Teaching for Creativity in the Australian Curriculum Classroom

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Introduction

> "The Australia of the future has to be a nation that is agile, that is innovative, that is creative."
>
> —Prime Minister Malcolm Turnbull

Creativity is a hot topic today. It is listed as an essential 21st century skill, and widely acknowledged by schools, organisations and leaders as vital to individual and organisational success (Beghetto & Kaufman, 2013; Kaufman, 2009). But despite creativity's recognised potential, many teachers and administrators are not quite sure what exactly it is, how it can be taught and nurtured, and whether it is even possible to assess.

As is the case in the American educational system, articulated in the US edition of this book, there is a conflict in Australia today between the desire for school education to prepare students for life in a rapidly changing world after school, and the "need" for a national system of education that utilises standardised testing outcomes. This conflict is at the core of teaching practice today, leading many teachers to ask: how can these two seemingly opposing needs be reconciled?

Australia is one of a number of nations, other examples including Scotland, Iceland, South Korea and Singapore, attempting to explicitly include creativity in their national curriculum, though each of these countries has taken a different approach toward its implementation. The national curriculum of Iceland states that "creativity disrupts traditional patterns, rules and systems and shows phenomena and received ideas in a different light." (Ministry of Education, Science and Culture, 2009), and in the United Kingdom "creativity is increasingly recognised as an essential higher order skill for learning, life and work" (Education Scotland & Creative Scotland, 2016).

It is worth noting that national curricula predominantly focus upon the cognitive aspects of creativity. Their definitions and applications refer to a set of capabilities or skills, and do not reference broader aspects which may enhance creativity, such as the learning environment, the student's physical and psychological state, or the student's motivation, all of which have significant influence on the capacity for, and use of, creativity. It is therefore understandable that teachers may believe that, despite creativity being given a place in new curricula, creative thinking skills will be just another "subject", or discrete body of knowledge, to be jammed into an already crowded curriculum. This book looks at creativity in its broadest sense, and, in doing so, attempts to demonstrate that it has a useful and relevant place in school education.

In the Australian Curriculum, Critical and Creative Thinking is listed as one of seven general capabilities that are explicitly developed as the student moves through school.

> In the Australian Curriculum, the general capabilities are addressed through the content of the learning areas. General capabilities are identified where they are developed or applied in the content descriptions. They are also identified where they offer opportunities to add depth and richness to student learning via the content elaborations, which are provided to give teachers ideas about how they might teach the content. Icons are used to indicate where general capabilities have been identified in learning area content descriptions and elaborations. (ACARA, 2014)

This statement could easily be interpreted as meaning that, despite the statement that skills are important, it is ultimately content knowledge which will be measured. Further analysis of the general capabilities documentation does little to allay this concern.

The introduction to the Critical and Creative Thinking section of the Australian Curriculum website focuses primarily on the cognitive processes:

> Critical thinking is at the core of most intellectual activity that involves students learning to recognise or develop an argument, use evidence in support of that argument, draw reasoned conclusions, and use information to solve problems. Examples of critical thinking skills are interpreting, analysing, evaluating, explaining, sequencing, reasoning, comparing, questioning, inferring, hypothesising, appraising, testing and generalising.
>
> Creative thinking involves students learning to generate and apply new ideas in specific contexts, seeing existing situations in a new way, identifying alternative explanations, and seeing or making new links that generate a positive outcome. This includes combining parts to form something original, sifting and refining ideas to discover possibilities, constructing theories and objects, and acting on intuition. (ACARA, 2014)

While these explanations are clear, it is not certain how developing these skills will be applied in a practical way towards lessons, particularly when the standard product of learning is a written test. The introduction continues:

"The products of creative endeavour can involve complex representations and images, investigations and performances, digital and computer-generated output, or occur as virtual reality."

