

# Carrick Associate Fellowship Report

Erica McWilliam

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## **Title of Fellowship: Developing pedagogical models for building creative workforce capacities in undergraduate students**

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This Fellowship sought to address the lack of clarity regarding the specific teaching practices that actively develop creative workforce capacity in undergraduate students. The project addressed this lack of clarity by investigating pedagogical processes and products that can build creative workforce capacities in undergraduate students.

The key research questions for the project were aligned to all Carrick Strategic Priority Areas.

- What does pedagogical work for creative workforce capacity building actually look like in practice?
- What are the barriers to teaching for creative workforce capacity building and how can they be overcome?

The aim was to address these questions by identifying, documenting and disseminating pedagogical methods for building creative workforce capacities in undergraduate students. Five project objectives arose out of these aims:

1. To understand the relationship between pedagogical work and creative workforce capacity building in formal learning environments.
  2. To investigate examples of pedagogical processes and products that characterise a creativity-centred learning environment.
  3. To identify barriers arising in pedagogical work for creative workplace capacity building.
  4. To develop models of engagement that can overcome these barriers.
  5. To disseminate these models among key stakeholders in higher education teaching and learning.
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Details describing how these objectives were achieved are set out below:

1. *To understand the relationship between pedagogical work and creative workforce capacity building in formal learning environments.*

The scholarly work undertaken to investigate and theorise this relationship resulted in the following papers involved attendance and presentation at the following national and international conferences in 2007:

- *Creativity or Conformity? Building Cultures of Creativity in Higher Education* Conference, Cardiff, January 8-10.
- *The Digital Literacy Symposium*, ARC Centre of Excellence for Creative Industries and Innovation, Queensland State Library, March 29-30.
- *5th International Conference for Research in Music Education*, Exeter, April 10-14.
- *13th International Conference on Thinking*, Norrkoping, Sweden June 12-16.
- *Higher Education Research and Development Association* Conference, Adelaide, July 9-11.
- *National Creativity Showcase*: including organisation, co-ordination and a keynote presentation, held at the Queensland University of Technology, 6-7 December. ([www.creativityshowcase.qut.edu.au](http://www.creativityshowcase.qut.edu.au))

Refereed Conference papers 2007:

- McWilliam, E. (2007) *Is Creativity Teachable? Conceptualising the creativity/pedagogy relationship in higher education*, HERDSA, Adelaide, July 9-11. (for publication in HERD)
- McWilliam, E., Lebler, D. and P.G. Taylor (2007) *From passive consumers to active prod-users: student-led pedagogy in a popular music program*, 13th International Conference on Thinking, Norrkoping, Sweden 12-16 June.
- McWilliam, E., Taylor, P.G. and Perry, L. (2007) *Learning or Performance: What should educational leaders pay attention to?* 13th International Conference on Thinking, Norrkoping, Sweden 12-16 June.
- Carey, G. and McWilliam, E. (2007) *Too much performing, too little learning? Reflections on pedagogical practices within the Conservatorium*, 5th International Conference for Research in Music Education, Exeter, 10-14th April.
- McWilliam, E. (2007) *Unlearning How to Teach, Creativity or Conformity? Building Cultures of Creativity in Higher Education* Conference, Cardiff, January 8-10.
- McWilliam, E. Hearn, G., and Haseman, B (2007) *Building Trans-disciplinary Borderlands for Creative Futures: What barriers and opportunities? Creativity or Conformity?* Building Cultures of Creativity in Higher Education Conference, Cardiff, January 8-10.

2. *To investigate examples of pedagogical processes and products that characterise a creativity-centred learning environment.*

This investigation involved an extensive review of the literature. A web log was established on 27 February, to foster discussion and collaboration among peers investigating creativity within the education context. Established researchers were invited to comment on an initial discussion paper *"Is Creativity Teachable? Conceptualising the creativity/pedagogy relationship in higher education"*.

(<http://eduspaces.net/ericam/weblog>).

Conversations with these international and national scholars (furthering the networks established at the Creativity or Conformity? Building Cultures of Creativity in Higher Education Conference in Cardiff) established a platform for investigation by highlighting deficiencies within the current literature and by promoting linkages with research institutions within the UK, Canada and the USA.

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An electronic survey of award-winning Australian academic teachers was conducted as a comparative study with academics surveyed in the 2006 UK's Imaginative Curriculum project. A full report of this study was provided to the Carrick Institute in May 2007 'Understanding creativity: A survey of 'creative' academic teachers'.

