

## Credne 2.4

# Fostering Creativity: Modelling creativity to students

**If you want students to be creative it will help if you let them see examples of what creativity – process or product – actually looks like.**

## What is it?

**The short version: Exposing students to models of creativity in action – especially the cognitive processes involved – and encouraging them to pay evaluative attention to the creativity of their peers.**

We all have experience of **observational learning** – picking up how to do something by watching others doing it. On the first day in a new job, a more experienced colleague shows us how to complete a certain task: they *model* it for us. We then repeat their actions while they monitor to make sure we've got it right – and away we go! But we don't always pause to reflect on just how huge a role modelling plays in the way we learn. Chances are you know exactly how to format a business letter, or how to write a limerick. But these aren't instinctual skills you were born with. If you'd never been exposed to a *model* of a business letter or a limerick, then you'd have no idea how to produce one for yourself.

There are various different varieties of modelling. The most basic is **task and performance modelling** (like when a colleague shows you how to log in to the IT system on your first day at work). But more significant when it comes to creativity are **metacognitive modelling** and **student-centred or peer modelling**. We'll come back to these later.

Contemporary ideas around the role of modelling in education have their roots in **Albert Bandura's Social Learning Theory** (if you want to find out more, here's [the original](#); and here's the [simplified version](#)). Bandura developed a lot of his own

approaches to modelling through helping people to overcome a fear of snakes!



Here's David Kelly of IDEO [talking about Bandura's theories in the context of building creative confidence](#).

When it comes to creativity, most people would recognise the value of exposing students to good examples of creative products. You'd probably make a point of showing art students brilliant pieces of work by others; and you'd likely share examples of innovative engineering with engineering students. But for Bandura, **simple exposure to a good example of something isn't really enough**. The learner needs to be actively engaged and motivated, and the process itself needs to be expertly articulated.

## The impact of modelling on creativity

The good news is that there is plenty of solid evidence that **deliberate exposure to modelling has an impact on creative outputs amongst students**. There were studies of the effects of modelling on creativity [as far back as the 1970s](#). The traditional research method has involved showing students (usually children, though the principle applies to all ages) videos of a model exhibiting some kind of creative behaviour – making something original from a cardboard box, for example. The researchers then give students a similar but non-identical task to do for themselves, and then applying a [Torrance Test](#) to the outcomes. The students who've been exposed to the video usually do better than the control group.

More recent variations of the experiment – such that organised by [Groenendijk et al \(2013\)](#) – have dug deeper into the effects of different types of modelling. Other researchers, such as [Yi, Plucker and Guo \(2015\)](#), have looked at the impact on different types of creativity – specifically in this instance, **divergent thinking** and **artistic creativity**, concluding that yes, exposure to modelling boosts both!

So, **modelling creativity works**. But what does that mean in practice – if you want to do more than simply show students a video of someone making something original from a cardboard box?

## Metacognitive modelling

**Metacognition simply refers to thinking about your own thought processes – or more precisely, recognising and understanding them.**



Here's [a fun video introduction to metacognition](#) – and misconceptions about it – from the University of Colorado Boulder.

Here's why metacognition matters for creativity: **if you create something and then say, "I've no idea how I did that!" then there wasn't much metacognition at play, and you might find it difficult to repeat the process.**

The idea of **metacognitive modelling** goes back to Bandura, who recommended a **"thinking-out-loud approach"**. This is exactly what it sounds like: a lecturer demonstrating something, or leading a whole-class process (the analysis of a piece of text, for example), **talks through the thought process involved**. Instead of simply telling students that a particular line in a Seamus Heaney poem could be interpreted as X, the lecturer says something like, "I wonder what he means there? I suppose if I think about it in the context of Y, it could be read as a reference to X. But how else could I read it?"

When it comes specifically to creativity, metacognitive modelling underpins the approach that [Norman Jackson and Christine Sinclair \(2006\)](#) call **"cognitive apprenticeship"**. (Jackson and Sinclair didn't actually come up with that term – developed by [Colins, Brown and Newman](#). But they have helpfully moved it into the specific context of creativity in higher education.)

