

Creativity or Conformity? Building Cultures of Creativity in Higher Education

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Creativity in Higher Education: A non-scientific view on developing creativity

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Abstract

There is increasing demand for professional level creativity. In order to facilitate creativity and leadership development in Higher Education we believe that students need a learning experience different from that conventionally provided through Higher Education degree programmes today. Introducing significant changes in established programmes and curricula is difficult, however. The culture change necessary requires clear and tangible visions for the future, a sequence of interventions and time for staff to learn, experiment with and adopt new teaching ideas. The paper demonstrates that a (nonconformist) collaboration between a lecturer and an expert creativity consultant proves useful and stimulating in creativity development and curriculum change.

The authors' experience of introducing creativity development empirically is described using the field of planning as a case study. Here, the mere knowledge of planning control (processes) and administration has recently been deemed insufficient and planning schools have been tasked to include leadership and creativity skills in the curriculum. The paper outlines a forwardlooking educational model and curriculum that fosters students' creativity combining old and new pedagogies and content. Creativity development focuses

specifically on “Creative Leadership” and “Creative Urban Planning Intelligence.” Initial steps taken towards changing the learning environment and developing a creative culture and creative abilities of students in an undergraduate city and regional planning degree course are traced. The paper concludes by sharing lessons from the first three years of collaboration, discussing different variations of intervention, and elaborating on planned activities in the coming years.

Keywords: creativity development, teaching interventions, change, curriculum, urban planning

Creativity in Higher Education: A non-scientific view on developing creativity

A Need for Professional-Level Creativity

Creativity has been identified by individuals and scholars as key to unlock intellectual potential necessary to address an array of complex problems faced by society such as climate change or planning sustainable communities (e.g., Dewulf and Baillie 1999). Consequently, there is a growing demand for professionals to think creatively, and develop and design collaboratively novel solutions to existing problems. From an educational perspective it is important to recognise that creativity is a complex and multifaceted concept (e.g., Dewulf and Baillie 1991, Sternberg 1999), which must be made specific to be meaningful. An engineer will likely characterise creativity differently than an artist or entrepreneur and particular aspects of creativity may be better suited to certain professions or tasks.

In this paper, the field of planning is used to illustrate the specific creativity needs of a profession as well as how such professional creativity can be developed within a higher education curriculum. The planning profession in the UK represents an interesting case as recent government directives have called for a change in planning culture (ODPM 2001) broadening the current interpretation of the professional remit, which is centred on development control and statutory activities. In this new ‘spatial’ planning culture, planners are charged with space and place making to help deliver sustainable communities. The new focus requires planners to become leaders, social entrepreneurs and facilitators, who work in interdisciplinary settings to promote urban life styles that prevent the deterioration of the environment and enhance human quality of life. The development of alternative sustainable settlement patterns requires specific skills such as forecasting (Cole 2001), networking, collaboration as well as creativity (Higgins and Reeves 2004, Albrechts 2005). The implication for planning education is that students need to acquire creative and leadership competencies (e.g., Kunzmann 1997, Royal Town Planning Institute 2003, 2004) alongside traditional professional knowledge. But how can creative competencies be taught and developed (if at all)¹?

¹ The debate on the teachability of creativity is covered in a wide-ranging literature. The authors believe that many aspects of creativity can be developed through training and exercises, ie. creativity can be enhanced through teaching.

Planning education programmes are mostly offered through (research-oriented) higher education institutions², which are typically not configured to develop creative competencies; rather they focus on students' knowledge acquisition and development of rational, analytical skills. Considering the long standing focus on social science based, rational planning and development control within the profession, there is a dearth of experience amongst staff in how to promote students' creative potentials. Physical design and studio instruction may be more constraint and less imaginative as one might believe (Henry 1991) although it can be a starting point.