([http://www.carrickinstitute.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/fellowships\\_associatefellow\\_report\\_ericamcwilliam\\_may07.pdf](http://www.carrickinstitute.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/fellowships_associatefellow_report_ericamcwilliam_may07.pdf))

Key comparative findings were that the majority of Australian participants, like those in the UK, perceived themselves to be creative. When asked for justification, respondents related their understanding of creativity to thinking and problem solving skills as well as self discipline and work ethic. In this context the responses suggest that they perceive creativity is a skill or attribute that can be fostered and developed. More than two-thirds of the Australian participants disagreed with the notion that creativity is a rare gift which only a few people have.

Australian responses largely reflected the responses of the UK study. Although the observed percentages differ between the two sample populations (UK and Australia), both groups predominantly perceived the concept of creativity as: seeing unusual connections, imagination and original ideas. The notion of creativity as 'mysterious processes' was the lowest ranked item for both sample populations.

The respondents held a mix of 'first' and 'second' generation ideas about creativity as a human capacity as summarised below:

<i>First generation creativity concepts</i>	<i>Second generation creativity concepts</i>
Serendipitous, non-economic	"Hard" and an economic driver
Singularisation	Pluralised / team-based
Spontaneous / arising from the inner self	Dispositional and environmental
Outside the box or any other metric	Requires rules and boundaries
Arts-based	Transdisciplinary
Natural or innate	Learnable
Not amenable to teaching	Teachable
Not assessable	Assessable

On the one hand, respondents appeared to endorse the first generation view that, in personal terms, creativity is an individual capacity that is best fostered by removal of any and all constraints. On the other hand, there was recognition of the importance of group or team based approaches and of "direction", "processes" and "support" when fostering student creativity. Furthermore, respondents also reflected 'first generation' thinking about creativity as best achieved through 'arts-based' pedagogy, but also insisted, in accordance with 'second generation' thinking, that both Science and the Arts are fertile spaces for developing creative student capacity.

There seemed to be broad consensus that creativity might be assessable but is unlikely to be so through the traditional assessment instruments used in the academy. Indeed, there was evidence of frustration with the extent to which the exercise of judgment necessary to assessing creative capacity is rendered impossible or at least improbable in standard academic assessment regimes. This same ambivalence about context extends to consideration of the 'teachability' of creativity, although there is also some residual first generation thinking of

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creativity as 'unteachable'.

In describing their perceived constraints inhibiting the development of student creativity in HE, both Australian and UK respondents indicated that assessment, large classes and poor teaching were primary factors inhibiting student creativity. The Australian respondents also suggested that student demands such as the requirement for paid employment, limited time, and flexible learning were major constraints for developing student creativity.

These findings are useful in terms of determining whether and how the policy commitment of Australian universities to the developing creative capacity in staff and students alike can be enacted in higher education teaching and learning. They show 'second generation' thinking as emergent, while not yet being dominant, in the perceptions of experienced academics. The shifts away from 'first generation' thinking are important if any attempt is to be made to bridge the gap between policy rhetoric and teaching reality.

The fact that these academics are a select group of highly effective teachers does give some cause for concern about the speed of uptake of second generation thinking among those academics who are less acknowledged and rewarded for their teaching. This suggests there is more work to be done to engage academic teachers with creativity as a hard-edged professional capacity that can and should be fostered through higher education teaching and assessment.

### 3. *To identify barriers arising in pedagogical work for creative workplace capacity building.*

The research conducted in the project revealed that the sector is committed to creative capacity building. Indeed, it was found that 75% of Australia's universities describe and list 'creative' student outcomes in their teaching and learning plans and graduate attribute lists (McWilliam and Dawson, forthcoming). Yet despite its ubiquity in higher education discourse, creativity was not found to be explicit as a strategy or approach to practices of learning and teaching.

