

15 Making sense of creativity in higher education

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Conversations about creativity in higher education

Few resources have been invested in the study of creativity, relative to its importance both to the fields of psychology and to the world.

(Sternberg and Lubart, 1999: 12)

Driven by the moral purpose of making a difference to students' lives by enriching their experiences and helping them develop their creative talents, as well as their intellectual abilities, the mission of the Imaginative Curriculum project is to promote conversations about creativity and encourage teachers, and institutional and disciplinary communities and leaders, to think more deeply about its place in higher education. In the opening chapter I suggested that the 'problem' of creativity in higher education is best represented as an opportunity for improving a situation – the challenge of changing the prevailing culture so that greater value is placed on creativity in higher education, rather than an issue in need of urgent attention.

Culture is the *result* of all the daily conversations and negotiations between the members of an organisation. They are continually agreeing (sometimes explicitly, usually tacitly) about the 'proper' way to do things and how to make meanings about the events of the world around them. If you want to change a culture you have to change all these conversations – or at least the majority of them.

(Seel, 2005: 1)

To change the prevailing culture, we have to change the paradigm within which that culture is propagated. 'A paradigm is a constellation of concepts, values, perceptions and practices shared by a community, which forms a particular vision of reality that is the basis of the way a community organizes itself' (Capra, 1997: 6). We might illustrate the current paradigm we work in by reference to the way we penalise mistakes rather than see 'mistakes' as important lessons for learning. By perceiving 'mistakes' as opportunities for, and proof of, learning instead of failure, we begin to change the paradigm to one that is more enabling and valuing of creative effort.

If changing the paradigm within which the higher-education experience is

created is our fundamental challenge, then we need to create the conditions that favour *emergence* of a new paradigm. Emergence is ‘the process by which patterns or global-level structures arise from interactive local-level processes’ (Mihata, 1997: 31). As Paul Tosey (this volume, Chapter 4) reminds us, the emergence of new ways of thinking, being and doing come about through the interaction of people and their participation in *conversation*. This belief that we can only begin to change a culture by promoting conversation has framed the way in which we have sought to engage higher-education communities. Our first and most important step in this process of encouraging emergence has been directed to understanding what creativity means to people working and studying in higher education, and how the idea is operationalised in different teaching and learning settings. But the concept of conversation seems too small to embody what we are trying to do, and I am attracted to Stephen Covey’s idea of ‘voice’ as a more powerful representation of the significant self from which conversation and creativity emerge.

Voice lies at the nexus of talent (your natural gifts and strengths – *including creative talents*); passion (those things that naturally energize, excite, motivate you); need (including what the world needs enough to pay you for *and the needs you identify and feel a need to fulfil*); and conscience (that still, small voice within that assures you of what is right and that prompts you to actually do it).

(Adapted from Covey, 2004: 5; my additions in italics)

Academics’ voices

The ‘voice’ of academics draws on their rich and varied experiences and perceptions of creativity, and their understandings of how generic concepts are operationalised in disciplinary practices (like being a historian, engineer or social worker), and in teaching, curriculum design and students’ learning. Giving attention to these perceptions has revealed something of the ‘complexity and contested nature of creativity’. Based on the findings of our research (Chapters 6 to 9), we have to conclude that creativity is not a concept that can be reduced to a few simple ideas that are easily operationalised. Nevertheless, many higher-education teachers create their own meanings and operationalise their ideas in their teaching and curriculum designs. The most common ideas academics associate with creativity are presented in this section.

Originality

This involves a quality of ‘new-ness’ (Edwards *et al.*, this volume, Chapter 6); and making a contribution that adds to what already exists. It is connected to the ideas of: *doing/producing new things* (inventing, innovation and adaptation or re-creation). A sense of significance/utility or usefulness is implicit in this quality of newness. In the disciplinary context, *originality* can be represented as *creating something new and useful to the discipline*; in other words, changing

1 the domain. It is different to personal invention, adaptation and innovation,
2 which are still creative but they are new to the individual rather than the discip-
3 line.
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5 *Being imaginative*

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7 This involves using imagination to think in certain ways that move us beyond the
8 known into the unknown, that see the world in different ways or from different
9 perspectives, that utilise analogical reasoning and metaphors to transfer concepts
10 from one domain to another, that generate possibilities and produce novel inter-
11 pretations and solutions. *Imagination* seems to be central to the mental agility that is
12 necessary for being an effective practitioner in a discipline (see Jackson and Shaw,
13 this volume, Chapter 8). People working in a disciplinary setting imagine things
14 that only they can imagine when their knowledge, understanding and skills are
15 engaged and stimulated by particular situations and the things that matter to them
16 in the disciplinary world they inhabit. Imagination provides inspiration, sustains
17 motivation, generates ideas and possibilities, and facilitates hypothesis-making
18 and the interpretation of situations that cannot be understood by facts alone;
19 including the many situations where data are incomplete.
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21 *Exploring or 'adventuring' for the purpose of discovery*

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23 This is often directed towards discovering possible solutions to complex problems
24 or turning ideas into unique performances. It involves drawing on imagination to
25 generate ideas, being open to new ideas and experiences, finding and examining
26 possibilities, producing novel combinations out of familiar ideas/things through
27 generating and testing possibilities, experimenting and taking risks.
28