While this may also be true, particularly in the arts, the traditional approach to standardised testing in most other subjects, a written test, remains the same. The National Assessment Program – Literacy and Numeracy (NAPLAN) is an element of Years 3, 5, 7 and 9 standardised testing in all Australian schools, but there are no clues within the Australian Curriculum documentation as to how Critical and Creative Thinking can be integrated effectively within a standardised testing framework. With the Australian Curriculum leading inexorably toward the standardised testing of secondary school subject matter, whether in state systems, or the International Baccalaureate taking the lion's share of the time, attention and resources of schools, creativity can seem like one more piece to be crammed into an already overcrowded curriculum. It is easy for teachers to see the educational path laid out for students as being one of meeting NAPLAN results until Year 9, and Year 12 results thereafter. One of the key objectives of this book is to assist teachers, and students, in successfully negotiating this path of standardised testing.

Following the introduction, the Australian Curriculum presents the "Key Ideas":

> The Critical and creative thinking learning continuum is organised into four interrelated elements, each detailing differing aspects of thinking. The elements are not a taxonomy of thinking. Rather, each makes its own contribution to learning and needs to be explicitly and simultaneously developed.
>
> - Inquiring – identifying, exploring and clarifying information
> - Generating innovative ideas and possibilities
> - Reflecting on thinking, actions and processes
> - Analysing, synthesising and evaluating information. (ACARA, 2014)

This section is clear in its language, but it does require a shift in mindset as to the purpose and process of education for many teachers. For some, this style of teaching will require less didactic instruction, and a more collaborative approach within their classroom. This book offers ways to move toward collaborative learning by offering an understanding of the entire process of creativity, and not just its cognitive components. Therefore it is important that we examine the relationship between creativity and content development.

The potential conflict between creativity and content is part of long-standing disputes about the relationship between learning content and learning to think more effectively. It is also related to enduring questions about the possibilities of transfer of learning, and teaching to promote such transfer. We won't pretend that those disputes have been settled, but in recent years it has become clear that thinking depends quite heavily on prior knowledge, that mistakes in everyday critical thinking are more often the result of a faulty premise (i.e. incorrect factual knowledge) than a lack of general problem-solving skills and that teaching for transfer requires a great deal of context-specific training or practice in any domain to which transfer is desired.

Content knowledge is essential to thinking – one cannot think in a content-free vacuum – so teaching content-free thinking skills is impossible. This is as true in teaching creativity as it is in teaching any other thinking skill. To teach a creative cognitive skill like divergent thinking requires focusing on something in particular (content). Higher-level thinking often requires automation of lower-level skills. To improve students' thinking (including creative thinking) in a given domain, teachers must provide factual content about that domain as well as develop students' domain-specific cognitive skills. So we must teach students content knowledge if we want to improve their thinking. Conversely, the best way to teach content knowledge is to get students to think about the subject in some way – to become actively engaged with the content. But this, a consistent finding of cognitive and educational psychologists, doesn't quite tell us how to teach; after all, we hope that no one is really arguing in favour of the mindless rote memorisation of unconnected facts.

Today, most educators are constructivists, at least in the most basic sense. That is to say that learning requires a student to construct or create meaning based on experiences in their own mind. Being actively engaged with the content to be learned means active cognitive engagement. But the need for active cognitive engagement does not address such diverse methods as reciprocal teaching, discovery learning, cooperative learning, listening to a lecture (which, if one is actually listening, requires attending to and interpreting the material in terms of what one already knows and leads to assimilation of knowledge and accommodation of new cognitive structures) or even sitting quietly reading a book. Research shows that learning requires active cognitive engagement and that meaningful learning is more effective than mindless memorisation of uncomprehended facts. Thus, an emphasis on content knowledge does not conflict with an emphasis on active processing of information; in fact, one requires the other. It is fortunate for Australian teachers that the Australian Curriculum offers some clues within each learning area as to how creativity can be included.

Within each learning area domain on the Australian Curriculum website, there is a series of symbols which indicate that a particular content description (and its elaborations) lends itself to developing or applying one of the seven general capabilities, including Critical and Creative Thinking.