The report provided to the Carrick Institute in May 2007 (see above) paints both a positive and a negative picture. The positive picture shows teaching for creativity is indeed a feature of Australian university teaching as it is in the UK, and that it is occurring in a number of disciplinary areas, not just in arts-related contexts. However, the findings also reveal a negative picture in terms of two further aspects. They show that there is continuing confusion in terms of what counts as creative capacity and therefore how it might be best achieved through programs of learning and teaching. Moreover, there is little evidence of teaching for creativity being embedded as a set of generic, coherent course-wide, course long practices. Without considered and intentional scaling up of these practices, creative capacity as a learning outcome will remain as 'one-off' pioneering work undertaken by an individual teacher or small group of teachers with the passion and skills necessary for such engagement. Australian award-winning academic teachers value creative learning outcomes for their undergraduate students but are often frustrated in their efforts to achieve them by a culture that narrowly prescribes what is to be taught and how it is to be assessed. They point to "the lack of challenging assessments", "standardised" or "didactic, content driven and controlled processes" and the continuing predominance of the "transmission of information" model, as significant obstacles.

The National Creativity Showcase (<http://www.creativityshowcase.qut.edu.au/>) held on 6-7 Dec 2007 built on this earlier report to investigate further barriers to (and enablers of) creative capacity building.

The Showcase aimed to establish networks, collaborations and momentum for scaling creativity focussed pedagogies within the higher education sector. To fulfil this aim, Deputy Vice Chancellors (Academic) from Australian universities were contacted by email in September, requesting the nomination of potential participants from their most creative undergraduate teachers. As a result thirty participants from 21 universities and a range of discipline areas attended the Showcase.

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The Creative Workforce Program of the CCI was one of a number of Showcase sponsors. Other sponsors include the Carrick Institute for Learning and Teaching in Higher Education, QUT's Institute of Creative Industries (iCi), and Eidos Institute.



The National Creativity Showcase promoted the exploration of synergies (and disjunctions) between creative teachers and their disciplines and sub-disciplines, and to do so across different university contexts. This made it possible to take a preliminary but important step towards real culture shift in Higher Education teaching and learning in Australian universities.

4. *To develop models of engagement that can overcome these barriers.*

This has been achieved and documented in a number of papers produced during the period October 2006 to December 2007. The two key papers in which pedagogical modelling is documented have both been accepted by international refereed journals. They are:

- McWilliam, E. and Dawson, S. (accepted for publication) From Britannica to wikipedia: Pedagogical practice after the Information Age, *Journal of Futures Studies*
- McWilliam, E. and Dawson, S. (accepted for publication) Teaching for creativity: Towards sustainable and replicable pedagogical practice, *Higher Education*

Both the above papers document the usefulness of looking to 'bio-team' behaviour to inform models of pedagogical engagement for creative learning outcomes. As computer simulations of flocking demonstrate, there are behavioural rules that exist within 'local neighbourhoods' of 'flockmates' that need to be adhered to if the whole flock is to navigate optimally.

When applied to dynamic team environments, this principle puts paid to the romantic idea that constraints will always act negatively on creativity. However, it is noteworthy that 'enhancing' constraints are not imposed by 'the leader'. Indeed, leadership changes constantly - 'command and control' is not the means by which constraint is enacted. Flocking depends on the provision of timely information and the expectation of appropriate action, not provided by a 'leader' but by other members, i.e. it depends on a self-managing team's capacity in terms of:

- *separation* - capacity to steer to avoid crowding others
- *alignment* - capacity to steer towards the average heading of the local flockmates
- *cohesion* - capacity to steer to move towards the average position of local flockmates

These three deceptively simple rules are three dimensional in what they require of behaviour, i.e. that they are simultaneously focused on member/member, member/external and member/colony orientation.

In summary, the following sets of paradoxical 'team dynamics' are argued to be explicitly valuable in models of undergraduate teaching for creative capacity building:

- *Connectivity and diversity* - an environment in which it is important for students to be 'plugged into' and mindful of a 'local neighbourhood' and a larger world of potential team members with similar interests or passions - one that allows members to pursue their passions and to contribute to fast-moving flows of information on behalf of others and themselves.
- *Co-invention/co-creation and separation* - an environment in which the nature, purpose and rules of self-management are understood and internalised, so that members can be both separate from, and attentive to, those they work with and rely on for their 'high flying' outcomes. The products of learning are authentic

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productions of the synergies that exist between the individual member and the team, not merely what is 'required' by external others.

- *Leading and following* – an environment in which all team members share collective responsibility for timely and appropriate leadership, looking over the horizon for relevant information for sharing with others, while at the same time following the 'steering' of those close by, i.e. exercising 'three dimensional' attention about the local and global, the present and the future.
- *'Enhancing' constraints and removal of inhibitors* – an environment that minimises command and control' while providing scaffolded opportunities for members to conduct themselves in ways that optimise team (and thereby their own) performance – one in which there are, in Tosey's (2006) terms, "good constraints to action" (p. 33).

