educator adaptation and student participation in flexible, open and virtual space; innovative and future pedagogical approaches in higher education, and the changing identity and role of academics in higher education.

Recent research has focused on the relationship between pedagogy and use of flexible learning space in secondary schools in low socioeconomic contexts; as well as student use of informal learning spaces in contemporary higher education. Craig has been involved in several

Australian Research Council grants in the area of increasing educational opportunity for students living in low socioeconomic areas of regional Australia. He has published over thirty academic papers and book chapters that have had productive impacts on school and higher education pedagogy, workplace innovation, and reform.

Addressing the challenges of Innovative Learning Environments for practicum: Socio-spatial entanglements



EMILY NELSON

EASTERN INSTITUTE OF TECHNOLOGY, NEW ZEALAND

A shift to Innovative Learning Environments (ILEs) in New Zealand schools is a current Ministry of Education strategic direction that creates implications for how we as teacher educators prepare preservice teachers to teach in these emerging environments. Candidate Teachers (CTs) (preservice teachers) in our Bachelor of Teaching (Primary) programme increasingly are placed in ILEs on practicum as these develop in our partner schools. CTs report anecdotally that teaching in ILEs pose them steep and novel challenges around how they plan, teach, assess, manage students and learning as well as work increasingly collaboratively with Associate Teachers and other colleagues. With our programme designed around a more conventional image of classrooms, teaching and learning, we wondered how our CTs navigated the novel pedagogical and physical configurations they encountered in ILEs on practicum. We adopt a socio-spatial view (Lefebvre, 1991) to explore the 'embodied material conditions' (Monahan, 2008) and particular pedagogical challenges preservice teachers face learning to teach in ILEs on practicum. We conducted focus group interviews with current third year CTs and recent graduates of our programme who had completed one or more practicum in an identified modern or innovative learning environment (identified by the practicum school). Focus group questions explored CT's perceptions of the particular demands of ILEs in relation to planning, pedagogy, integrating technology, managing student learning and collaborating with colleagues. Utilising Lefebvre's construct of space as layered perceived, conceived and lived spaces as an analytic frame we identified key interrelationships that emerged for our pre-service teachers between the campus space, the theoretical and ideological space, the practicum space and increasingly, the virtual spaces of ILEs.

KEYWORDS: INNOVATIVE LEARNING ENVIRONMENTS • SOCIO-SPATIAL THEORY • PRESERVICE TEACHERS • INITIAL TEACHER EDUCATION • PRACTICUM



Dr Emily Nelson is a teacher educator at the Eastern Institute of Technology, Taradale, New Zealand. She is Programme Coordinator for a new innovative practice-based teacher education degree and a teacher on an inter-disciplinary Master of Professional Practice degree. She is motivated by student voice as socially just action. Emily's research interests include enacting student voice within pedagogy in classrooms, post-structural theorising of power, and increasingly, investigating how preservice teachers respond to new configurations of schooling generated by new generation learning spaces.

Learning without boundaries: Reconceptualising the curriculum in Innovative Learning Environments



JANET BUCHAN

LOURDES HILL COLLEGE, AUSTRALIA

Despite their diversity, design and technology-rich interiors, innovative learning environments (ILEs) will remain simply learning spaces that are essentially four walls (albeit glass, movable or even non-existent) enclosing teachers and students. That is, until educators adopt a more holistic view of the learning environment and understand its explicit connection to curriculum and appropriate pedagogy. This paper puts forward the Dimensions Model of the Learning Environment (Buchan, 2014) which can be used to provide the framework/base for reconceptualising how the curriculum can be re-designed and taught. Grounded in Ph.D. research the Dimensions Model complements existing research into learning space design and associated pedagogical frameworks. In order to guide their approach to learning and teaching into the 21st century a large, traditional Catholic girls' high school posed themselves the question, "What should learning and teaching look like in our classrooms of the future?" The research study involved an extensive consultation process with the school community and external learning experts. To try to move the collective thinking beyond the traditional classroom, the data collection questions included the theme of "Learning without boundaries". This was grounded in the Dimensions Model of the Learning Environment which identified five dimensions: spatial, social, temporal, technological and connectedness. Applying these dimensions to the research problem was successful in gaining insights into perceptions of the learning environment beyond the classroom. This data has been used to inform the school's new Learning Futures Framework that will underpin curriculum design and the student learning experience into the future. In order to make effective use of ILEs teachers need to be provided with appropriate pedagogical tools and to be trained in learning design. This paper recognises the value of learning environment research and reports on how a backwards mapping process has been used to apply the research and principles of learning space and learning environment design to curriculum design and delivery.

