

The zoo of the new

Andrew P. Allen looks at organisational innovation in universities in the latest in our series for budding writers (see www.bps.org.uk/newvoices for information)

Despite the image of the university as a hub of learning and imagination, many of its inhabitants feel that they are failing to use their creativity to bring about something useful. They may look at their research and see the same technique being applied to trivially differing questions. Others read through a syllabus, see that it's not engaging but do not know what to do with it. And yet pressure to be more innovative seems to be everywhere. For example, on the 'New technology, innovation and skills investment' webpage of the Economic and Social Research Council (ESRC, 2009), they note that much of the UK's value added is coming from high-tech manufacturing and, more relevant for psychologists, knowledge-intensive services. Here, I will contrast creativity and organisational innovation (OI), discuss some factors that may help or hinder OI, discuss potential political tensions between creativity and OI, and suggest possible areas where OI may be useful.

Creativity versus organisational innovation

Most theorists of creativity (though not all: see Weisberg, 2006) suggest that the main criteria for creativity are *novelty* and *usefulness*. But we're interested here in creativity in an organisational context that benefits the relevant organisation, or *organisational innovation(s)* (OI). Creative ideas need to overcome organisational

barriers in order to manifest themselves as innovation (see De Dreu et al., 2011).

Simonton (1988) has argued that creativity requires social persuasion, and figuring out how to make an idea appeal to others can certainly contribute to the creative process. Indeed, Boden (e.g. 2004) has argued that constraints are what make creativity possible. Constraints on thinking create a conceptual map of creative possibilities; breakthroughs can come by explorations of these conceptual spaces (and their boundaries, where the rules may be bent). Turning one's idea into OI will create new constraints (e.g. 'my colleagues need to understand this idea'), and these can help to refine one's thinking.

OI and creativity in psychology

As scholars of the mind, we should be able to generate useful ideas and apply knowledge about creativity to our own work. Take two examples of relevant research. Firstly, surveys of R&D employees have found that time pressure hinders creative outcomes, but only in organisations with a strong innovation climate (Hsu & Fan, 2010). For universities that have committed themselves to fostering such a climate, this has clear implications. Secondly, a series of experiments by Polman and Emich (2011) have indicated that thinking on behalf of others tends to lead to more creative thinking. Asking colleagues for their opinion may thus lead

to more original work if one takes their advice. However, people who give advice may find their own creativity stifled, perhaps due to inflated belief in their own approach (Mueller & Kamdar, 2011).

Empirical research on creativity is obviously useful, but broader psychological theories of creativity can also contribute to the debate. Both Boden (2004) and Weisberg (2006) have argued that ordinary thought processes are sufficient for the creation of creative ideas. The implication is that most people have the potential to develop OI – someone's creative ability shouldn't be written off just because they do a particular type of work.

But if anyone can be creative, why aren't we all coming up with amazing ideas? Both Boden and Weisberg have also argued that one must spend a long time developing expertise in a field before one can make a major creative contribution. Perhaps the current vogue for short-term contracts in higher education is an impediment to creativity?

Alternatively, moving on could help in the development of expertise and creativity, particularly if your career takes you to new horizons: people who have spent time living abroad tend to perform better at creative thinking tasks (Maddux & Galinsky, 2009). Moving to a new lab or department may bring a novel approach to a research question or invention that's under development (Evans, 2005). This could remove a key barrier to problem solving: functional fixedness, or thinking about an object in terms of its typical function, when a solution requires one to think about it in a different way (Duncker, 1945). Functional fixedness can be difficult to overcome: Jansson and Smith (1991) demonstrated that engineers and engineering students included a bad aspect of a prototype when asked to create a new design, even though they were instructed to avoid this bad aspect. Perhaps even if new colleagues do not spot an idea by themselves, their relatively naive questions may make the

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more experienced members of staff look at a problem in a different way.