Jackson and Sinclair say:

A good way to help students learn about creativity is for a teacher to reveal their own creativity and show students what it means to them in their own practice (2006, p.130)

To be clear, this does not mean that the lecturer should just be showing off their own creativity at the front of the class:

[S]howing students what [creativity] means is not enough. We have to help them articulate and construct **their own**

**meanings of creativity** for the contexts in which they are studying and learning. And we have to show them that we value their understandings rather than simply our own. (2006, p.130)

It's also important to recognise the difference between an authentic model of creativity, and a **worked example**. The latter is essentially a step-by-step guide to a problem-solving process – which can certainly be useful in many situations, but not for fostering genuine creativity. Warren Haston (discussing music teaching, though what he says applies to creativity too) notes that **when used inappropriately, modelling "can be a crutch that actually prevents students from learning" (2007, p.26)** – or certainly from properly developing their own individual creative capacity. At worst, it can degenerate into a kind of rote learning – and there's not much creative about that (this, arguably, is what sometimes happens with Pie Corbett's "Talk for Writing" model, which is very widely used in English primary schools).

**Always keep in mind, the ultimate aim when modelling creativity is not to encourage students to repeat the same process, but to use your example as an initial model for a different process of their own.**

## But what if I don't think I'm a very good creative role-model?

Firstly, this whole idea rests on the **principle of cognitive openness**, rather than on any individual lecturer being a paragon of creativity. Secondly, you don't have to be the originator of a particular model; you simply have to *present* it to students. As Yi, Plucker and Guo (2015) note, "most studies appear to support the hypothesis that seeing a model who exhibits creative behaviors **or a set of written examples which presents creative responses** can increase [student creativity]." **Ideally, what you need to share, is not just an example of a creative product, but something of the process that produced it.** Here's an example of an example.

### Notebooks to the rescue!

In the 1980s, the writer [Bruce Chatwin](#) was trying to work out how to convey complicated notions

about the origins of language and the human propensity for travel within an ostensibly very simple, semi-fictional story about his travels in Central Australia. Unsurprisingly, it proved tricky. He had a stack of notebooks, which he'd filled over the years with observations and ideas about his "big theme". But whenever he tried to splice them into his narrative, it collapsed under their weight. But then, while working on the umpteenth draft in a hotel room in Greece, he came up with a possible solution: what if, instead of trying to weave the ideas from the notebooks *into* the narrative, he inserted the notebooks themselves into his story? So, he pulled excerpts from the notebooks, arranged them artfully to give a sense of logical progression though not an overt narrative, and included these arrangements as discrete sections between his more conventional narrative chapters. It worked, brilliantly, and the book ([The Songlines](#)) was a bestseller. What's more, the story of Chatwin's notebooks eventually provided the inspiration for the very successful Moleskine stationary brand!

If you wanted to encourage a group of creative writing students to experiment with narrative form beyond standard conventions, you could simply give them Chatwin's book and tell them to go and read it, hoping it might inspire them. But sharing with them **the story of how** the author created it also gives them access to a model of the creative process.

There are myriad other possible examples. You could simply show students a few slides about the Toyota Lexus as a nice example of successful automotive engineering. Or you could share with them the [story](#) of how the designers responded creatively to the seemingly impossible constraints placed upon them by the company's chief engineer and thus came up with something innovative.

The use of examples like this as models draws on **storytelling techniques** ([see Credne Workshop 2 for more on storytelling](#)) – but that's another story!

## Peer modelling

Groenendijk et al point out that "Learning by observation involves more than just watching models. A crucial element is **evaluation**" (36). And that evaluation process, if open, encouraging of

metacognition, and involving **peer input** rather than just the "expert" judgements by a lecturer, can become a particularly valuable kind of modelling in its own right.

Students show you – and each other – how they are being creative; they **model their own creative processes**. What possibilities did they consider and discard? Where did the eventual idea come from? We need, say Jackson and Sinclair, "to develop students' capacity to recognise and capture their own creativities and help them make claims that can be substantiated. **They have to be critical evaluators of their own creativity**" ([2006, p.130](#)).

And a learning environment full of openly displayed, metacognitively narrated creativity is likely to be self-fostering. We'll leave the last word on that point to Yi, Plucker and Guo:

It is difficult to imagine a highly creative individual who is completely isolated from other creative people, or, more broadly speaking, isolated from other creative behaviors or a creative environment ([2015, p.62](#))