KEYWORDS: DIMENSIONS OF THE LEARNING ENVIRONMENT • LEARNING FUTURES • CURRICULUM DESIGN • LEARNING WITHOUT BOUNDARIES



Dr Janet Buchan, has over 25 years' experience as an educator in secondary schools, TAFE and including over 13 years' experience in universities in the various roles of manager, educational technologist, educational designer, researcher and more recently as a Senior Lecturer and Academic Developer (Learning Spaces). Her current position is the Director of CiTEL (Centre for innovation, Teaching Excellence and Leadership) at Lourdes Hill College in Brisbane where she oversees the operational aspects and development of the College's new state-of-the-art Centre. This includes developing and programs and research that underpins the college's commitment to advancing teaching and academic excellence. Janet is a regular presenter at conferences and symposiums and has researched and published widely in a number of fields.

Teaching space



VICKY LEIGHTON

THE UNIVERSITY OF MELBOURNE/ANGLICAN CHURCH GRAMMAR SCHOOL, AUSTRALIA

Teaching Space: Does a teacher's spatial competency affect their teaching and effect the different types of learning that takes place in an ILE?

There has been significant investment in the redevelopment and creation of Innovative Learning Environments (ILEs) with the theoretical intention of creating dynamic spaces designed to meet the needs and improve educational outcomes for teachers and learners. Teachers do not generally plan space for pedagogical advantage. Equally, an architectural space is not an incidental component of the teaching and learning cycle. The relationship is complex and not always articulated or understood. Environmental factors such as school and individual cultures, contextual symbolism, designed architectural propaganda, and issues of identity and ambition are all component parts that influence those who occupy these spaces. How aware are teachers of the ideologies communicated by the buildings themselves?

There is currently a lack of evaluation around how space might be utilised for ultimate impact. In particular, the influence of teachers' environmental capabilities and spatial literacy appears ignored. There is a need to examine and evaluate the effectiveness of ILEs regarding their ability to affect teacher practice, perhaps through the manipulation or 'curation' of a learning space, and the consequential effect on students as learners. The significance of this paper lies in its currency. Learning environments research has evolved rapidly to the stage we can now be critical of the knowledge teachers bring to the space. The aim of this project will be to determine and measure the effect of teachers' environmental capabilities on their teaching and subsequent impact on different types of learning.

This paper will framework how cutting-edge research can explore the effect of teacher environmental competency on the actions and behaviours of teachers in the classroom, aligning this with spatial or other contextual, pedagogical and belief based constructs. It will seek to understand if, and how, teachers' environmental competencies can be measured, and subsequently considers what may constitute an effective tool for spatial literacy teacher training. Research undertaken will contribute to a broader suite of evidence-based studies designed to understand how the communicative power of space influences teachers working in ILEs to achieve optimised performance.

KEYWORDS: ENVIRONMENTAL COMPETENCY • SPATIAL LITERACY • SPATIAL THINKING • ECOLOGICAL PSYCHOLOGY • INNOVATIVE LEARNING ENVIRONMENTS



Vicky gained a first class honours degree in Art History and Visual Art from the University of Wales, Aberystwyth. She was subsequently awarded a scholarship to complete her Master's degree in Art Theory and Fine Art, and continued to a custodial career in the heritage industry in the UK. Vicky has lived and worked in a range of nationally-significant historic buildings including Chartwell, the home of Winston Churchill, and Monks House, Virginia Woolf's home. Vicky completed a postgraduate certificate in education at Oxford Brookes University in 2008 and she is currently the Head of Art at the ILETC partnership school, Anglican Church Grammar School in Brisbane, and vice-chair for The Churchie National Emerging Art Prize in Australia.