A fifth principle that was identified is not connected with 'flocking' but is a contribution from neuro-science (Zull, 2004) focuses quite specifically on human capacity:

- *Explain less, welcome error* - an environment in which 'command and control' instruction is sparingly used and it is anticipated that all members will make mistakes – the aim is to learn from the instructive complications of error rather than to avoid error or attempt to disguise it.

The above principles mesh with much that has been written by social, cultural and learning theorists about creative capacity and its connection to enterprise. Mihaly Csikszentmihalyi (1999), for example, insists that it is the community, not the individual, that is the unit that matters when seeking to foster creativity. This proposition is aligned with the view that 'flying higher' results from 'flocking' capacity, not the exceptional abilities of any one entity. It moves the focus to the sorts of environments in which collaborative efforts are fostered and rewarded, and to consider the social conditions and forms of conduct that might pertain in such enabling environments.

The National Creativity Showcase added to the above by exploring the implications of the specific pedagogical work of the 30 creative academic teacher participants. It took as its starting point the exploration of creativity not as a complex set of thinking and behaviours exhibited by individuals but the processes and products of collaborative purposeful pedagogical activity in supportive learning environments. Such creative capacity can and should be developed through sustainable and replicable teaching practices.

The Showcase grouped the participants in terms of their teaching focus, rather than their discipline or sub-discipline. The intention was to understand the strengths and limitations of various pedagogical approaches in terms of achieving course-wide and course-long scale and scope. This understanding provides a platform for informing the sector about how we might move creativity from the margins of higher education learning and teaching to its centre.

Full documentation of the pedagogical work undertaken by each creative teacher participant is documented in the Showcase program  
([www.creativityshowcase.qut.edu.au/program/creativityshowcase\\_2007.pdf](http://www.creativityshowcase.qut.edu.au/program/creativityshowcase_2007.pdf))

Points summarised from panel presentations and discussion may be grouped as follows:

### *Ecology*

- infrastructure matters – as a meta-ecology that enables and constrains what we can think and do as teaching
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- importance of 'alternating' contexts so that difference is experienced, not just spoken about
  - usefulness of mimicking authentic environments
  - understand 'convergence' of learning – not just on or off campus

### *Curriculum*

- holding incommensurates together - examples included music/deliberative democracy; body painting/anatomy
- students need to be involved in creating their own curriculum – every body is an object
- helping students to think with objects – 'the knowledge artefact' – a conversation that happens with materials that 'talk back'
- cross-disciplinarity is important as a starting point – real life problems/scenarios,
- need to build in the work of making perceptual shifts
- importance of deal with ambiguity in mainstream 'content'
- 'the hook in the work' – needs to be exciting and thought-provoking

### *Learning to Critique*

- 'The Crit' – need to brief students explicitly on how to critique – importance of 'throwing things out' – pruning their work, not just submitting it
- need to provide support for those who haven't known adversity
- 'failure needs to be understood as a resource for success'
- 'no you don't have a novel in you' - importance of drafting and feedback processes – creativity as hard work, not a light bulb of inspiration.

### *Building Creative/Critical Thinking Capacity*

- problem of distrust of daydreaming and fun – cultural issues
- thinking skills can be learned
- need to understand the interpretive process – observing is not just looking
- seriousness kills creativity
- use of tools like TRIZ for developing inventive problem-solving

### *Unblocking*

- emotions come first for students
  - 'staying in grey' is important – many rushing too quickly to outcomes
  - Students need direction and support in building confidence and taking risks
  - the problem of talent-based entry – can misrepresent the difficulty ahead
  - government regulations are key inhibitors
  - longevity issues – keeping people engaged and the problem of compartmentalisation
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- mythbusting is necessary before introducing new forms of engagement

#### *Assessment, Evaluation, Feedback*

- needs to be authentic and timely
- collaboration can be 'scary' – group work not generally satisfying
- need to move beyond worksheets
- importance of an audit trail for self-reflection and tracking growth in the work

#### *Technology*

- Hyperlinking now more low cost and able to be done by individual lecturer
- importance of not using new technologies for old tasks – eg interactive whiteboard
- use of new technologies can be labour-intensive – you have to want to do the work
- can be more fun than traditional lecture preparation