29 *Synthesising and making sense of complexity*

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31 Because working with complex problems often involves working with multiple
32 and incomplete data, the capacity to synthesise, make connections and see new
33 patterns and relationships seems to be particularly important in sense-making
34 (interpreting, hypothesising, solution finding) and working towards better under-
35 standings and meanings.
36

37 *Communicating meaning*

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39 The products of creativity: ideas, theories, insights, explanations, often through
40 story-telling – each discipline has its own forms of story telling.
41

42 *Students' voices*

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44 The second, but more limited, conversations have sought to give voice to
45 higher-education students. A number of research studies have shown (Saljo,
1979; Prosser *et al.*, 1994; Ramsden, 2003) that students' approaches to

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learning may be related to their conceptions of learning. Their perceptions of the learning environment and what is expected of them, and their conceptions of learning and their approaches to learning, appear to be related. We might speculate that students' perceptions of creativity in the academic learning environment, the extent to which they perceive the environment as encouraging or inhibiting their creativity, and how personal creativity influences their approaches to learning are part and parcel of this milieu.

The most sophisticated conceptions of learning, and the 'best' approaches to learning, then, may enable students to demonstrate creativity through their learning outcomes. The reverse could also be true: students with limiting conceptions and approaches may not be able to 'be' creative or 'demonstrate' creativity within a specific learning domain.

Reid and Petocz (2004: 48)

Oliver *et al.* (this volume, Chapter 5) indicate that these relationships are likely to be complex. Students found it hard to explain what they thought creativity was, drawing on a number of different discourses and often presenting contrasting or even inconsistent positions at different points in a conversation. But in a complex perceptual world perhaps that is not so different to teachers! Perhaps the most significant finding from these initial explorations of the students' voice suggests that creativity lies at the heart of a student's own identity (Dinnen, this volume, Chapter 9 and Oliver *et al.*, this volume, Chapter 5):

even where creativity was not taught, not considered teachable and not valued in assessment, it was still relevant in defining how the students saw themselves. The use of creativity as a discourse – currently so confused and inconsistent – becomes vital in this respect, since claims to an emergent creative identity can only be warranted if they can be articulated. In this sense, it may be possible that even a small change – helping students to learn how to talk about creativity, particularly in the context of their study – would have an important effect, enabling students to lay claim to creativity in a way that currently eludes them within academic contexts.

(Oliver *et al.*, this volume, Chapter 5)

This helps us to anchor our claim to moral purpose and provides a wonderful insight into the important role for higher education – to help students develop their own understandings and awareness of their own creativities as part of their own identity-building.

Higher education and creativity

Creativity and teaching

The creativity of the higher-education teacher has something to do with connecting in imaginative and useful ways the knowledge, application and process

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1 skills, and ways of seeing the world from a disciplinary perspective to the needs
2 and interests of students so that they might learn and be inspired to engage in
3 learning in the subject: 'I don't teach, what I do is help people see' (Dineen, this
4 volume, Chapter 9). It requires a depth of knowledge and understanding
5 acquired through diligent and disciplined study in the field, combined with the
6 transdisciplinary knowledge and understanding acquired through the study and
7 practice of teaching and how students learn (and even how particular students
8 learn). It is the cognitive and practical challenge that this knowledge and insight-
9 rich world provides that energises the innate curiosity and creativity of the com-
10 mitted higher-education teacher and we should celebrate and recognise this
11 uniqueness. That we have a systemic culture that is, at best, ambivalent to
12 this unique expression of human creativity never ceases to amaze me, and it is
13 this attitude that we must change if we are to bring about the sorts of changes to
14 students' learning and experiences of learning that we are promoting. But perhaps
15 this change is not so difficult to accomplish. The voices of the academics who
16 contributed to our studies reveal that many believe that they are creative in their
17 teaching and have provided many examples of their own creativity. The survey of
18 National Teaching Fellows conducted by Marilyn Fryer (see this volume,
19 Chapter 7) is particularly noteworthy and provides us with a useful lever for atti-
20 tudinal change. Only three out of 94 expert teachers believed that they were not
21 creative, and 70 per cent believed that they were quite creative. Chapters 6, 8 and
22 9 reveal that this belief extends well beyond the NTF community.

Social-cultural influences

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26 Teaching and learning systems, while site- and context-specific, do not stand in
27 isolation from the wider social-cultural environment. Mihaly Csikszentmihalyi
28 reminds us that, while creativity originates in the minds, actions and interactions
29 of individuals, it is fundamentally a social-cultural concept:

30
31 Starting from a strictly individual perspective on creativity, I was forced by
32 the facts to adopt a view that encompasses the environment in which the
33 individual operates. This environment has two salient aspects: a cultural, or
34 symbolic, aspect which here is called the *domain*; and a social aspect called
35 the *field*. Creativity is a process that can be observed only at the intersection
36 where individuals, domains and fields interact.

37 (Csikszentmihalyi, 1999: 314)

38
39 This way of thinking led Csikszentmihalyi to develop the idea that creativity is
40 the result of the interactions that occur in a system whose components and rela-
41 tionships could be defined:

42
43 Creativity can be observed only in the interrelations of a system made up of
44 three main parts. The first of these is the *domain*, which consists of a set of
45 symbolic rules and procedures. . . . Domains are in turn nested in what we
usually call culture, or the symbolic knowledge shared by a particular

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society, or by humanity as a whole. The second component of creativity is the *field*, which includes all the individuals who act as gatekeepers to the domain. It is their job to decide whether a new idea or product should be included in the domain . . . the third component of the creative system is the individual *person*.