In this on-going practice-led research project, the collaboration of a planning lecturer and an expert creativity consultant with experience in organisational change and creativity was found productive in introducing creativity development in the planning curriculum. The unconventional liaison helped to question and challenge traditional university teaching approaches and led to a curriculum model that supports a mix of traditional and new pedagogies some of which were adapted from creativity training in business and management.

In the first section of the paper, ideas on how to foster a creative culture amongst students and staff are described in the form of an idealised curricular structure and model projected for the year 2012. With respect to the profile of planning, we focus on two themes: 'creative leadership (CL)' and 'creative urban planning intelligence (CUPI)' replete with exemplary activities supporting their development. Conditions, important and necessary in establishing a creative culture and supporting creativity development are also discussed. The second section reviews progress to date in implementing these ideas. A description of innovations and lessons drawn from the pedagogical experiments conducted in the past years conclude the paper.

The Year 2012: Complementing Subject Knowledge with Explicit Creativity Development in Planning

Planning is a "dynamic profession that works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient, and attractive places" (American Planning Association 2006). This is no simple task and planners need to develop a variety of analytic *and* creative thinking skills to balance different stakeholder needs and resource constraints and to find solutions that are both desirable and workable. Moreover, in order to fulfil sustainability goals they will need courage to look beyond tried and tested solutions.

Our visionary curriculum of 2012 therefore contains deliberate elements for creativity development fostering students' confidence in their own abilities to develop novel processes and innovative concepts for future urban living alongside traditional curriculum contents. Modules will either focus on cognitive rational (for example cost calculations, demographic prediction, or history of urban planning) and/or creative learning outcomes (identity design of a town, or facilitation of group processes). Three module types can be distinguished:

- a. Modules focusing on traditional subject knowledge and skills,
- b. Modules focusing on creativity development, and

² Courses with a specific design or creativity focus such as music, art, architecture or creative media represent the exception rather than the norm.

c. Integrative modules that require students to apply creativity in realistic settings.

One might argue that a similar division of modules already exists in planning curricula. However, traditionally curricula tend not to designate learning outcomes *explicitly* as either cognitive rational or creative. In the planning context, creativity is mostly associated with physical planning, i.e. urban design and renewal (Town Planning Network 1999, 3), and creativity development is generally considered an implicit outcome of design modules. In our view, however, creativity development goes beyond the artistic aspect of design or what we call ‘creative urban planning intelligence’ to include ‘creative leadership’. CL addresses issues of social creativity and problem solving working with interest groups and professionals whereas CUPI seeks to enhance students’ physical planning repertoire. Our 2012 curriculum thus comprises of a more comprehensive set of creativity development as well as a greater balance of creative and analytical cognitive modules.

Table 1 depicts the curriculum’s structural makeup. Basic parameters of the degree programme remain unchanged with three years of taught provision and a sandwich year (between years 2 and 3), during which students exposed to practice by working for a local authority or planning consultancy. Modules focusing on rational knowledge and skills are listed on the left, whereas the right hand column shows a progression of creativity development modules from basic to advance levels (Table 2). Integrative modules combine creativity development and other knowledge acquisition through project work. Students are required to take at least one creativity development module per year as only repeated confrontation with creativity concepts ensures a lasting impact on students’ development (Cropley and Cropley 2000). Although the curriculum changes required will inevitably reduce the time for the acquisition of subject specific knowledge, other learning outcomes specified by the profession (RTPI 2004, 10) such as students’ ability to ‘generate visionary and imaginative responses to planning challenges’ are strengthened.

