Teaching Creativity?

By Jim Shorthose

Abstract

The ideas which underpin this reflection on how we might add to the teaching of creativity come from a broader research programme which culminated in the publication of *Where is Creativity: A Multidisciplinary Approach* (Shorthose and Maycroft 2017). With a specific focus upon our experiences of teaching within a Design School, we argue that the common approach to such teaching is often overly discursive, in that it relies too much on rather restricted conversations with individual students concerning only their current creative project ideas. In that sense, we also argue that design teaching is often individual student-centred. Whilst we see a lot of benefit in this approach, our critique of it centres around two facets. Firstly, that unspoken assumptions within this approach tend to see creativity as a purely individualistic phenomenon. Secondly, that such teaching insufficiently explores the nature of creativity and its inner processes, leaves discussion of it too implicit and tends to concentrate only on the creative outcomes of individual students. In contrast to this individualistic approach, we highlight a fuller panoply of conceptions of creativity, taking in social, geographical, web-oriented and contextual facets, and suggest how they can add to the teaching of creativity. This also forms the basis for our argument concerning the benefits of a more explicit consideration of creativity, as a beneficial addition to teaching practice. Through a combination of theoretical discussion and reference to concrete examples, we move towards an exploration of the benefits of a dialectical approach to understanding creativity as inherent movement and flux. We suggest this as the foundation for a sustained sense of reflective creative practice, the development of which is, in our view, the basis for 'teaching' creativity *per se*.

Introduction: Teaching Design

As a teacher in an HE School of Design, one sometimes feels that the distinction between 'theory' – contextual issues, the history of particular design disciplines, debates from social and cultural studies – and 'practice' – working with students in the studio to advise them on developing their own particular creative projects – is a rather intrusive and unhelpful distinction. Perhaps for this reason, one often feels tempted to start a new teaching effort with a new group of students, with the basic question *what is design?* It sometimes seems that this might be a way of tying both 'theory' and 'practice' into a more general notion of design. But experience suggests that this never works very well. This is because design is such a broad and multifaceted field. Is design everything? Is it the way we organise our everyday life, put toothpaste on our toothbrush and choose what clothes to wear? This idea of design does not help very much in any teaching effort seeking to orient students around a working definition. Because it says everything, it ends up saying nothing. Or is design something much more specific and focussed? Is it problem-solving behaviour built around planning and execution geared towards a specific aim? This tends to restrict discussions of design to very particular activities which have functional outcomes. This approach tends to promote conversations which are not very helpful for considering the beautiful, the poetic and the inspirational in design.

But some basic orientation is still needed for any teaching effort. We believe we can make progress in this by 'standing back from the details' of particular manifestations of design to discuss creativity itself and what it is to have a *reflective creative practice.* But this has required some reflection on our part.

Teaching design programmes often involves highly discursive methods. Whilst some group work is used, the focus almost always becomes centred on the individual student and how they might better develop their own particular creative projects. Sometimes there has been some discussion of contextual issues preceding this, but what 'context' means varies considerably and does not always help the student reflect on their own creative impetus. Students often struggle to relate the contextual to the specific details of their own creative projects, and so often end up by concentrating upon the specific as the thing they understand most urgently. Often via unspoken

agreements, teaching and learning efforts come to be largely focussed on responding to what the individual student articulates about their current design motivations and plans.

There is much about this approach which is praiseworthy. But is it enough? Can we not do better in teaching ideas which go beyond the specific, the short-term and particularistic, to impart ideas which help students to develop a more self-aware, reflected upon and sustained notion of creative practice? We believe we can, but only if we first take a moment for some critical reflection. In our view, the overly-discursive and student-centred approach to teaching has two key flaws. Firstly, it tends to operate with a largely under-analysed assumption that creativity is an *individualistic activity*. Secondly, the very notion of creativity, so central to what is going on, is left very *implicit.*

The shift in focus (viewed as a compliment rather than replacement for more discursive and students-centred approaches) which is discussed in this article entails more *explicit* discussions about what creativity itself 'is', along with some game playing to explore creativity *per se.*[1] And by making such discussions explicit, we advocate exposing students to conceptions of creativity which go beyond the individualistic conception. But this brings its own problems. Creativity is not a 'thing' which we can get to the bottom of. Arriving at a definition of creativity is not a viable target. For this reason, our research evolved around the question *where is creativity?* (Shorthose and Maycroft, 2017).