(Csikszentmihalyi 1997: 27–28)

We might animate this social–cultural view of creativity with Amabile’s (1983) characterisation of creativity as the confluence of intrinsic motivation, domain-relevant knowledge and abilities, and creativity-relevant skills which include: a cognitive style that involves coping with complexity and breaking and reforming one’s mental models of the world; knowledge of heuristics for generating novel ideas – such as trying a counterintuitive approach or forming associations and connections with improbable ideas; a work style characterised by concentrated effort, high energy and curiosity that drives self-motivation.

Figure 15.1 provides a visual representation of the system within which creativity originates, is applied, recognised and results in newness that is utilised by the field and results in change in the cultural domain. In adapting Csikszentmihalyi’s model for our purposes, I have used Stephen Covey’s concept of voice to represent the potentially creative individual whose imaginations have been fired, who is motivated to think and behave in particular ways (e.g. the characteristics described by Amabile, 1983), who uses their talents in a purposeful way to achieve their goals and whose decisions are made within a personal ethical framework.

For creativity to occur, the individual must interact with the domain. In higher education, the academic disciplines and inter-disciplinary fields of study are the fundamental cultural domains (Becher, 1989) and the main sites for interaction are related to problem finding and problem working (including the production of new

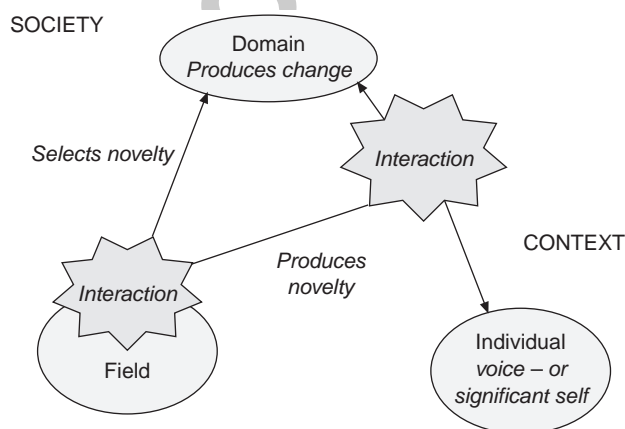


Figure 15.1 Representation of a creativity system adapted from Csikszentmihalyi (1999, Figure 16.1: 315) and incorporating Covey’s (2004) representation of voice as the significant self from which creativity flows.

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1 knowledge). Problems are envisaged to be of two basic types – issues that need to
2 be resolved and opportunities for something different. In other words, the primary
3 catalyst and context for creativity occurs at the point of intersection between indi-
4 viduals working on the problems they need to resolve within a domain. These prob-
5 lems may be generated by the individual, by peers in the field, by clients or society.

6 Individuals' responses to problem working situations in a domain may result
7 in novelty, or a variation in knowledge and/or practice within the domain. In
8 many cases the novelty will only directly affect a small number of people and
9 specific situations and contexts. While an individual's creativity would be
10 acknowledged by other members of the field, it is either not diffused to other
11 members of the field or it is so site- or situation-specific as to have no wider
12 utility. But in some circumstances a second set of interactions occur between the
13 creative person or their ideas and products and members of the field. The effects
14 of novelty are recognised by other members of the field and the field selects this
15 novelty and incorporates it into disciplinary thinking and practice in the domain.
16 In doing so, the domain is changed.

17 The investment theory of creativity (Sternberg and Lubart, 1996) might be
18 utilised to explain the second set of interactions in a creativity system. Accord-
19 ing to this theory:

20
21 creative people are ones who are willing and able to buy low and sell high
22 in the realm of ideas. Buying low means pursuing ideas that are unknown or
23 out of favour but that have growth potential. Often when these ideas are first
24 presented they encounter resistance. The creative individual persists in the
25 face of resistance and eventually sells high, moving on to the next new
26 unpopular idea.

27 (Sternberg and Lubart, 1996: 10)

28
29 Only the second of the two scenarios described above would fit Csikszentmihalyi's
30 definition of a creative person: 'someone whose thoughts or actions change
31 a domain, or establish a new one' (Csikszentmihalyi, 1997: 27–8). But if we
32 accept that there are levels of creativity, and that some forms are only useful and
33 appropriate at a local level (e.g. to solve a specific problem in a specific situ-
34 ation), then the more site-specific forms of creativity must also be valid. If we
35 accept this as a proposition then we have a rationale for the development of stu-
36 dents' creative potential.

Application to higher-education teaching and learning

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39 We can adapt Mihaly Csikszentmihalyi's systems views of creativity to the
40 systems that higher-education teachers create to promote and develop students'
41 creativity (Figure 15.2). In the teaching and learning system, the teacher is the
42 representative of the field e.g. history. The teacher acts as a process organiser,
43 facilitator and monitor to ensure that the best conditions and support that can be
44 given are provided. The teacher also acts as a representative of the field to judge
45 the worth of products, performances or other outcomes of learning. This judging