Table 1 – Undergraduate Planning Degree Curriculum Structure

	Traditional Subject Knowledge& Skills development	Creativity development/Project Work
Year 1	<ul style="list-style-type: none"> ○ Economic Issues in Spatial Planning ○ Concepts of Spatial Planning ○ Stats and Information Systems 	<ul style="list-style-type: none"> ○ <i>Induction week</i> (CL) ○ Group work Weekend challenge (CL) ○ Society, Diversity and Planning- (e.g., <i>circle of life exercise</i>) (CUPI)
	Integrative Module 1: Introduction to Concepts of Physical Planning and project work: Master Planning Exercise – results presented to community representatives	
Year 2	<ul style="list-style-type: none"> ○ Issues in Local Government ○ Environmental Policies & Planning ○ Research Skills (include GIS) ○ Planning Policy and Control 	<ul style="list-style-type: none"> ○ Site Planning and Development (City of Professionals), CUPI ○ Participation in either <i>Induction week</i> or <i>Integrative Module 1</i>, CL ○ Sensual awareness workshop – Set 2 exercises - CUPI
	Integrative Module 2: Planning, Markets and Land (includes exercises such as Value and Form exercise)	
Year 3- In practice placement	Personal and Professional Development Planning (use mind mapping or similar software to express their life graphically) (in conjunction with their employers, students have to organise either a group exercise on	

creativity or work on a project)	
Year 4	<ul style="list-style-type: none"> ○ Research Paper (option) ○ Planning Theory and Practice ○ Planning Law ○ Rural Society and Planning ○ Transport Planning & Travel behaviour
	<ul style="list-style-type: none"> ○ Project (option) ○ Participation in either Integ. Module 1 or 2 or Induction week ○ Creativity development weekend (Set 1 exercises – urban language)
Integrative Module 3: Contemporary International Planning (international dimension, urban project)	

Table 2 – Creativity Development Progression

Year 1	Basic level Introduction to creativity concepts. E.g. Individual creativity: mental patterns, emotions, processes, postponing judgment, generic techniques (and some CUPI) Group creativity: group dynamics, respect in working with others, processes Basic facilitation approaches
Year 2	Advanced level Engagement with professional aspects of creativity and theoretical backgrounds Focus on CUPI and CL in project work Students help facilitate induction week Advanced facilitation techniques and working with dysfunctional and large groups
Year 3- In practice placement	Further individual study on creativity
Year 4	Graduate level Students select their own creativity exercises, which they apply to professional problems. They are also able to devise their own social creativity and empowered leadership processes. They are now able to independently facilitate group work for 2 nd year students.

Creative Urban Planning Intelligence

Intelligence in a discipline means not only to master theoretical and practical knowledge (rational, cognitive, conscious ...) but also to be aware of subjective signals, emotions and the subconscious. Students need to develop multiple ways of understanding the city. An awareness of the physical patterns and interdependencies between various development scales such as neighbourhoods, towns, regions and their constituting elements of buildings, streets, open space and transport networks needs to be complemented with an understanding of urban governance and how history, economy and interactions of people form the character of spaces and places.

In a way, cities can be compared to texts; like words and punctuation, buildings, squares, streets and voids can be put together differently and become either poetry or prose, or non-sensical jibberish. Similar to writers, planning students need to become skilled in arranging urban elements to create environments. It is important to note that planners are rarely single authors. Rather, they act as editors or translators working in teams and communicating with a range of other professions involved in the creation, transformation

and management of the built environment. Therefore they not only have to learn their own language, but need to understand different professional languages and must be able to ‘translate’ between them. According to Carmona et al (2003, 10) vision, hearing, smell and touch all contribute to creating a sense of place. Thus, students will need to hone all senses to create places that are social and human. Developing creative urban planning intelligence means to develop an understanding for the different languages in which we converse about the city including the sensory, non-rational and emotional.

Methods and tools to enhance urban planning intelligence

We have devised two sets of exercises to help students become conversant in different urban ‘languages’ and hone their senses beyond those of the rational, analytical. They are designed to systematically expand students’ language vocabulary using various stimuli for the creative process as well as for representations and outcomes. The first set (see examples 1A-1C) develops students’ creative abilities by confronting them with unconventional sensory input information or output requirements that need to be translated into or from a whole or a detail of an urban plan.