Session 3: Change and risk

Interlocutor



STEVE COOK

PRINCIPAL, ALBERT PARK COLLEGE, AUSTRALIA



Steve Cook has led the development of two inner city secondary schools in Melbourne, Victoria. The Bayview Street Campus of Williamstown High School was the first 5 star green school built in Victoria and featured innovative environmental design including a 1.8 hectare wetland and a Marine Education Centre. Currently, he is the Foundation Principal of Albert Park College. Twenty six million dollars has been invested in creating an open plan 21st century learning environment in which the use of technology is king!

Into the great wide open: Navigating teacher opportunity, agency and structure in a collaborative ILE



CHRIS BRADBEER

THE UNIVERSITY OF MELBOURNE, AUSTRALIA

Implicit within the design of many Innovative Learning Environments (ILEs) in New Zealand primary schools is the intention for a group of co-located teachers to work together with an 'up-scaled' community of students. To some these socio-spatial settings are suggestive of pedagogical and spatial freedom, of high levels of professional and student agency, and a transformation from routines established in previous traditional classroom environments. The shift into ILE may therefore encourage possibilities for novel approaches, the utilisation of individual strengths, and opportunities for teachers to determine together how facets of learning, time and space are organised. However, the level of structure required by teams to successfully and collaboratively achieve this presents as a complex, and time-consuming task, with teachers often finding themselves in a space between practicality and potential. This paper draws on observational and interview data from a wider study of teacher collaboration in six New Zealand primary schools case study sites. It considers the role of pedagogical and organisational structures alongside levels of autonomy experienced by teachers on adapting to new spaces. The findings indicate that while the occupation and ongoing inhabitation of Innovative Learning Environments may well present opportunities for teachers, tensions may be felt between predominating or created structures, and aspired or idealised practice. Implications for teacher teams are discussed. Data utilised in this research was obtained adhering to the ethical protocol current at the time of data collection. The research forms part of a PhD thesis and has been approved by the Human Research Ethics Committee (1442559.1).

KEYWORDS: INNOVATIVE LEARNING ENVIRONMENTS • TEACHER COLLABORATION • NEW ZEALAND • STRUCTURE • AUTONOMY • ADAPTATION



Chris Bradbeer is an Associate Principal at Stonefields School in Auckland, where he has been involved in establishing and developing a vision for teaching and learning, building teacher capacity and having the opportunity to consider 'what might be possible' in a new school setting. He is a Research Fellow (part time) on the ILETC project. Chris' interest is particularly focused on the opportunities engendered by the provision of new learning spaces. He is currently completing a PhD investigating the nature of collaborative teacher practices in Innovative Learning Environments in New Zealand.

Mitigating perceptions of risk and improving impact in ILE



TAMARA JONES

THE UNIVERSITY OF AUCKLAND, NEW ZEALAND

In New Zealand and abroad educational leaders are investing in a transition from 'traditional' classrooms to Innovative Learning Environments (ILE). Yet ultimately the onus is on the teacher to integrate learner-centric pedagogies and digital technologies in flexible learning environments. This is likely to generate many reactions from teachers. One reaction may be perceptions of risk, which current literature suggests may be a fundamental barrier to change (Le Fevre, 2014; Twyford, 2016). Acknowledging teachers' perceptions of risk may be a more productive lens when exploring ways to support teachers to engage in ILE, than accusing teachers of being resistant; "No one should be blamed in the process of building better schools" (Timperley & Parr, 2010, p. 17).