Individualistic conceptions of creativity tend towards rather superficial answers to this question – it is in our brains, in our minds, in our personality (or not). A recently developed theoretical nexus formed from a combination of evolutionary theory, cognitive psychology and neuroscience (D'Amasio, 2012; Dennett, 1993; Lehrer, 2007) tends to sponsor this view, (for a thorough-going critique of this position see Tallis, 2011). Evolutionary theory holds that our advanced human capabilities in creative thinking

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[1] We have started using Lego as a 'teaching and learning' tool. We use Lego play to structure 'creative reflection' sessions. This involves inviting students to just play with Lego; but then to play with Lego and reflect on the 'why' and 'how' of the ways in which the bricks are coming together – and point out ways in which this might be a metaphor for emergent, iterative and discursive elements within a reflective creative practice. We invite students to play at 'hacking' Lego – as a metaphor for lateral thinking and a more multi-faceted view of the interrelationship between design 'problems and design 'solutions'. All this to encourage participants to reflect upon the process of creativity before, during and after the actual making of something, as a necessary and useful point of development in and of itself.

come about due to adaptations which have given us our bigger brains. Connected to this, cognitive psychology rests on the idea that purely individual propensities to find 'new combinations of old ideas' is the litmus test of creativity of our bigger brains. Increasingly, neuroscience is arguing that the 'wiring' of our individual brains is the hallmark of creativity. It is these kinds of scientistic accounts of the individualistic nature of creativity which colour broad cultural assumptions which have led to the focus on the individual student within design teaching. But there are many other views of creativity which show the paucity of the individualistic conception.

Beyond the Individualistic Conception of Creativity

By leaving questions of creativity *per se* implicit and under-analysed, more *social conceptions* of creativity tend to be under-played in common approaches to teaching design. But there are myriad views of creativity which highlight the importance of relationships between individuals – of creative networking, of stimulating dialogue, often between different creative disciplines – as the locus for creativity (Shorthose and Maycroft, 2107). For instance, Leadbeater (2008) argues that creativity is in essence a 'social activity' in which people collaborate by bringing different skills, points of view and insights together to generate new ideas and applications. Teaching efforts sometimes give lip-service to creative networking and the potential in creative collaboration, but too little is actually done. There is often insufficient space or encouragement for student collaboration fostered by getting out of their 'programme silo's'. The attention, particularly at undergraduate level, is more often placed on completing discrete programme-centred projects.

Adherence to the individualistic conception of creativity also underplays *geographical conceptions* of creativity which highlight the central importance of place. For instance, Landry (2000) emphasises the significance of a 'creative milieu', and the idea that physical settings – creative hubs, creative quarters, cities as a whole – allow people to congregate to do said creative collaborations. We can see the Web as such a 'place', enabling a 'creative commons'. For Shirky (2010), this helps to establish a 'cognitive surplus', such that we can all now do much more creativity, more often, but more often together. The cognitive resources we have in our individual creative heads are now massively supplemented by our connections with the heads everywhere else,

given the increased capacity of successful creative networking. Teaching creativity can still do more to encourage students to understand in principle, and use in practice, this cognitive surplus.

Creativity always exists within broad contexts – the historical, cultural, economic and political settings which, at least in part, determine 'what counts' as creativity. For instance, Csikszentmihaly (1996) argues that creativity results from the interaction of a system comprised of three elements. The first of these is the creative person. But beyond that, the *symbolic domain* shapes the disciplinary conventions of any particular area of creative activity; the *field of experts* select and validate (or not) particular creative acts and ideas. For this view, the individual creativity of any one person (student) sits squarely within these broad contexts. Student-centred approaches to teaching design provide a germane environment for developing personal motivations and skills. Contextual studies teaching can impart knowledge about the history and cultural location of particular design disciplines in broad terms. But the teaching of design needs to step outside of the individualistic conception of creativity, so it can more fully articulate the nature and impact of these broad contextual features. Without that, it is questionable if it will be able to sufficiently articulate the direct and practical impact which these professional contexts are likely to have upon creativity as it takes place within the creative industries. If we do not include a clearer and more sustained account of the *contextual conception* in the teaching of creativity, then we will ultimately do a disservice to our students. A thoroughgoing account of how the individual creativity of any particular student needs ultimately to be able to speak to professional, economic and industrial contexts is needed. Without that, the overly discursive and student-centred approaches (contextual studies elements notwithstanding) current within much design teaching will remain rather lacking.