Exercise Set One: Sensory stimuli and triggers

1A: Sound. Students are assigned a building site on which to design housing for 100 households as well as a piece of music (classic, rock, folk, etc.). Designs should be inspired by the music and should reflect what the music means to a student.

1B: Images/Emotions. Students receive images of urban scenes selected to evoke an emotional response. The assignment is to write a poem or lyrics for a song that reflects this emotion and describes the urban situation or an aspect thereof.

1C: Sense of Smell. Students receive a sample of a perfume, which serves as the clue to the character of a part of a town. Students are to describe the character by outlining probable land uses (i.e. residential, industrial, nature etc.). They are encouraged to use any kind of media to express their ideas including text, collages, or sketches to create a visual representation of the place’s character as imagined by the scent.

The second set (see examples 2A-2C) focuses on expanding students’ ‘urban language’ repertoire.

Exercise set: Language repertoire

2a: City of professionals. Students will be given a figure ground plan of a city devoid of functional information. They are asked to describe various professions (e.g. architects, economists, gardeners, traffic engineers) and then divide the urban space into areas each defined by the dominant ideas of that profession. The resulting plan of the city should show clear differences between the ‘professional neighbourhoods’ and devise solutions for the border areas (transition zones).

2B: Circle of life. Every person experiences a life cycle from infancy via middle age to old age. The assignment is to design a holistic urban plan in which all aspects of these life stages become visible. Students must describe the areas and show the difference in transport options, type of residences, use of nature and so forth.

2C: Value and form. Form not only follows function but also embodies values. Planning students ought to be aware of these connections. For example, freedom of access and democracy is expressed through spaces without barriers and fences – and circular shapes (as in parliamentary debating chambers). To invoke reflection about values and form, students are asked to develop a list of values important for modern cities. Then, students must design urban elements that incorporate selected value in shape, form and use of materials, e.g. the Park for Families, the Public Square of Freedom, etc.

CUPI exercises are sometimes rather abstract and removed from what students' think they need to learn and care must be taken to explain their purpose. Explanations and links with the profession may be given beforehand or revealed during debriefing when discussing the exercise results.

Creative Leadership

Discussions about values and professional ethics represent a significant element in planning education. A planner's work lies in the public sector (even if they work for a private consultancy) and they have to evaluate and balance the needs of different stakeholders in development decisions. Being a planning professional not only means to be well spoken in discipline-specific languages but also to be a good listener. Furthermore, planning students need to become aware of their influence and role as facilitators and translators within the planning process. This awareness will help them to become less fixed on a single project or output and more focussed on the process of working continuously to improve the urban environment. As plan implementation is more successful if stakeholders (community members, businesses, minorities, service providers, builders etc) agree on a solution and take ownership, planners need to be able to facilitate social creativity, i.e. provide leadership in empowering the community to contribute to plan development. The ability to elicit, harness and focus the diversity of intellectual capital and goodwill amongst interested parties towards an agreed solution is a vital competency for planners.

Developing creative leadership through practice allows students to grow into responsible professionals and relate to community stakeholders in meaningful ways. Empowered leadership revolves around students a) understanding their own role in creating added value, b) being able to guide discussion among interest groups and c) to facilitate decision and plan making in collaboration with other professionals and stakeholders.

Methods and tools for stimulating empowered leadership

Creative empowered leadership will be stimulated through carefully choreographed interactions between students or between students, staff, professionals and community members on planning related issues. Some exercises are designed to stimulate reflection – others to develop and practice students' facilitation expertise. The overall idea is to strengthen students' self-awareness of their own values and ideas and their confidence in the power of collaborative group working processes. They also need to gain confidence in their ability to guide decisionmaking and visioning activities. In practicing facilitation in a supervised environment they hopefully learn that they need not solely rely on their own knowledge but can work with and shape decisions through contributions and expertise of others. Students' first experience with empowered leadership will be during the programme's induction week. Further experiences derive from organisational and facilitation responsibilities in a range of peer-learning and project situations.

