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TEACHING CREATIVELY AND FOR CREATIVITY

CREATIVITY AND CREATIVE THINKING IN SCHOOLS: AN OVERVIEW

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Creative Thinking is what you do when you are being creative and creativity is the outcome of this. Creative activity is that which is purposeful, generates something which is to some degree original and of value. Almost always creative thinking is a social activity and almost always it takes place in response to an issue or problem facing an individual or group. Creativity is a well-researched concept and one increasingly attracting attention in national curricula across the world.

A brief history lesson

The study of creativity is some seventy years old. Most researchers trace its beginnings to the work of Joy Paul Guilford in the middle of the last century (1950). Guilford suggested that there are two kinds of thinking: convergent (coming up with one good idea) and divergent (generating multiple solutions). Building on this line of thought Ellis Paul Torrance (1970) developed four sub-categories – fluency, flexibility, originality and elaboration. Each of these might be applied in our example as an indication of the degree of Creative Thinking being employed.

More recently Robert Sternberg (1996) has argued that creativity is three-dimensional. It requires synthesising (the ability to see problems in new ways and escape from conventional thinking); analysing (being able to recognise which ideas are worth pursuing and which are not); and contextualising (having the skills in different settings to persuade others of the value of any specific idea).

Of course creative thinking is both a solo and a collective activity, most often having a social component. It can be viewed as domain-specific (being creative in a scientific context, for example) or domain-free (being creative in any situation). Anna Craft reminds us that while only a few may aspire to be an exceptional genius, all of us can show a more ordinary form of creative thinking, that she termed 'little c creativity' (2001).

Donald Treffinger (2002) found 120 definitions of creativity and helpfully grouped them into four broad categories – generating ideas, digging deeper into ideas, openness and courage to explore ideas and listening to one's inner voice.

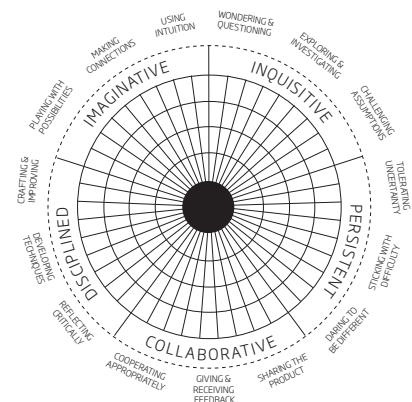
Global interest in creativity

There is growing interest in the importance of creativity in society. Organizations and societies increasingly depend on innovation and knowledge creation to address emerging challenges (OECD, 2010). Importantly creativity is a universal and democratic phenomenon with everyone to a greater or lesser degree having the potential to be creative (Lucas, 2016).

The World Economic Forum (*The Future of Jobs Report, 2016*) listed complex problem-solving, creative thinking and creativity as the top three skills which will be needed in 2020. In the UK the Confederation of British Industry has argued for the importance of curiosity and creativity (CBI, 2012). Martin Seligman and Mihaly Csikszentmihalyi (2000) make a powerful argument for the positive links between creativity and well-being. Indeed there is a general consensus among psychologists, economists and educators alike that creative thinking can also promote personality development, academic achievement, and future career success (Long and Plucker, 2015, Heckman & Kautz, 2012).

In 2011 we were commissioned by Creativity, Culture and Education to produce a synthesis of existing research (Spencer, Lucas, & Claxton, 2012) and develop a definition of creativity which might be robust enough but also practically useful in schools, Figure 1.

Figure 1 – The Centre for Real-World Learning's Five Dimensional Model of Creativity



¹ This article draws on earlier published papers and a recent book, *Teaching Creative Thinking: Developing learners who generate ideas and think critically*. It was the basis of a lecture to Eton staff given by Bill Lucas on 16 April 2018.

Published by the OECD (Lucas, Claxton, & Spencer, 2013) this five dimensional model frames creative thinking as a set of five creative habits of mind:

Inquisitive – Creative individuals are good at uncovering and pursuing interesting and worthwhile questions both in a specific context and more generally. Not simply being curious, creative individuals pose concrete questions about things to help them understand, and develop new ideas. Questioning things alone does not make a creative thinker. Creative individuals act out their curiosity through exploration and follow up on their questions by actively going out, seeking, and finding out more. It's important to maintain a degree of appropriate skepticism, not taking things at face value without critical examination.

Collaborative – In today's world complex challenges require creative collaboration. Creative individuals recognize the social dimension of the creative process. Creative outputs matter, whether they are ideas or things creating impact beyond their creator. Creative thinkers want to contribute to the ideas of others, and to hear how one's own ideas might be improved. The creative individual co-operates with others taking into account the nature of the group, the kind of problem and the stage at which the group has reached.