And finally, in going beyond the individualistic conception, we should recognise all that these different facets of creativity – the individual; the relationship-based; the place-specific; the web-oriented and the contextual – are constantly interacting with each other in myriad, multi-directional ways. They are always in mutually (re)producing, mutually reflecting, mutually shaping and mutually inter-penetrating interactions with each other. It is for this reason that our research into the 'where' of creativity (Shorthose

and Maycroft, 2016; 2017) came to adopt a more *dialectical conception* of creativity. We are concerned to have explicit discussions about what is involved in an understanding of creativity capable of appreciating this ever-moving dynamic, as an integral part of our efforts to 'teach' creativity.

A Dialectical Conception of Creativity

It is probably because our Western scientific culture is largely based upon an unspoken cultural heritage of *formal logic,* that thinking dialectically does not always come easy to us. But the linear, rather mechanical nature of formal logic is not best suited for grasping the ever-changing nature of creativity, and its ever-moving location**.**

It is beyond the scope of this short paper to give a full account of dialectical thinking (see Sayers, 1985). Suffice to say that at its heart is the view that social and cultural phenomena are characterised by an inter-penetration of opposites, and that by understanding this we are better able to understand phenomena like creativity as a process of constant change resulting from its inner contradictions, and it is often experienced as such. Creative imaginations interact with the 'real world' – our subjective creative experiences are shaped by the objective social, political and economic realities 'out there', which in turn stimulate us to imagine other possible worlds. The 'outer' shapes the 'inner', so that the 'inner' can then seek to re-shape to the 'outer'. Creativity often entails being good at thinking about 'what is' so as to think about 'what ought to be'. Objectivity interacts with passion – creativity requires an objective sense of what will and will not work, just as that very work flows from an innate passion for something that we put our heart and soul into. Creativity often entails working with varying degrees of 'reason' to create our 'baby', so as to let it die away, to be reborn when the time is right. Difficult tensions interact with great pleasures – creativity entails grappling with difficulties and sufferings, so that we can experience the pleasures of creative achievement, just as those pleasure remind us of the great tensions to come. Creativity often entails accepting the pain because we know of the joy to come.

But as well as these experiential aspects, a dialectical conception helps to deepen our explicit discussions of what a reflective creative practice entails. Its focus on the interpenetration of opposites highlights the central importance of creative individuals being in constant interaction with the world beyond themselves, in and through

creativity. For instances, the thing we call 'Self' – our individual personality, experiences and motivations are shaped by the relationships we have with everything that is 'Not-Self' – that is everyone else. And this 'Not-Self' of everyone we meet, in and through creativity, is in turn shaped by their experiences of us. Equally, the Self interacts, in and through creativity, with place, such that creative people and groups shape their places, just as such places shape the work of creative people and groups. The Self interacts, in and through creativity, with culture in its broadest sense. The individual generates new ideas which impact upon the broader culture, just as the broader culture shapes what 'counts' as creativity, selects which bits are to be celebrated and decides how the creative individual is doing in terms of 'success'. Creativity is best viewed as a 'dialectical process' (Gardener, 2011, p.14) rather than as a linear process, and as such any effort to 'teach' creativity needs to go beyond the individualistic conception to make these features explicit. Not least because it is essential to discuss how personal reflections on one's creativity as one is doing said creativity. This enables one to continue to re-create one's creativity as one is doing it. A fuller understanding of its essential nature can be arrived given this, and all the features of it brought together to help develop a mature, coherent and sustained sense of *reflective creative practice.*

A Real World Example

Abstract pieces of philosophical argument work best if they are situated within real world examples. So, let us briefly turn to just such an example. Some years ago, in one place, genetic modifiers were playing around with the seeds of Thrale Cress, a weed-like plant with a small white flower which grows pretty much anywhere. They were engaged in playful experimentation, just to see what would happen. In another place, people were trying to detect unexploded landmines. A serious, difficult business.