Findings from my doctoral research, which investigated teachers' perceptions of risk associated with the transformation to ILE, will be discussed. The research involved 73 teachers who were employed in three Auckland primary schools that were making the shift to innovative practices and environments. The teachers had begun trialling flexible use of learning spaces and exploring innovative pedagogic tools and practices. This presentation will report on:

1. Why an understanding of perceptions of risk matters.
2. Individual and organisational theories of risk-taking in education.
3. Perceptions of risk and perceptions of support.
4. Actions that may support teachers to engage in ILE.

Implications of my research may inform researchers, policy makers, educational leaders and teacher educators of the importance of being aware of, and responsive to teachers' perceptions of risk related to ILE. Having insight and implementing actions that mitigate teachers' perceptions of risk may result in teachers adapting their proven 'traditional' pedagogies to maximise the learning opportunities provided by ILE.

KEYWORDS: RISK PERCEPTION • RISK-TAKING • ILE • CHANGE



Tamara Jones is an educator with over twenty years' experience in New Zealand and abroad. During this time, she has held various primary teaching and school leadership roles, written contracts for the New Zealand Ministry of Education and developed school-wide programmes with international education agencies in Asia. Tamara completed her Masters in Educational Leadership (Hons) in 2014. Currently, with the support of a University of Auckland doctoral scholarship, Tamara is completing her doctoral thesis. Her research explores teachers' perceptions of risk associated with making the transition to ILE, and forms of support which increase teacher engagement in innovative practices.

Reconstructing senior science education in flexible learning spaces



SUZANNE TRASK

THE UNIVERSITY OF WAIKATO, NEW ZEALAND

In the New Zealand senior secondary context, the fluidity of newly-built or re-built flexible learning spaces and the seamless integration of technology are teamed with a framework curriculum and a versatile suite of assessment standards. These elements together conspire to construct new institutional realities which in turn impact who teachers and learners can be and who they think they should be. However, arguably it is the pedagogical possibilities permitted by the resourcing and spatial architecture of 21st century flexible learning spaces which exert the most powerful influence.

This presentation draws upon findings from phase one of a PhD research project exploring senior science learning in three case study schools. It focuses on one case study to illustrate perspectives and experiences of staff and students in a re-built science department. As their learning environment transformed beneath them from single cell laboratory classrooms to a new reality of open learning spaces, they were required to make a transition. The new laboratory areas are shared, not owned; and are designed as walk-in/walk-out spaces with no provision for seating.

Findings indicate that in these spaces some time-honoured assumptions of what 'good' or 'effective' science teaching are being troubled. For example, the charismatic entertainer who in his own lab engaged in spontaneous chemistry demonstrations finds this now less achievable. The move also repositions the meaning of science as a 'subject'. Science is often perceived as a knowledge-based subject and the added complexity of high stakes assessment demands, even within a flexible, standards-based system, has resulted in tensions between 21st century learning ideals and what is implicitly required in assessment policies. These findings have implications for the design of science spaces, curriculum and assessment decisions, and teacher professional development.

KEYWORDS: SCIENCE • FLEXIBLE LEARNING SPACES • TEACHER TRANSITIONS • ASSESSMENT



Suzanne is a full time doctoral student with the Wilf Malcolm Institute of Educational Research, University of Waikato, supervised by Professor Bronwen Cowie and Associate Professor Wendy Drewery. The research enquires into issues and opportunities surrounding senior science assessment for New Zealand teachers and learners working in flexible learning spaces. The focus for the study originates from an interest in 21st century teaching and learning ideals and in personalised learning. Other research interests include classroom interactions and classroom management in secondary schools. Before beginning her PhD study Suzanne was a secondary teacher educator at Bethlehem Tertiary Institute. Previous roles in education include Science/ Chemistry/Mathematics teacher and ESOL teacher.