The implication of focusing on content knowledge and skills is the same for creativity as it is for other kinds of thinking. Having richer and more extensive content knowledge and skills should support, not detract from, creative thinking, just as such knowledge and skills support other kinds of thinking. Domain-specific knowledge and skills are also crucial for the more garden-variety creativity that all of us share to varying degrees. Many of our creative-thinking abilities are fairly narrow in their application. For example, even the cognitive skills underlying creative performance in writing short stories and in writing nonfiction appear to be surprisingly different (e.g. Kaufman, 2002).

So creativity requires skills and knowledge (as promoted by the Australian Curriculum), but how does teaching for creativity promote the acquisition of such knowledge and skills? Let's look at a very practical application of the more abstract idea that teaching for creativity can promote acquisition of subject skills. Consider the most widely taught creative thinking skill: divergent thinking. In the English curriculum for Year 5 students may do the following:

> Show how ideas and points of view in texts are conveyed through the use of vocabulary, including idiomatic expressions, objective and subjective language, and that these can change according to context. (ACARA, 2014)

What better way than by having students brainstorm words that belong to particular characters or authors, each with their own perspective?

Another example comes from Year 10 Mathematics:

> Use scatter plots to investigate and comment on relationships between two numerical variables.

The particular elements of Critical and Creative Thinking addressed by this content description:

- Inquiring – identifying, exploring and organising information and ideas
- Identify and clarify information and ideas
- Organise and process information.

Doesn't this seem like a prime example of creative thinking that requires not only content knowledge, but also what Bloom (1956) would have termed "application and synthesis"? Both of which are key components of creative thinking. Creativity requires the skills and knowledge that the Australian Curriculum is designed to promote, and teachers can and should use creative-thinking activities as ways to help their students learn the skills and knowledge while addressing the requirements of the national or state curriculum. A marriage made in heaven? Well, not exactly – as we said, there are times when teaching for creativity and teaching for the Australian Curriculum will be at odds (we will explore ways to deal with these instances later), but most of the time they fit together like the foreground and the background of a landscape painting. Which is foreground and which is background? It depends on the particular situation, but the basic answer is both: creativity can provide the background to help students gain knowledge and skills in a given learning area, and a Creative and Critical Thinking skills background provides many of the tools students need to help apply their creative thinking.

A key feature of this book is the demonstration that creativity is a common thread which joins many subjects in terms of concepts. As students develop through their journey of schooling, the tendency has been to separate learning areas into their own silos of knowledge. Creativity provides conceptual and contextual links between not only the learning areas, but also with students' lives outside of school.

Most readers of this book already value helping students develop their creative thinking skills, so we will only briefly highlight the importance of teaching for creativity. Some such defences, though well-intentioned, can use the wrong arguments. For example, one common refrain is that we need creativity to grow our economy. Although it is true that creative workers will boost the economy, using this point as a primary selling point leaves one vulnerable to critics who argue that creative writing programs probably won't grow the Gross Domestic Product (GDP) and should, therefore, be scrapped.

We believe that creativity is a good thing, both unto itself and for the myriad positive attributes associated with it. As we have elaborated elsewhere (Kaufman & Baer, 2005; Kaufman & Beghetto, 2009, 2013a, 2013b), creative people tend to respond better to trauma and stressful situations, be in a happier mood, advance higher in their jobs and generally are more likely to succeed. While creativity can also be used in the service of malevolent deeds (Cropley, Kaufman & Cropley, 2008) – in ways that can range from terrorists who use creative means to destroy things to criminals who use creative techniques to con people out of money (Cropley, Cropley, Kaufman & Runco, 2010) – we believe creativity is primarily a benevolent concept that brings good to the world and our individual lives.

In the chapters that follow, we discuss common conceptions and challenges facing teachers interested in promoting creativity, discuss relevant theories and research on creativity in the classroom, and highlight ways to maintain creativity while following the Australian Curriculum and its Critical and Creative Thinking capability. We will also demonstrate that creativity lies beyond the narrow focus of thinking skills, and is readily and easily applicable in other ways in the classroom. Creativity is the classroom environment, how teachers view a creative student, how teachers and students investigate the processes of creativity, and how results of creativity can be more than test scores.