One of the genetically modified versions of the Thrale Cress seed grows with a small red flower when its roots hit nitrogen dioxide underground, and decaying landmines give off nitrogen dioxide. So this became a creative solution to a pressing problem. The landmine detectors can now scatter genetically modified Thrale Cress seed on land where unexploded landmines are suspected and wait for hot-spots of red flowers to show up amongst the expanse of white flowers where underground nitrogen dioxide is not present. They can then dig up the landmines. But as beautiful as this is,

why is it relevant for our discussion of creativity and a dialectical conception of thereof?

Firstly, it exemplifies a dialectical interplay concerning how creative problems and the solutions interact and mutually shape each other. The modified Thrale Cress seed was not a solution to anything until it was put next to the problem of the landmines. It was the only existence of this problem which gave the genetically modified Thrale Cress its 'solution-ness'. The creativity of detecting landmines with flowers grew out of the mutual interaction between problem and solution. There was a problem looking for a design solution, but equally there was a solution looking for a design problem. Spotting the potential for a fruitful interaction by shaping a mutually effective context was where the real creativity lay. The arrival at this particular piece of creative thinking was due the interplay between various people within a co-creative effort. The genetic modifiers knew nothing of the landmine problem. The landmine detectors brought an urgency to the situation, but did not contribute anything specific or concrete in terms of creative solution. It was a third party who formed the new creative relationship between people working within very different contexts, according to very different agendas, shaped by very different place-specific needs, to co-generate the ability to detect landmines by planting flowers. This particular piece of creativity did not reside in any one person's individual creative talent. Rather, it lay within and across these relationships and emerged as and when these relationships came aware of themselves.

Conclusion: Teaching Creativity?

So, where is creativity? Yes, it is in our individual brains, minds and personalities. But just as often it lies beyond them in the relationships and spaces between us, and the contexts which locate us. And as the dialectical conception highlights, creativity moves and flows. It moves within us all because it flows between us all. And because it flows between us all, it connects us to each other through collective meanings and purposes, especially when it is expressed through the planting of flowers to prevent children from being blown up by landmines. By overcoming the individualist conception of creativity, and by seeing that as grounds for a more explicit conversation about how it works, we can generate more conscious reflections on this movement and flow so as to help students better appreciate what is entailed in developing their own sense of creativity upon which to secure their particular career.

We do not argue for this as a replacement for the more individual student-centred and discursive approaches to teaching specific to any particular design disciplines. Rather, we see this as a compliment to those approaches, as a way of stressing broader conceptions of creativity and the usefulness of considering what a reflective creative practice looks and feels like. Ultimately, we do not claim that we could ever fully teach what creativity 'is'. We do, however, believe in the usefulness of stimulating such open and explicit conversations with students about processes of creativity, what it is that shapes them, how we might reflect upon those processes and so come to know our creative selves more fully, before during and after we ask them to engage in any particular creative task geared towards the demonstration of a particular creative project.

The extent to which this is applicable to other teaching disciplines within the higher education sector is not really for us to say. We suspect that it holds potential for the teaching of any discipline which is geared towards experimentation, innovation, open-ended exploration of new ideas and the like. We certainly do not see such issues as pertaining only to 'the arts' and can readily appreciate how some of this debate might hold relevance for STEM subject areas. But we claim no expertise in the craft of teaching other disciplines. Perhaps the broader applicability of all this depends on the degree to which other teaching disciplines value exploratory thinking in comparison, learning the paradigmatic canon around which said discipline coheres. Perhaps it depends on the relative degree to which student-centred, discursive teaching on the one hand and more lecture-based teaching methods on the other are current within those teaching and learning regimes. We can only really talk about our own teaching practices, within our own discipline, as the one we have some expertise in. It seems to us that grasping the potential for a more explicit discussion of creativity as the basis for a reflective creative practice is a useful compliment to the individual student-centred discursive teaching methods which are currently the norm. Broadening this discussion out to challenge the unspoken assumptions of the individualistic conception of creativity which underpin this norm is an unavoidable corollary of this. Together, we argue, these two facets offer potential for an improvement in the teaching of creativity.

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