Induction week. On day one, first year students engage in discussions led by senior students on the future of planning, the needs of stakeholders and how that relates to their own areas of interest. Following this, students are asked to form teams and prepare questions for staff members and invited guest speakers from practice, governmental agencies, or citizens' organizations who are participating in the induction week by giving presentations on urban problems or research. Students' questions must specifically address the future of the discipline and relate to students' interests. Questions should have two parts: argument and a related (set of) question(s). On the final day, students teams supported by senior students have to prepare a presentation to teaching staff outlining the future of planning and their professional development plan for the years to come. Students will be asked to sign their individual plans thereby committing to developing and investing time in their area of interest. This plan will be reviewed on a yearly basis with a personal tutor. Aside from meeting staff and older students, the exercise forces students to reflect on their chosen discipline, their interests and potential contributions. It creates a sense of shared leadership in the discipline and gives senior students an opportunity to help others in developing their views and to use their skills and knowledge in a serving and collaborative way.

Peer-learning. Throughout the programme students are asked to engage in peer support activities, e.g., second year students will support the induction week for first year students and fourth year students will be supporting first and second year students in their studio work.

Community based studio. Every year students and staff engage in a project or projects that will serve a community in the vicinity of the university. Students may be asked to develop a plan or vision on a theme such as sustainability, or transport selected by the community. As students gain experience they will take more responsibility and work more independently with the community. Community engagements are not without problems (Kotval 2003; Forsyth et al 2000) and require significant staff commitment and careful management of expectations. However, it will instill in students a sense of purpose and responsibility. It will also allow them to hone their facilitation and leadership skills.

Conditions supporting creativity in 2012

Creativity development is only achievable by providing suitable institutional conditions. Establishing these conditions has its own dynamics. Some conditions can be established within a department or school such as specific assessment systems for creative work; others depend on institutional policies such as staff development or reward structures.

Communicating clearly about creative and non creative work

The new curriculum model offers a spectrum of modules focusing on either analytic/knowledge-based or creative learning outcomes. Focii are clearly communicated to students and are reflected in the assessment criteria in order to highlight the distinctiveness of learning. Research suggests that students express their creativity only if they feel it is desired and acknowledged in assessment (Town Planning Network 1999). Therefore different grading and assessment schemes are necessary. Modules focusing on rational knowledge and skills employ a logical and rational grading system, meaning good grades can be obtained by studying and mastering tangible knowledge and processes from literature and practice. The better work aligns with state of the art knowledge the better the grade. Modules emphasising creativity development require a different marking system. Although students follow certain rules related to a creative process, judgement of the level

of creativity of the outcome (project, strategy, or plan) depends on the experience and values of the teacher and arguments of the student(s). For modules combining rational cognitive and creative work, different staff members customarily mark the cognitive rational and the creative aspects of the work.

Transcripts and diplomas show not only the overall mark and degree but detail the classification of modules into cognitive rational and creative knowledge and skill development providing additional information to future employers about the qualities of a particular student. Students' choices over the course of a degree will document a greater affinity of either rational cognitive knowledge or creativity. Naturally, courses emphasising rational knowledge and skills provision are more comparable between universities; whereas creative development aspects provide a unique quality of a particular university.

Professional growth of staff

When involved in creativity development, teachers need to act as role models for attitude, behaviour, and facilitation of collaborative learning processes. Thus, similar to student-centred learning teachers assumes a role, which is markedly different from the traditional where they act as an expert disseminating knowledge. As individual staff members have different affinities, they can develop either rational or creative aspects of the curriculum. Promotion procedures do not discriminate and individuals receive appropriate skills development whatever their preference.