#### 5. *To disseminate these models among key stakeholders in higher education teaching and learning.*

The dissemination and evaluation of the project are intertwined and ongoing throughout the duration of the project and beyond by means of:

- Establishment of a web log (<http://eduspaces.net/ericam/weblog/>) seeking comment on a seminal paper "Is Creativity Teachable? Conceptualising the creativity/pedagogy relationship in higher education" – responses from key scholars in the field (e.g. Professor Anna Craft, Professor Norman Jackson, and Professor Guy Claxton).
  - Six refereed conference presentations (as indicated above) in Australia, the UK and Sweden.
  - A contracted monograph 'Preparing the Creative Workforce' with University of New South Wales Press (70,000 words - due April 2008).
  - Scholarly papers published or under review in international refereed journals:
    - McWilliam, E., Poronnik, P., & Taylor, P.G. (under review) Re-designing Science Pedagogy: Reversing the Flight from Science, *Journal of Science Education and Technology*
    - McWilliam, E. and Dawson, S. (accepted for publication) From Britannica to wikipedia: Pedagogical practice after the Information Age, *Journal of Futures Studies*
    - McWilliam, E. and Haukka, S. (under review) Educating the Creative Workforce: New directions for schools and universities, *BERJ, special issue on creativity 2008*.
    - McWilliam, E. and Dawson, S. (accepted for publication) Teaching for creativity: Towards sustainable and replicable pedagogical practice, *Higher Education*
    - McWilliam, E., Hearn, G. and Haseman, B. (accepted for publication) Transdisciplinarity for Creative Futures: What barriers and opportunities, *Innovations in Education and Teaching International*.
  - Keynote addresses as below:
    - (2008) *Creative Futures and Teacher Education*, Lilly Conference on College Teaching, Ohio, USA, Nov 2008, invited by Conference Director Milton D. Cox following HERDSA Carrick Showcase.
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- (2007) *Creative Capacity Building in Higher Education*, National Creativity Showcase, 7 December, QUT.
  - (2007) *Preparing the Creative Workforce*, UTS Faculty of Humanities and Social Sciences, Tuesday 20 Nov. Sydney
  - (2007) *After Britannica: teaching the yuk/wow generation for a wikipedia world*, LTO7 Conference, Mornington Peninsula, 8-10 October.
  - (2007) *Hands on, Minds on, Plugged In: Assessment for the Conceptual Age*, Queensland Studies Authority Annual Conference for District Panel Chairs and State Panels, (23-26 July).
  - (2007) *Is Creativity Teachable? Conceptualising the creativity/pedagogy relationship in higher education*, Carrick Showcase HERDSA, Adelaide Hilton, 11 July.
  - (2007) *From Made in China to 'Created in China': new directions for schools and universities*, CHITEC Conference, Great Hall of the People, Beijing, 16-18 May.
  - (2007) *Preparing the Creative Workforce*, Beijing Normal University, 17 May.
  - (2007) *Educating for Creative Futures*, London Institute of Education, 10 January.
- Media coverage
    - McWilliam, E. Fresh Solutions with stigma. Higher Education. The Australian. 31 October 2007.
    - McWilliam, E. Learning in the 21st Century. Curriculum Matters, Vol 6 (4), October 2007, pp.31-34.
    - McWilliam, E. Creative Futures for a Conceptual Age. Asian Business Leaders Magazine (Beijing). August 2007.



In addition, Erica McWilliam received extensive media coverage of her presentations at the CHITEC Conference, Beijing, 16-18 May 2007 (Above: Professor Erica McWilliam delivering her keynote presentation, *Made in China to 'Created in China': new directions for schools and universities*, at the CHITEC Conference, Sheraton Hotel, Beijing.)

## Outcomes

<i>Intended</i>	<i>Achieved</i>
Two conference papers One position paper	Six conference papers One Blog paper and five further seminal papers for refereed publication
One major report on creative teacher survey findings	' <i>Understanding creativity: A survey of 'creative' academic teachers</i> ' completed and submitted May 07
One video collage and commentary of selected creative pedagogical activity	Included in the Showcase program and edited Showcase film
One National Forum - <i>Building Creative Workforce Capacities: A national forum for teaching in higher education</i>	National Creativity Showcase delivered 6-7 December 2007
One academic development package.	Edited film, Showcase program and summaries to be submitted as a package in Jan 2008 Keynote addresses, media coverage, book contract, and international scholarly reputational enhancement for McWilliam and the Carrick Institute.