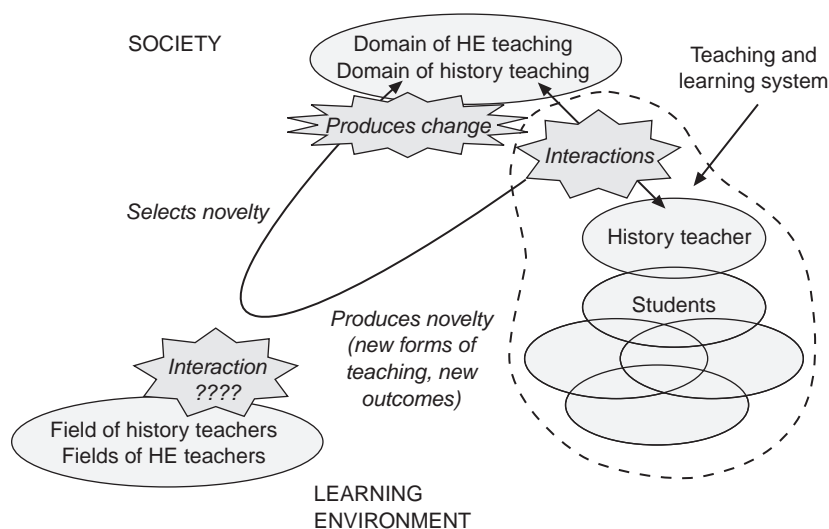


Figure 15.2 Representation of a higher-education teaching and learning system that has been established to promote students' creativity (adapted from Csikszentmihalyi, 1999, Figure 16.1: 315). All the components of the system are connected.

process may, however, be a collaborative affair, as in the model proposed by Cowan (this volume, Chapter 12) and endorsed by Balchin (this volume, Chapter 13).

Learners are the people in the system whose creativities are being stimulated and developed by the teacher's pedagogic strategies. Each learner brings a unique set of experiences and subjectivities to draw upon: their personal psychology, imagination, knowledge, talents and attitudes. Given this diversity, within any student group there is likely to be a diverse range of attitudes and responses to the teacher's interventions.

The subject discipline is the domain in which the interaction takes place. It provides a rich knowledge base and endless sources of stimulation, while the teacher and the curriculum experiences provide the learning and assessment scenarios, problems and problem working contexts within which students' creativity can be energised and acted upon. The outcomes are the individual, or collective, thinking and actions of the students.

Implicit in this way of thinking about a system to promote students' creativity is the idea that the individual history teacher is connected to the field of history teachers and a wider field of teachers of other subjects who may also influence the discipline-based teacher. We may also recognise in the cultural domain not just the culture of the history discipline, but also the culture of higher-education teaching and learning and the organisational/departmental cultures within which learning takes place. The latter may be more, or less, supportive of a creative ethos.

In the illustrative example, the history teacher creates conditions to encourage and enable students to be creative (for example, a challenging problem). The

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1 teaching and learning process becomes the vehicle for interaction between the
2 history teacher, students as engaged active learners and the disciplinary field of
3 study. Students respond in different ways to the challenges provided, and they
4 gain experience of being creative. The teacher's role is to help students to
5 experience and understand their creativity. Conversations, through which per-
6 sonal and collective meanings can be constructed, and reflection to aid meaning
7 making, are crucial, and John Cowan outlines in Chapter 12 of this book a
8 process for facilitating such conversation and capturing the social construction
9 of meanings in the contexts in which they are grown.

10 It should be noted that personal creativities (teachers and students) are con-
11 tained within the teaching and learning system. The changes that take place are
12 the changes in participants' understandings. But there may be occasions where
13 the products of this system (for example, new forms of pedagogy such as that
14 elaborated by Caroline Baillie and John Cowan in Chapters 11 and 12 of this
15 book) would be diffused through, and recognised more widely by, the field of
16 history teachers or higher-education teachers more generally. In this way,
17 novelty in teaching changes the domain of higher-education teaching.

18 This way of looking at creativity in higher education highlights the import-
19 ance of the disciplinary or subject domains. Conversations with academics
20 reveal that while creativity may be recognised in their discipline, it is not really
21 valued beyond the rhetorical level. Similarly, the analysis of QAA benchmark-
22 ing statements (Jackson and Shaw, Chapter 8) reveals that few subjects explic-
23 itly recognise creativity as a component of students' higher-education learning.
24 Articulating what creativity means in a disciplinary domain or field of profes-
25 sional practice, by fostering conversation, would seem to be an important first
26 step in the process of cultural change.

Principles for constructing teaching and learning environments to promote students' creativity

31 I hope that you believe, as I do, that the contributors to this book have
32 demonstrated strong and positive connections between higher-education teach-
33 ing, disciplinary study and practice, and creativity. In this section I will try to
34 draw on what we have learnt through the Imaginative Curriculum project to
35 develop some general principles for creating higher-education teaching and
36 learning environments that are more likely to promote students' creativity.

Align creativity with discipline culture and needs

40 Many higher-education teachers will only invest time, energy and intellectual
41 effort in developing teaching and learning systems that are consistent with the
42 norms, values and forms of intellectual engagement, problem working and other
43 practices in their subject (Edwards *et al.*, this volume, Chapter 6). As a general
44 principle, we might expect that teaching and learning environments aimed at
45 promoting students' creativity will need to be consistent with these things and
grown within conceptions of what it is to be creative in the discipline(s) being

studied. Exploring and growing understandings of what it means to be creative as a historian, chemist or any other disciplinary practitioner is a necessary prerequisite for the sorts of cultural change that will facilitate the systematic development of learning environments which support and encourage students' creativity in higher education. The outcomes of these conversations need to inform QAA Subject Benchmark Statements which, in the UK, constitute the formal expression of what is valued in students' undergraduate learning in a subject, and provide a reference point for curriculum design and curriculum review.

