

SCAMPER

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REVISITED



FROM
IMAGERY
TO
ARTEFACTS

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REVISED EDITION
FOR THE AUSTRALIAN CURRICULUM



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RATIONALE



To create new, we must explore the familiar with ease.

Many people say they are just not the creative type. They do not readily display the hallmarks of a creative thinker.

I may just as easily say I can't make my own pasta because I'm just not Italian. But, I could study, I could practise specific things, I could learn how to speak Italian and I could learn how to cook like one. So while I will never actually be Italian, I will become closer to that goal by possessing important elements of it. Likewise, people can and do – I've seen it – work hard at specific thinking tasks and become more creative. Do these self-proclaimed "uncreative" types know of this possibility?

Perhaps they do know. Perhaps they realise that creative thinking is supposed to result in a change, something useful, some discernible improvement. Results. But that sounds like a lot of work!

Convincing adults to begin a journey to become creative may be a hard sell. Most adults are set with their career and don't see the necessity to change. But what about children? They are the perfect, mouldable targets. They are the focus, and their schools are where the change in instruction should happen.

So as teachers, we have a three-pronged issue ahead of us:

- Convincing some people that they can be more creative.
- Carving out the time in a very packed school curriculum to teach creative thought.
- Considering the nuts and bolts of actually teaching creative thought.

You Can (and Should) Be More Creative

Creativity is driving the economy in the 21st century. Business leaders need creative thinkers. Sometimes skill training in certain areas isn't as important as an intelligent person who can think in an unusual way. Most countries in contention for the world's consumer money have the same capability to manufacture various products as their competitors. What will set them apart from each other are the new ideas that spur new products. Who will not only identify a need or problem, but will come up with a new solution for it? It's a global race for our dollars and patronage.

Politicians worldwide are also getting into the creativity business, with two states in the US having already taken steps to showcase creativity. The state of Massachusetts was the first with its Creative Challenge Index Commission, legislating a ranking system that will measure school creativity. Not only will schools be looked at in terms of their typical standardised tests, but they will also be measured by how the school encourages children to think outside the box. The state of Oklahoma has Creative Oklahoma, which aims to put them on the map as a creative centre known worldwide. In Australia, critical and creative thinking is one of the of the seven fundamental general capabilities upon which the curriculum is based. The Victorian Government has a Minister for Creative Industries, the New South Wales Government has inaugurated Creative Achievement Awards and many other states and territories are similarly fostering creativity on both education and industry.

We see that world business leaders desire creative thinkers, and that the word is spreading. So when curriculum calendars are chocked full, how are teachers to address creative thought in the classroom? Australia is not lagging behind. The Federal Government in October 2014 released a document from the Department of the Prime Minister and Cabinet detailing the Government's aims to create a world's best practice higher education and Vocational Education and Training (VET) system that provide the skills for jobs of the future, increasing the focus on science, technology, engineering and mathematics (STEM) and innovation in schools

Incorporating Creativity into the “Regular” Curriculum

One misconception about creativity is that it is a separate subject, but creative thought is something that should be infused into every existing subject area. Higher-level thinking is missing from many “pre-packaged” instructional materials. Textbooks offer many low-level questions in chapter reviews and prepared test materials, and then throw in one or two critical thinking questions at the end for good measure. Seeing so many products like this may encourage and lead teachers to mould their instruction in the same way – looking mostly for recall, filling in the blank answers and not challenging students to shape their own understanding through varied critical thinking tasks. And let's face it, multiple choice, fill in the blank and short answer questions are a lot easier to assess than open-ended written explanations.

It is critical that teacher training programs, staff development sessions and materials provided to teachers prepare them to include creative thinking in all content areas. Wouldn't it be wonderful if school systems worked together to create a vertical planning calendar that taught the nuts and bolts of creative thought and clearly delineated activities and opportunities that would be available for students as they grow through their school years! Just like teaching children through the Reading Workshop model, there is a common creativity/critical thinking bank of terms. Knowing that children understand fluency or risk-taking, and being able to build on that and send them on to the next teacher with the concrete experience of creative problem solving would be a wonderful thing, indeed.

Teachers are quite familiar with Bloom's Taxonomy of Learning Domains. For decades, teacher education programs have required teachers to create lessons based on the progression of thinking from simple to rigorous. It's a good framework for both guiding instruction and understanding how we use our basic tools and knowledge in different combinations to solve problems and increase our understanding of the world around us. But this tried and true progression of thinking is not immune to the changing times. Bloom's has been updated for the 21st century. The revised taxonomy of the cognitive domain shows a change in the value and difficulty of creating something new. The new domain also expresses each of the six levels with verbs, instead of nouns, as in the original taxonomy.

<i>BLOOM'S TAXONOMY (ORIGINAL)</i>	<i>REVISED BLOOM'S TAXONOMY</i>
Evaluation	Creating
Synthesis	Evaluating
Analysis	Analysing
Application	Applying
Comprehension	Understanding
Knowledge	Remembering

Nuts and Bolts

How do we teach creative thought? I believe that students need to be taught the verbs associated with creativity. There should be transparency in what we, as teachers, are looking for and expecting. We cannot just ask for more creativity in their work without first helping them understand what that means.

One problem is that even after decades have passed since Torrance's work on creativity, there is still not a widely accepted, consistent definition or understanding of what creativity actually is. Ask a dozen kids, teachers, professors or businessmen and you'll get dozens of different answers.

I posed this very question to people, among them children, adults and adults with a background in education. On the next page are their varied responses.





WHAT IS CREATIVITY?