Working with practice

Creativity development activities have strengthened the schools' connections with practice. CUIPI exercises require students to investigate and research communities, neighbourhoods and cities. Thus, students are encouraged to interact with community groups to learn about their views and way of thinking. Guest speakers from various planning fields are regularly invited to contribute to classes, provide case material and assignments. Through the annual community-based projects of first and final year students, planning authorities can benefit directly from the students' work. Conversely, students can meet potential employers and job offers are not uncommon results of successful projects. New relationships are fostered each year during the schools open house/barbeque when students showcase work and future employers and citizens can learn about the schools activities.

The Year 2006: Progress to Date

However, we have not reached this idealised vision as yet. The introduction of creativity development in an existing curriculum is not easy and we employed an incremental approach.

First steps – 2005

A first year introductory module on physical development and land use planning was used as a pilot for the introduction of generic³ and customised creativity development exercises (CUIPI). This integrative (type c) module traditionally combines knowledge acquisition with the provision of transferable skills such as drawing, basic analysis and documentation. Creativity therefore was presented as one of many transferable skills that

³ Generic techniques are brainstorming, six thinking hats, guided imagination etc.

students were to acquire. The final coursework asks students to apply knowledge and skills they learned to produce a conceptual design and layout for a new neighbourhood. The idea was that creativity development would be helpful for students to develop original design solutions.

Students were introduced to creativity concepts by the consultant to give the subject credibility and make up for lack of experience in this matter by inhouse staff. Two two hour sessions on concepts of creativity, attitudes, processes and basic techniques were followed by a 2-day weekend retreat at a rural hostel for further creativity development and design work. During the retreat, students worked in groups to develop a neighbourhood design scheme. For most students this was the first time they were engaged in design work at such large scale and many of them found it difficult and challenging. Each team (5-6 students) was supported by a tutor (staff who had received some limited training in the creativity tools beforehand) and creativity techniques were interjected at strategic stages to help each group think more broadly and stimulate lateral thinking. The intensity of the programme and long working hours spent in developing neighbourhood designs represented a new learning experience.

By the end of the weekend all teams successfully developed a conceptual masterplan. Several original ideas emerged and were incorporated in the designs such as the development of an ecological village with a community farm, or taking advantage of (rather than avoiding) sloped ground for recreational activities such as a BMX or motocross. In evaluations, students identified “Being creative”, “Making Plans”, “Developing Ideas”, “Developing a concept” and “Working as a team” as their top 5 learning outcomes for the weekend. They found some of the instructions provided by the consultant confusing, but enjoyed his involvement and input nonetheless. Feedback from staff was also positive, although those usually involved in teaching urban design critically questioned whether the consultant’s creative thinking prompts were an aid or a hindrance. These staff members consider design as inherently creative and therefore see no need to enhance it with creativity tools. Students clearly struggled to get to grips with drawing and representing their ideas graphically while responding to prompts by the consultant. However, the challenge appeared to also spur innovation in the groups. As this was a new module, designs could not be compared to previous years’ results to judge the impact of the creativity interventions.

Reflecting – 2006

The creativity development sessions within the pilot module were repeated, albeit the consultant’s input was reduced to two 2-hour sessions. Creativity concepts were introduced and techniques were applied for a small design task rather than the large-scale assignment. Students were asked to create a mug design for the school’s anniversary. Students were given different catalytic thinking tasks based on CUPI exercises to help expand their vocabulary of ideas. Although many students initially felt embarrassed about their drawing abilities and stating they had ‘no ideas,’ all managed to develop graphics and ideas after just 80 minutes of interventions.

Respecting fellow staff’s reservations about the consultants’ involvement in the retreat weekend more traditional approaches were employed to guide students’ design efforts. Although the authors do not entirely agree with the notion that design is inherently creative, we concur that it may be best if students develop a basic approach to physical

design and project work first. To stimulate some divergent thinking, students were assigned stereotypical stakeholder roles (environmentalists, family, old couple etc) before being placed in a team made up of stakeholder mix. We hoped the different goals and ideas associated with these stakeholders would initiate a dialogue over values and preferences on how to develop the neighbourhood. The process was conceptually less challenging or confusing. Disappointingly discussions to incorporate converging ideas from the different stakeholder perspectives were quickly dropped in order to get one solution on paper. Overall results were less imaginative compared to 2005.