Align creativity to the interests, creative identities and needs of students

Student's voices – being creative made things more interesting and more satisfying, suggesting a positive link between experiences and creativity.

(Oliver *et al.*, this volume, Chapter 5)

There appears to be good alignment between academics' perceptions that they have to engage students' interests (Edwards *et al.*, this volume, Chapter 6) and students' perceptions that there is a positive relationship between being creative and interesting, satisfying and fulfilling experiences. Equally importantly is the idea that creativity is integral to students' self-identity – to being who they are in the many different contexts in which they study, work and play. 'Where creativity was not taught, not considered teachable and not valued in assessment, it was still relevant in defining how the students saw themselves' (Oliver *et al.*, this volume, Chapter 5).

Barnett and Coate (2005) have criticised the higher-education curriculum for a lack of engagement in promoting students' identities, and have highlighted the need to change this situation if we are to properly prepare students for an uncertain and unknowable world.

We resort unashamedly to a language that is barely heard in higher education. It is a language of 'self' and 'being' and 'becoming'... It is a language that speaks to a student's developing inner self; a self that has to be developed if students are going to acquire durable capacities for flourishing in a world that is, to a significant degree, unknowable.

(Barnett and Coate, 2005: 63)

A concern for creativity would help higher education to engage with the issues of self-identity, being and becoming; that goes for teachers, as well as *all* students! I stress *all* because creativity is inclusive in a way that few other outcomes of higher education can achieve. Late in the evolution of this chapter I was ashamed to realise that I had not thought enough about students and their different needs. In particular, I tried to imagine what creativity meant to someone who was disabled, perhaps someone who could not see the world as I did, but who had to see it through their imaginations and their other senses. I felt

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1 humbled and the insight I gained was that people who are disabled must be far
2 more creative than I in order to cope and prosper in a world that is designed for
3 people who are not disabled. A concern for creativity that is grown from the per-
4 ceptions and insights of each student, rather than the minds of their teachers,
5 would be inclusive and would embrace the needs, interests and unique identities
6 of all students.

Be clear about the purposes for teaching for creativity

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10 Purposes might be visualised in a number of ways. First, as a way of enriching
11 students' overall experiences of higher education and engaging them in interest-
12 ing, challenging and motivating activities. Second, as a way of improving stu-
13 dents' capacity to learn, solve challenging problems and perform within a
14 disciplinary and/or programme-learning context (as outlined above). Third, to
15 help students to develop as more rounded and complete individuals and to help
16 them to develop their creative capacities, self-identity and self-efficacy. Improv-
17 ing students' metacognition – their self-awareness and capacity for self-critical
18 evaluation of their own creativity and its effects – would be an important educa-
19 tional goal in such learning environments. Jackson and Sinclair (this volume,
20 Chapter 10) provide some conceptual models to illustrate the enhanced effects on
21 the development of students by enabling them to develop their creative potential.

Act as a role model to show students what it means to be creative

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25 One of the best ways for students to learn about creativity is to show them what
26 it means to you as a teacher. The process of higher-education teaching, with its
27 endless opportunities for exploring ideas and concepts, seeing the world from
28 different perspectives, connecting, combining and synthesising, developing new
29 knowledge, and the most creative act of all – changing the way people see the
30 world and helping people construct new meaning – offers no better medium for
31 demonstrating personal creativity. All we have to do is to observe ourselves,
32 reflect deeply and critically analyse our own working practices to illuminate
33 what creativity means in our teaching and scholarship. And what better way to
34 convey your values and your ethics to your students?

Use the learning process to involve students in the social construction of knowledge

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39 Creativity in a disciplinary context is a wonderful topic to show students the
40 power of the social construction of knowledge. By facilitating good conversa-
41 tion and using strategies for knowledge capture and harnessing the electronic
42 medium (e.g. web logs), students can see how their individual perceptions and
43 understandings grown from experiences can be connected to make powerful
44 stories, and that many powerful stories from within the group can change the
45 way they think and their very belief systems. John Cowan (this volume, Chapter
12) provides us with an exhilarating insight into the dynamics of such a system.

Be clear about the learning outcomes you are intending to promote

I am going to raise two very different perspectives here. The first acknowledges that higher education involves developing students so that they can work with and come to understand complexity. So there are ample opportunities for developing the extended abstract (EA) outcomes of learning (Biggs, 2003) like hypothesising, reflecting, generating ideas, applying the known to 'far' domains and working with problems that do not have unique solutions.

EA outcomes are not just indicators of fluency or the products of brainstorming for any old outcomes, the whackier the better . . . they show the Torrance feature of flexibility, i.e. the categories have been shifted. The outcome adds value to the information given. At the highest academic levels creativity would be manifested by moving beyond the framework given, a paradigm shift, and that is where originality comes in.

John Biggs, email contribution to Imaginative Curriculum network discussion, July 2002

Design learning outcomes that can accommodate creativity

We live in a paradoxical world and higher education is full of paradox that seeks to both define and constrain what we do, while simultaneously encouraging people to adventure beyond the known. As teachers we want students to comply and conform to our designs and intentions to learn the sorts of things that we believe are essential, yet where creativity is concerned we need them to behave in original ways to produce novelty. Part of the problem we have with creativity in higher education is the threat it poses to the status quo as we teach students to unlearn the compliant habits they have acquired through years of formal education. Securing compliance is deeply engrained in the culture of instruction and I sense that the instructional mindset so apparent in the discourses of USA educators has simply been camouflaged in the UK through the medium of predictive learning outcomes – at the end of this module, a student will be able to do x, y and z!