Imaginative – At the heart of creative thinking is the ability to come up with imaginative solutions and possibilities. Developing an idea involves manipulating it, trying it out, and improving it. Seeing new links between ideas is an important aspect of the synthesizing process of creative thinking. The use of intuition allows individuals to make new connections tacitly that would not necessarily materialize given analytical thinking alone.

Persistent – Creative individuals do not give up easily. Persistence in the form of tenacity is important, enabling an individual to get beyond familiar ideas and come up with new ones. Creative thinking demands a certain level of self-confidence as a pre-requisite for sensible risk-taking. Being able to tolerate uncertainty is important when actions or even goals are not fully set out.

Disciplined – Creative Thinking, like any 'subject' requires knowledge and skill in crafting and shaping the creative product or process. Creative thinkers practice a range of conceptual and practical skills in order to improve. Evaluation is the way in which progress can be seen and understood and the quality of new ideas or novel thinking can be checked. Taking pride in work, attending to details, practising and correcting any errors are indicators of the higher levels of creative thinking.

DEVELOPING CREATIVITY IN SCHOOLS IS CHALLENGING LARGELY BECAUSE THE UNITS OF CURRENCY IN SCHOOLS ARE THE SUBJECTS WHICH APPEAR ON THEIR TIMETABLES – ENGLISH, MATHS, HISTORY, ART AND SO FORTH.

Creativity in schools – chalk and cheese?

Developing creativity in schools is challenging largely because the units of currency in schools are the subjects which appear on their timetables – English, maths, history, art and so forth. Students' experience, at least at secondary level, is mediated by the knowledge and skills associated with a particular discipline. Creativity and creative thinking, on the other hand, are necessarily interdisciplinary and require a very different conception of the purpose of schooling. These dilemmas have been sharply exposed in Sir Ken Robinson's celebrated TED talk (*Do Schools Kill Creativity?*, 2006) where an argument is made that school's, essentially industrial paradigm intent on producing identically knowledgeable pupils should be thrown out in favour of one which favours personalised learning designed to develop students who can think for themselves.

Of course creativity and disciplinary knowledge need not be seen as binary opposites. Indeed evidence, both theoretical and empirical (Lucas & Spencer, 2017), suggests that that they should not be. We learn to think creatively in a range of different contexts, not in the abstract. In a school setting these might form part of the school timetable or appear in its extra-curricular activities. Creativity can be both taught and caught, learned by using certain teaching methods which encourage it, and experienced through the medium of informal activities which promote opportunities for its expression. Importantly it is subject blind, just as likely to be part of a science lesson (think Hadron Collider beneath the border of France and Switzerland) as well as the more obvious opportunities afforded by the arts.

CREATIVE THINKERS PRACTISE A RANGE OF CONCEPTUAL AND PRACTICAL SKILLS IN ORDER TO IMPROVE.

Recently there have been exciting developments. A fourteen country OECD-CERI research project exploring the feasibility of teaching and assessment of creative and critical thinking has developed compelling evidence and many promising practices. A similar proof of concept has been established in more than 500 Welsh schools which are using the Centre for Real-World Learning's model of creativity in a national project supported by the Welsh Arts Council. Most powerfully the OECD has announced that the PISA innovative domain test in 2021 will be a test of creative thinking with Bill Lucas as the co-chair of its strategic advisory group. It is a well-known if slightly depressing phenomenon in education that, once a topic is deemed worthy and capable of being assessed, school leaders and teachers start to take it more seriously.

Creativity and creative thinking matter for their own sake. But there are promising signs that it may also improve performance in other valued areas of education. Leslie Gutman and Ingrid Schoon, for example, recently reviewed the evidence (Gutman & Schoon, 2013) and concluded that creativity, perseverance and various metacognitive strategies which we have described in our model of creative thinking improve outcomes for learners. Various other studies have shown the benefits of specific aspects of creative thinking such as these three examples:

- Curiosity and being inquisitive (Friedman, 2005)
- Persistence, perseverance and grit (Duckworth, Peterson, Matthews, & Kelly, 2007)
- Giving and receiving certain kinds of feedback (Hattie & Gan, 2011).

There is, in short, much about which to be cheerful. A well-established concept – creativity – is increasingly being embedded in the whole life of schools, with a growing body of evidence about how best it can be taught and learned and with growing understanding about how we can track the development of creative thinking in all young people more precisely and usefully.



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