Session 4: Measuring impact

Interlocutor



JOHN HATTIE

PROFESSOR IN EDUCATION

UNIVERSITY OF MELBOURNE, AUSTRALIA



John Hattie is Professor and Director of the Melbourne Education Research Institute at the University of Melbourne and a Chief Investigator for the ILETC project. He is the author of over 800 publications and papers, including the influential books *Visible Learning* and *Visible Learning for Teachers*. He has been involved in numerous national and international research groups and has directed over \$57 million in research grants. John has held numerous senior appointments and consultative roles including advisor to New Zealand Ministers of Education, the National Board for Professional Teaching Standards in the US, chief moderator of the NZ Performance Based Research Fund, past-president of the International Test Commission and is a Fellow of the Australian Council for Educational Leaders and the American Psychological Association. He has held senior roles at The University of Western Australia, University of North Carolina,

University of Western Australia and The University of Auckland. He was made an officer of the New Zealand Order of Merit in the 2011 Queen's Birthday Honours, received a Gold medal for contributions to the study of educational administration and leadership by Australian Council for Educational Leaders in 2011, the Hedley Beare Award for Writing in Education by the Australian Council for Educational Leadership in 2010, and a Distinguished Teaching Award at the University of Auckland in 2010.

What does teaching and learning look like in different classroom environments?



TERRY BYERS

THE UNIVERSITY OF MELBOURNE/ANGLICAN CHURCH GRAMMAR SCHOOL, AUSTRALIA

The very nature of what constitutes an effective learning environment is undergoing substantial re-imagination. Authors have suggested that the spatial affordances of the vast stock of existing learning spaces, often termed conventional or traditional classrooms, is somewhat limited and constrains the possible pedagogies available to teachers. On the other hand, considerable interest and investment have led to the creation of innovative learning environments (ILE). Authors, authorities, and governments have put forward ILEs as a catalyst for pedagogical change, providing those affordances thought to be somewhat better than a traditional classroom. These affordances support teachers to facilitate a wider range of pedagogies to enhance student learning. However, there is little evidence to show how each spatial type performs pedagogically to either hinder or support the desired approach/es to teaching and learning.

This lack of proof stems from few methodologies and metrics that can measure the impact of different learning spaces on teacher and student activity and behaviour. The development of the Linking Pedagogy, Technology, and Space (LPTS) observational metric, with its provision of instantaneous quantitative visual analysis of teacher practice and student learning, sought to address this perceived gap. The resulting multi-dimensional analysis allows the evaluation of those factors, spatial or other; that can ascertain the pedagogical return of different learning spaces.

This paper will report on a three-year study that tracked the practice of a larger group ($n > 50$) of teachers in their occupation of different Secondary years spatial layouts. It seeks to illuminate how teachers from diverse subject backgrounds use (or not) the spatial affordances of traditional classrooms and ILEs for pedagogical gain. Through this understanding, the paper will provide longitudinal evidence to evaluate the postulated claim that different learning environments can either facilitate or inhibit particular student and teacher activities and behaviours.

KEYWORDS: SINGLE SUBJECT RESEARCH DESIGN, CLASSROOM OBSERVATION, TEACHER ENVIRONMENTAL COMPETENCY



Terry Byers (PhD, MLI and BEd) is currently the Director of the Centenary Library and Innovation in Learning at the Anglican Church Grammar School (Churchie) in Brisbane, Queensland. He oversees the strategic direction and operation of the Centenary Library and works with teachers to understand better their pedagogical practice in technology-enabled and contemporary learning environments and how this affects learning experiences and outcomes. Terry is also a Research Fellow on the 2016-2019 Australian Research Council (ARC) Linkage Project Innovative Learning Environments and Teacher Change'. He recently completed his PhD dissertation in conjunction with the 'Evaluating 21st Century Learning Environments' ARC Linkage project focusing on empirical evidence of the impact of innovative learning environments. His thesis derived quantitative methods to ascertain the impact of different learning spaces on teachers and students.