How often have we heard in the academics' voice, that students' creativity is being stifled by learning outcomes that assume that all learning can be prescribed and anticipated in advance? We have to learn how to construct these outcomes in ways that are not too specific, that encourage the recognition of unanticipated outcomes and that enable students to make claims for outcomes that they recognise. We have to learn to accommodate negotiation and the students' voice in the design of our learning outcomes. We have to treat the crafting of an outcome, the formulation of standards and the evaluation of those standards as a dynamic and evolving process, not a static act of design. We can learn much from the way learners develop their own learning outcomes in negotiated work-based programmes and John Cowan (this volume, Chapter 12) points the way in more orthodox HE settings.

Show how creative outcomes will be evaluated and assessed

In a teaching and learning system, outcomes are closely related to purposes. We have seen in both the academics' and students' voices the widespread beliefs that the way we have systematised assessment in higher education works against the promotion of students' creativity. But many teachers have clear views about the characteristics of creativity in particular situations and contexts, the types of thinking and behaviours they want to promote and the sorts of products and performances they anticipate emerging from the processes they create. However, these things can be combined in complex and individualistic ways and they are not so easy to quantify and grade in the way that some other learning outcomes are.

Higher-education teachers associate students' creativity with certain ways of thinking (Jackson, 2005a–d, and this volume, Chapters 6–9), e.g. imaginatively, conceptually, independently, originally, divergently (associatively), laterally, critically and reflectively, deconstructing and reconstructing, synthesising, connecting and combining ideas in fresh and useful ways. Learning activities have to be designed to encourage these forms of thinking and to reveal them in the outcomes of learning – products, performances or other tangible manifestations of thinking.

We are in the territory of complex learning and it is not easy for students or teachers to capture or recognise these forms of learning. John Cowan provides a framework that combines the personal and social construction of meanings of creativity by learners in their particular study contexts with the co-creation of standards and self-evaluation of performance. Tom Balchin's model of consensual assessment (this volume, Chapter 12) can also be integrated into the framework.

Being creative often involves taking risks, some of which might not be successful. When we are concerned with creativity, we have create learning outcomes that recognise that taking risks and not succeeding is integral to learning – and that learning from mistakes is one of the most valuable forms of learning we can acquire.

Be clear about levels and expectations of creativity

'Students' creative work may be underestimated or dismissed within a domain because of lecturers' unrealistic expectations of developing creativity' (Edwards *et al.*, this volume, Chapter 6). Creativity operates on a continuum from the inventions and interventions that change the world, through those that change a domain, to those that have local and personal significance: 'a sort of *personal effectiveness* in coping well with unknown territory and in recognising and making choices . . . life-wide creativity' (Craft, 2002; see this volume, Chapter 3). In higher education, as in school education, we are primarily concerned with the latter, but we must aspire to prepare people to take on challenges at the level of creative change in the domain. In addressing the issue of level in Chapter 10 of this book, Jackson and Sinclair cite the framework developed by Taylor

(1959), who elaborated the idea of five levels of creative engagement – the second and third levels – academic and technical and inventive – being particularly relevant to HE. But more importantly, perhaps, we are laying the foundations for our students to develop the capacities and habits for thinking that will enable them to operate at the highest levels of creativity in their chosen careers. We are also laying the foundations for becoming experts in a domain and perhaps promoting students' creativity also has something to offer here (see Dreyfus and Dreyfus, 1986; Dufresne *et al.*, 1995).

Adopt and invent facilitative teaching methods

Teaching and learning systems that are effective in promoting students' creativity tend to be flexible and adaptable, involve active partnership and the emotional energies of participants, and draw on a range of facilitative teaching approaches. An analysis of nearly 40 accounts of teaching that was intended to encourage students to be creative in a range of disciplinary contexts (Jackson, 2005a–d) revealed the things that higher-education teachers do to promote students' creativity. Teachers have to prepare students for this way of learning and create conditions that are conducive to their creativity by: giving students permission to be creative; providing time for students to be creative; and providing safe curricular spaces where students can try out new things. Their role is to help students to gain the confidence and skills to be creative by: equipping them with appropriate thinking and process-creation skills; building their confidence to take risks and designing assessments that do not penalise them if they are not successful; developing their self-confidence to work in unpredictable situations; and promoting the development of self-awareness and reflective learning.

Negative views that take the stance that creativity cannot be taught are based on transmission models of teaching where teachers attempt to transfer their own knowledge and sense-making to students through lecture-dominated teaching; where students' engagements in learning are predominantly based on information transfer, and are heavily prescribed and controlled by the teacher; and where summative assessment drives the learning process. Teaching to facilitate students' creativity requires teachers to be equipped with an appropriate repertoire of facilitation skills, belief, confidence and self-awareness to be able to engage a group of students in processes whose outcomes can only be partially imagined (Jackson, 2005a–d; see also this volume, Chapters 10, 11 and 12).