In terms of the implementation of creativity development, the school has not adopted any binding strategy. However, some staff members involved in the 2005 activities started to explore creativity within their own teaching. One senior staff, for example, introduced a 'blue sky' project in his second year class. His evaluations suggest that students learned from their year one experience as they took enthusiastically this second opportunity to express their creativity. It will be interesting to hear how future cohorts compare when they are subjected to their second creativity challenge.

Gaining momentum - 2007 and beyond

Gradually more creativity development is introduced in the curriculum. For example, first year students have now an induction weekend (rather than a full week) after the first week of lectures. Activities during this weekend include discussions on planning issues as well as professional development planning however without involvement of senior students. Also, we hope to further refine the sequence of introducing creativity techniques in the first year integrative module. In particular, we will produce initial designs during a weekend charette on site and then improve upon them with the help of CUPi exercises. For the first time, the project will be community based. The second year 'blue sky' project work will also be repeated.

Summary and Conclusion

The provision of creative planning professionals has gained new urgency in the UK due to a government induced change in the remit and culture of planning. This poses a challenge for educators who for decades focused on development control and social science based approaches to planning in their teaching. A partnership between a lecturer and a creativity consultant has been useful in facilitating creativity development in an undergraduate curriculum and accessing much needed expertise and practical experience not readily available within the discipline. The collaboration resulted in the development of a vision for a curriculum that offers a balanced provision of modules focusing on creativity development alongside traditional subject specific content. It also provides staff development and led to the design of customised creativity development exercises (CUPi and CL).

Curriculum change requires patience and the authors acknowledge that present activities in terms of culture change are in their infancy. Thus far implementation has been incremental and opportunistic (rather than calculated and strategic), meaning that creativity development activities were only incorporated in modules that were under the control of interested staff. The first year pilot module in physical planning is representative of this approach. Nonetheless, the approach works well as it is compatible

with academic management philosophies respecting lecturers diverse interests and affinities which may lie outside the creativity agenda.

The implementation of creativity development itself can be testing. For example, introducing a sequence of creativity thinking exercises to first year students is appealing. Theoretically this allows students maximum time to explore and use these techniques in subsequent years of study. However, first year students are just beginning their socialisation into the discipline and staff involved felt, that students first needed a grounding in the discipline and the methods and tools conventionally employed by the profession before asking them to think creatively and develop unconventional solutions. The notion, whether right or wrong, is that an individual needs to be aware of conventions first before s/he can start breaking them. In the pilot module we experimented (so far) with unconstrained creative thinking (2005) and a more structured, bounded approach (2006). It is likely that several further iterations are required before we find a way to introduce students to creativity concepts and exercises with which staff feel comfortable and that optimally supports our learning objectives.

In part due to the opportunistic implementation strategy, creativity development is currently provided almost exclusively within integrated modules using creative urban planning intelligence exercises. With the exception of the induction weekend, creativity development in empowered leadership is still weak. We have not had the opportunity to develop a freestanding creativity module and it will be a matter of debate if such an approach is desirable in the context of developing professional creativity. Measures to evaluate the impact of these initial interventions as well as work on creativity assessment guidelines.

The involvement of an outside expert consultant for curriculum change and creativity development is neither uncontroversial nor cheap. However, it has certainly been a source of new ideas and is constantly challenging traditions. Plans are to continue to involve the consultant at least in the years to come. Creativity training is commonplace in many industry settings and it would be ill-founded pride not to draw on this knowledge for the students' benefit. Activities need to be adapted for use in higher education but by debating views and collaborating in efforts, celebrating improvement and acknowledging mistakes, we can be role models for future generations of creative minded people and innovators in planning and other disciplines.

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