Useful insights may also strike due to opportunistic assimilation (see Seifert et al., 1995). This is where one encounters useful concepts that help to further an idea when one is *not* in the midst of trying to develop the idea. For example, a group of behavioural scientists who undertake to learn more about the organisation of the brain may, during this process of learning, get the inspiration for a new piece of experimental equipment for their animal lab. However, opportunistic assimilation is more likely to occur when a problem has been deeply considered, although not fully resolved. Consequently, the more one has considered an issue, the easier it is for opportunistic assimilation to occur. It seems one simply has to juggle working hard at a major project while staying abreast of other developments.

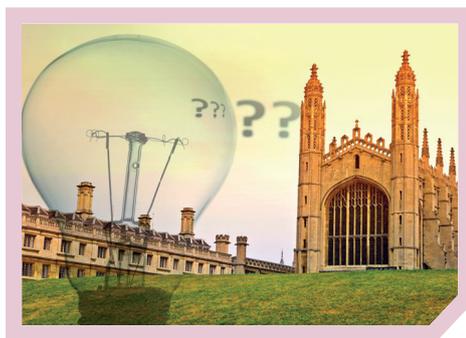
Many psychologists have already shown opportunistic assimilation by involving themselves in the emergence of multidisciplinary areas (cognitive science and behavioural economics are fecund examples). Consider the tension between organisational psychology and economics over how to handle job security. Organisational psychology has found that psychological security can foster innovation (see West, 2000, for a discussion), while many economists encourage a push for increasing labour market flexibility. Alsop (1996) suggests that enhancing employability (as opposed to job security) may help to ease this tension somewhat. Questions like these have clear social relevance; the upshot is that the dialogue between psychology and other disciplines should help universities to increase their influence.

Left, right, left, right

Some may perceive the drive towards OI in academia (rather than creativity in general) as a ham-fisted attempt to turn university staff into (1) lapdogs for

industry, rather than its collaborators, and/or (2) administrators that are expected to make their institution run more smoothly instead of pursuing their intellectual ideas. If either of these concerns is true, the creativity of university staff may be stifled.

The first anxiety may turn to panic with the funding for 'blue skies' research beginning to feel the pinch under the latest UK government – this in a context where people have already suggested that public/private collaborations may not be in the public interest (James, 2002). Where such collaborations go sour, the second anxiety may be vindicated if university researchers find themselves spending their time organising the collaboration instead of staying at the coalface of research. Although there is an argument that innovation only needs to be original for the organisation



implementing it (e.g. De Dreu et al., 2011), my own fear is that the label 'Innovation' could undermine radical, groundbreaking creativity in research – is there still anything original about universities assisting in clinical trials for pharmaceutical companies?

Although the encouragement of OI may be driven by a desire to increase income, much of the creativity of psychologists in universities does not translate into financial gain. Let's say one puts a newly developed questionnaire online for free. If many other researchers/clinicians use it, then clearly

this is a successful idea, whether or not it is actually making anyone rich or helping one's own university to top some league table. It should not surprise us that creativity is not always 'cashed in'; research (albeit with children) found that more creative ideas are driven by intrinsic motivation (from within), rather than extrinsic motivation (from others) (Amabile, 1982). Recent research has indicated that intrinsic motivation should be important for radical creativity in particular, but extrinsic motivation drives more incremental, step-by-step creativity (Gilson & Madjar, 2011). It seems that the most creative ideas may come about when people are allowed to pursue their passion.

An invitation

Realistically, 'hard science' departments will probably continue to dominate in terms of technological innovation. But psychology departments, and certainly their members with an interest in positive psychology, creativity, or problem solving, can play a key role in turning their universities into environments that create OI and foster it in others. At a broad level, here are some challenges:

- ! How can the cognitive and social psychology of creative thinking be applied to research, invention and teaching?
- ! How can we involve students to a greater extent in the evolution of learning and research processes?
- ! How can we develop systems that structure and organise our research without excessively slowing it down?

Clearly, answering some of these questions will be a lot easier if we work with administrative staff and researchers in education.

Fostering a general potential for creativity in universities may not be as immediately rewarding as coming up with the latest industrial advance. However, I hope that all this does not just sound like an appeal to pure altruism; to paraphrase Jack Nicholson in *The Departed*, your job is most rewarding when you are not a product of your work environment, but rather your work environment is a product of you.



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