Utilise problem-focused learning and adventures in learning

Working with complex fuzzy indeterminate problems that do not have unique solutions connects higher-education learning with the disciplinary worlds that lie outside higher education. Academics and non-academic disciplinary practitioners, like clinicians, social workers and engineers, believe that creativity is something used in working with problems that are challenging, new, unpredictable and/or emergent (Jackson and Shaw, this volume, Chapter 8). It seems self-evident that nurturing students' creativity in higher education is best achieved

1 through a process- or activity-based curriculum that engages students in chal-
2 lenging, novel and unpredictable ways of working and learning (Jackson, 2003).

3 There are many sites and opportunities for creativity in disciplinary thinking
4 and practice, and these can be connected within frameworks of problem
5 working. While the nature of the problems and the way they are visualised and
6 addressed varies from discipline to discipline, finding, formulating, exploring,
7 interpreting and finding solutions to complex concrete or abstract problems is
8 the key focus for creative thinking and action in all disciplinary contexts.

9 Andriopoulos and Lowe (2000) use the term 'adventuring' to describe the
10 process through which individuals explore and come to understand uncertainty.
11 They recognise three categories of adventuring, all of which are relevant to the aca-
12 demic creative enterprise, namely, introspecting, scenario-making and experiment-
13 ing. Introspecting is when people explore uncertainty from what is already known.
14 Those that wish to adventure within a field need to have the basic knowledge of
15 their specific field. At the highest levels, if you want to change a domain you need
16 to know what already exists in the domain. Scenario making refers to the develop-
17 ment of possible routes to tackle a particular situation. Hypothesising, as a way of
18 visualising possible courses of action and their consequences, is a core process.
19 Experimenting refers to processes through which possibilities or scenarios are
20 tested and evaluated. Through this process, observations and other sorts of informa-
21 tion are synthesised and evaluated. Adventuring involves risk-taking and mistake-
22 making. Learning cultures that are averse to risk-taking and penalise mistakes
23 inhibit adventuring and therefore the potential for creativity. As part of our cultural
24 transformation, we need therefore to redefine what we mean by mistakes in the
25 context of complex learning.

26 A visual representation of problem working as a process of adventuring is
27 given in Figure 15.3. The problem working situation is called '*How do I teach*
28 *this topic or help students develop these skills and attitudes?*' The same frame-
29 work might be adapted to problem working in any disciplinary context.

31 ***Utilise an appropriate pedagogic model***

32 In Chapter 10 of this book, Jackson and Sinclair provide a pedagogic model for
33 a teaching and learning system that would support the development of students'
34 creativity, underpinned by the sorts of reasoning that is articulated above. Figure
35 15.3 shows how this model might be used to represent the process of exploration
36 that is associated with higher education teaching. A synthesis of the idealised
37 practices, procedures, conditions and cultures that might characterise the broader
38 institutional environment within which such a pedagogic model might be sup-
39 ported is provided in Figure 15.4.

42 **Imagining a different future**

43 I will conclude this chapter in the way I started the book, by envisioning the
44 future but this time in terms the small incremental and practical steps that will
45

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The taken for granted stock of problem working knowledge that can be drawn upon in future, Jackson (2004). A source of ideas and inspiration for future creative enterprise.

Exploring or 'adventuring'

- How do I teach this topic to these students or how do I enable these students to develop these skills and attitudes?
- How can I interest/engage my students?
- What do I need to know?
- How can I find out? Who can help me?
- Development of knowledge resources for teaching and learning.
- Synthesising, interpreting, sense making.
- Experimenting – taking risks, trying out new strategies, making mistakes.
- Monitoring and responding to students' responses and needs.
- Evaluating results and learning from the experience of trying.

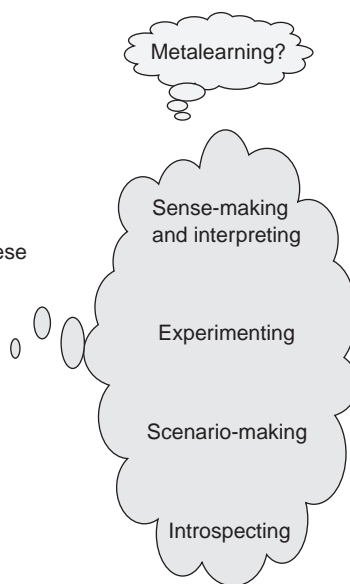


Figure 15.3 Representation of creativity in the problem working process that relates to teaching (adapted from Jackson and Shaw, Chapter 8, this volume Figure 8.1, and incorporating the idea of adventuring – exploring uncertainty – Andriopoulos and Lowe, 2000).

help us move towards the sort of cultural change that has been advocated throughout the latter half of this book.

In one sense we have already created a different future because this book, and all the thinking and ideas contained within it, now exists, and the people who thought these things are different as a result of the thinking they have done. Our idealistic hope is that the ideas within this book will have an effect on the thinking and actions of others, and that in this way ideas and change will be diffused around the higher-education system. But we are also pragmatists and it is the network of interest that we are growing through the Imaginative Curriculum that will sustain the enterprise. The way ahead lies in engaging more and more academics and students in conversations that enable meanings and understandings to be explored in disciplinary and interdisciplinary fields of study, and in programme- and module-specific contexts. This is something that can only be achieved through local agents or activists – people who care enough to want to bring about cultural change to become active participants in bringing about the change. We have to work with the idea of emergence (Tosey, this volume, Chapter 4) and believe that small changes made by individuals and small groups of committed teachers can eventually influence and change the patterns of the system as a whole. We also have to look more widely at how creativity is utilised in the workplace and professional practice settings so that academics and students can see the relevance of creativity and work towards creating a

Organisational cultures that value the creativity of staff and recognise that development of students' creative potential is an important part of their higher-education (Tosey, this volume, Chapter 4).