Charles – *“Original thoughts.”*

Karen – *“To do what you want without the constraints of what has been done before.”*

Patty – *“When you stop trying to fit the square peg in the round hole and change the hole.”*

Bill – *“Trapping lightning in the bottle.”*

Traci – *“Creating a box within a box... for the times when you are trapped in a box (by job constraints).”*

Ursula – *“Creativity is confidence to make something your own.”*

Chip – *“Creativity is when your right brain tells your left brain to go sit in the corner.”*

All of these are getting to the point, yet none express an outcome, specifically.

Sir Ken Robinson – *“Creativity is this: imaginative processes with outcomes that are original and of value.”*

We can see that we, as people, dance around the same creativity campfire, but we don't have a specific, common understanding of its power. And we, as people, will probably never have one or even three agreed-upon definitions of what it means to be creative. And that's okay. We can still work toward it by knowing its integral parts, then practising and implementing those into our thinking.

Spontaneity plays into it, to be sure. But creative thought is hard work. It is a process. SCAMPER is a tool, a process helper to the serious task of creative solutions.

Creativity is not the same thing as having an imagination. Bob Eberle's SCAMPER starts off in the imagination. My modern application of the SCAMPER process moves imaginative thoughts into a realm of becoming creative by actually producing something. Participation with the Revised SCAMPER will result in the doing, making and the tangible changing of objects or ideas.



ORIGINAL SCAMPER

First, it is apropos to review and define SCAMPER according to Bob Eberle, its creator. On a very basic level, each letter of the acronym SCAMPER refers to a different verb. These verbs are techniques. When thinkers guide their thoughts using a certain verb/technique they should achieve the desired new outcome and/or idea.

But it's not quite that simple. There are certain thinking processes that are necessary and need to be enabled to get to these new ideas.

FEELING PROCESSES – *curiosity, risk-taking, preference for complexity, intuition*

All of the above require thinkers that are adventurous, inquisitive, intrinsically pushed toward challenge and bolstered by the possibility of greater reward for greater effort. They act on hunches, chances and puzzles, and are not dismayed when results don't work out. But they instead will try something new and launch a new adventure.

THINKING PROCESSES – *fluency, flexibility and elaboration*

The thinking processes outlined by Dr Frank E. Williams require thinkers to pull from their knowledge and come up with many, pertinent possibilities, to be able to:

- fluidly move characteristics and ideas from its typical category to another
- seek novel ideas (those that no one else thinks of)
- give clear details and descriptions to clarify the ideas for others.

The Feeling and Thinking Processes are the cornerstones of Eberle's SCAMPER.

OTHER PROCESSES at work are *imagination, brainstorming, complexity, incubation and checklist creation*.

Creative thought takes time, takes mental work and benefits from copious notes or other idea-recording strategies. It requires thinkers to draw on all their memory stores as any memory, recollection or fact they know is up for discussion, translation and transformation.

A is for Adjust

This verb requires thinkers to change something to suit a condition or a different purpose. I personally also use **A** as **Adapt** – change the thing or idea so that it has a capability that it didn't already have. Just like animals adapt over time to hunt better or to more effectively hide from predators, make an adaptation to the item in question. Students often seem to have trouble with this step which is interesting, as it really offers the most flexibility. Adequate time should be spent to assure they understand the meaning of the word *adapt* so that they can understand and remember what they can do during this step.

For example, adjust or adapt a surface to make it fireproof. Make that plastic picnic table fireproof, or fireproof the barbecue area just in case some charcoal or embers drop!

M is for Modify

This verb has more than one “m” idea. Commonly we see modify, but we can also think of it as *minify* or *magnify*. So an item or idea could be modified in some way. And as further guidance, change can be size, speed or weight; a part of it or all of it can be modified.

For example, that same picnic table could be made **lighter in weight**; the benches could be **made larger, longer, thicker** or **softer**. The space between the (plastic) planks on the table top could be **made smaller**.

Put to Another Use

Eberle states that this step is to have a person or thing pretend to be or take the place of another. This sounds a lot like the substitution step.

To add another original step, this verb instead can engage flexible thinking, in that the item as it exists now will be used for another purpose. It should be used for something completely different from what it was intended to do. Using a rolling chair to race a friend down a corridor is not a true, creative solution. The rider is still sitting in the chair. Try to think of a completely different application.

For example, the new, plastic picnic table can be turned sideways or upside down and used as a barrier for a water balloon fight! It could be stood up vertically on one end and used as a garden gate or trellis.

Eliminate

This step says to remove or get rid of some part, some quality or a whole aspect of the idea or object. One stipulation is that they cannot eliminate something that they added previously. If it was important enough to add earlier, it should not be eliminated later.

For example, previous steps have changed the wood to plastic, but if they hadn't, the wood grain could be removed – sanded to make it smooth, thus eliminating the chance for splinters. Or, the nuts and bolts that stick up could be removed. They could be smoothed off so that the surface of the table is not bumpy at all.

Rearrange

Elements can re-ordered, turned around or have an adjusted layout. Something can be moved anywhere, and it doesn't have to be directly opposite of its previous location.

For example, the bench seats on the picnic table could be rearranged so that there are separate seats on all four sides, instead of just planks on two opposite sides.

Building off of these techniques, SCAMPER is described by Eberle as a game that can be played with at least one child and one adult facilitator. The adult role is to ask many questions of the player(s). The questions will force the student to think and rethink of things in different ways. The game starts with familiar objects: a cardboard box, a teddy bear, a cake.

Eberle points out that everyone should SCAMPER. It's a fun way to get the imagination going to solve a problem with a family budget, a way to organise furniture in a room, etc.

From an educational standpoint, SCAMPER is a great tool to get young minds thinking with an aim to solve problems. The beauty of the game is that it does start with familiar objects.

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