Learning space and student learning in higher education: An exploration through a comparative case study in China



JI YU

THE UNIVERSITY OF CAMBRIDGE, ENGLAND

This presentation is part of my PhD study that explores the underlying relationships between learning space and student learning in higher education through empirical evidence. Drawing on theoretical notions of student learning research in the field of educational psychology, the study investigates students' learning experiences within two contrasting learning spaces in the same university in China - a traditional, didactic learning space, and an open, innovative learning space. After a thick description of the two spaces regarding their physical features, embedded pedagogical visions and anticipation of student learning, 320 students completed an adapted version of the Inventory of Learning Styles (Vermunt, 1996) within the two spaces, which measured four central dimensions of student learning - cognitive processing strategies, regulative strategies, conceptions of learning and learning orientations. Twenty-eight students participated in six follow-up in-depth focus group interviews, in which they were asked about their use of space during learning, and their perceptions of and requirements for learning space. Quantitative and qualitative data analyses were combined to identify patterns of covariation that relate to specific features of learning space and particular aspects of learning.

The results show that learning space is indeed associated with students' conceptions of learning, and their cognitive, regulative, affective and motivational aspects of learning, although different associations have different sources. The findings also reveal considerable variation across students, and highlight individual differences such as year of study, academic discipline that need to be taken into account. This study contributes to deepening our understanding of utilising space to facilitate student learning, and informs an innovative way of considering the teaching and learning transformation in higher education.

KEYWORDS: LEARNING SPACE • STUDENT LEARNING • THE INVENTORY OF LEARNING STYLES • FOCUS GROUP INTERVIEW • HIGHER EDUCATION



Ji Yu is a PhD candidate from the University of Cambridge, Faculty of Education, affiliated with the Psychology and Education Academic Group. Her research focuses on the bridging of two domains, learning space research and student learning theories. She is particularly interested in the educative value of learning space by using mixed methods to examine students' experiences of space in relation to their learning. She has recently passed the oral defence of her PhD thesis.

Teacher adaptation to ILEs: Identifying key skills for teachers in 21st century ILEs. We're going through a phase



SCOTT ALTERATOR

LA TROBE UNIVERSITY, AUSTRALIA

Teachers are no longer transmitters of content for passive vessels. The shift away from a strictly outcomes-based, 'telling and testing', teacher-centred paradigm is fuelled by the recognised limitations of this mode of thinking within the twenty-first century context (Aitkin, 2011; Alfieri, Brooks, Aldrich, & Tenenbaum, 2010; Darling-Hammond, 2006; Prensky, 2010; Whitby, 2013). Where once the teacher was the knowledge-holder and the content-authority, technology and resultant attitudes have shifted the fundamentals (Fullan & Langworthy, 2014; McGregor, 2004a).

Innovative learning environments are often conceived as physical embodiments of the democratisation of knowledge and empowerment of the learner (Alterator & Deed, 2013; Lippman, 2011; Melhuish, 2011; Prain et al., 2014). As well as being a response to the shifting paradigm, the learning space is a further prompt away from the old educational model (Barret & Zang, 2009; JISC, 2006). In such a setting the role of the teacher appears vastly removed from historical and industrial models. This paper will address the following: What key skills are emerging for teachers in twenty-first century ILEs?

Conceptually oriented by relational agency (Edwards, 2005) and a model of agentic adaptation (Borko, 2004; Deed & Lesko, 2015), key teacher skills are presented from a multiple-site case study of Victorian secondary schools engaged in delivering twenty-first century teaching and learning in ILEs. The adaptation occurs across a spectrum from early phase through advanced phase. Key skills emerging include heightened collaboration, comfort with scrutiny, flexibility of pedagogical beliefs and practice. Advance phase skills include team orientation and reflexive practice.

The paper will also consider the critical factors impacting the teacher shift from traditional or early phase adaptation to advance phase practice. The role of the physical space in prompting the shift will also be discussed.

KEYWORDS: TEACHER SKILLS • ADAPTATION • RELATIONAL AGENCY



Dr Scott Alterator is a lecturer in the school of Education at La Trobe University, Australia. Since completing his PhD he has continued to focus his research on Innovative Learning Environments at both secondary and tertiary level. His upcoming book (co-edited with Craig Deed) will focus on the occupancy phase of Innovative Learning Environments.

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