QA bureaucracies and systems that can accommodate these forms of emergent learning that do not require fine specification of creative outcomes. That encourage the emergence of new forms of teaching and learning, permit active experimentation and recognise that it is sometimes necessary to make mistakes in order to learn (Tosey, Chapter 4).

Local teaching cultures that recognise and value creativity and teaching groups willing to examine their own understandings of creativity in the particular contexts of the programmes and employment roles that they support.

Disciplinary cultures that recognise and value creativity, that foster conversation about creativity and make these values explicit in QAA Subject Benchmarking Statements (Jackson and Shaw, this volume, Chapter 8).

A curriculum – that provides safe spaces for students to experiment and learn from mistakes as well as successes. Process- or activity-based curricula that engage students in challenging, novel and unpredictable problem working and learning (Jackson, 2003).

Process standards that define the nature of teacher-student encounters, relationships and learning activities, that foster conversation and encourage co-creation of the experience (Knight, 2002).

Designs that are general rather than detailed specifications of knowledge, skills, attitudes, values, behaviours against which students will be able to make and defend claims (Knight, 2002).

Assessment that is consistent/authentic with learning intentions and does not assume that all learning can be predicted in advance. Assessment that is a formative, negotiated and iterative process of self-critical evaluation that recognises students' own meaning making (Cowan, this volume, Chapter 12).

Teaching that is facilitative, questioning and non-judgemental rather than didactic. The idea of a creativity coach might be more appropriate (Jackson and Sinclair, this volume, Chapter 9).

Teachers whose engagements are informed by reflection and action research, who are equipped with a repertoire of teaching and learning strategies and facilitation skills, who are willing to act as role models for the types of creativity they are seeking to foster (Jackson and Sinclair, this volume, Chapter 9; Baillie, this volume, Chapter 10; Cowan, this volume, Chapter 12 and Wisdom, this volume, Chapter 13).

Students who participate as willing and active partners in the learning enterprise. Who are prepared for this way of learning and who are willing to share and develop their understandings with other students.

Figure 15.4 A constellation of interconnected practices, cultures and conditions that are more likely to promote creativity in the higher-education environment. Above all, the environment has to value and encourage active conversation and the co-creation of understandings of what creativity means in the context in which it is being used.

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more creative society (Richard Smith-Bingham, this volume, Chapter 2). It is the process of conversation, the diffusion of knowledge and progressive deepening of individual and collective understanding that will eventually bring about the sorts of cultural change we are seeking.

We also need to connect our emergent understandings of creativity in higher-education learning and employment settings to pedagogic knowledge of the teaching and learning strategies and environments that really do stimulate students into creative thinking and action. Higher education does not have a monopoly on creative pedagogies. We must learn from the efforts of our colleagues in schools and be open to the techniques used by consultants and trainers in the world of organisational development and personal coaching. We need to learn how to make safe spaces within a crowded curriculum. We need to develop teachers so that they are knowledgeable, skilled and confident facilitators. We need to develop our administrative and bureaucratic systems so that they permit rather than suppress new experiential designs. And most importantly, we have to develop our capacity to recognise, evaluate and reward the complex achievements that are associated with creative enterprise. It is perhaps in the area of assessment that we do need a revolution – or at least fundamental and far-reaching debate about the way the current paradigm supports or inhibits students' creativity. Perhaps John Cowan has lit a spark.

And so we return to our deep moral purpose, without which all our efforts are futile. If we are to make a difference to students' lives by helping them develop their creative talents as well as their intellectual abilities, then students must believe this. They have to be active partners in co-creating this new world in which creativity is more valued than at present. We have to see the world through their eyes and work with them to expand their horizons. The belief that creativity lies at the heart of every person's identity, and that we are denying students their identity if we do not recognise and value this, should be all the encouragement we need to sustain our vision of a different world.

A sort of closure

Beginning and ending a book are often the hardest things to do. I think this story provided by Fred Buining provides a fitting end to our initial adventure.

On the shores of another sea, an old potter retires. His eyes cloud over, his hands tremble, the hour to say goodbye has arrived. Then the ceremony of initiation begins: the old potter offers the young potter his best piece. As tradition dictates among the Indians of northwest America, the outgoing artist gives his greatest work to the incoming one. And the young potter doesn't keep that perfect vase to contemplate or admire: he smashes it on the ground, breaks into a thousand pieces, picks up the pieces, and incorporates them into his own clay.

As teachers, we both lead and stay behind, this is not a process embedded in a three- or four-year programme, but should be an attitude we live each day. For

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1 we pass on masterpieces everyday and it is for the young artists to select among
2 those pieces, the ones they want to smash and incorporate into their own work
3 and identity. And from the moment we as teachers and higher-education insti-
4 tutes can accept young artists to smash our masterpieces, knowing they do not
5 smash us, neither our quest nor the outcome, but to see and honour their smash-
6 ing as the expression of the authentic human drive to create and re-create, as we
7 have smashed and created in our own lives. From that moment we will be free as
8 educators/teachers and universities to start our real teaching (Fred Buining,
9 pers.comm., April 2005).

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