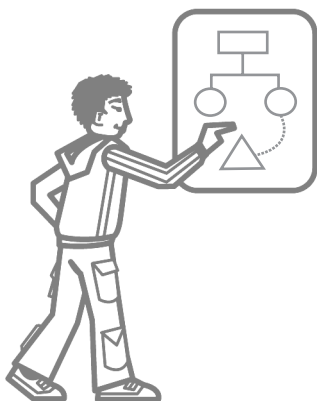


# Content thinking inside the box



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**CURIOSITY**  
the compulsion  
to wonder

**CREATIVITY**  
the urge to  
make  
something new

# What makes a thinker?

**UNDERSTANDING**  
the drive to make  
sense of it all

**RIGOUR**  
the determination  
to see things  
through

**EXPLANATION**  
the desire to  
share

# Dispositions **shaping thinkers**

How we approach thinking, what our thinking habits are and how we view ourselves as thinkers have a significant impact on our thinking. Thinking, therefore, is not simply about intellectual skills. Our dispositions shape our intellectual future. They unleash our possibilities.

honesty

**integrity in thinking**

Be honest with your students. Tell them when you don't understand or are confused by something. More importantly model for them 'being OK' about the fact that you do not understand something.

*'I don't get it. What might help me to understand?'*

curiosity

**an approach to life**

Be curious about your own thinking and the thinking of your students. Ask yourself questions about thinking out loud in class to model this curiosity.

*'What led you to that idea?'*

*'Where can this thought take us?'*

openness

**transcending prejudices**

Be open to new ideas and point out the limitations of viewpoints based on restricted evidence and closed thinking.

*'Am I keeping an open mind?'*

flexibility

**getting past habits**

Be flexible. Model this by noticing the way you are thinking and be willing to discuss and reveal alternatives.

*'How can we look at this another way?'*

rigour

**paying attention to logic**

Be rigorous in checking the validity of your reasoning. Model how you monitor your assumptions and conclusions.

*'I think this because...'*

social

**interacting with others**

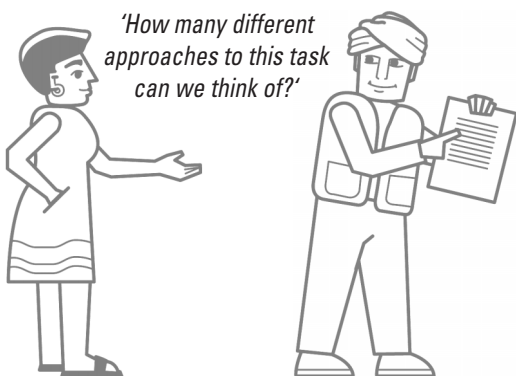
Be a public thinker. Model working with others to initiate, develop and demonstrate your thinking.

*'This is why I'm thinking what I'm thinking.'*

creativity

**integrity in thinking**

Be courageous. Trust yourself to try out new ideas and approaches. Play productively. Be willing to enjoy failure.



Using strategies can help learners to think in new ways and create opportunities for depth and breadth in lateral thinking. Trains of thought is a fun concept that captures the essence of creative thought in making connections, building on ideas and carrying the thinker to new places. These strategies can be used in class discussions and during group work to enable students to go beyond their usual thinking habits.

### just suppose

Following the train of thought 'Just suppose...' involves endless possibilities (and impossibilities). This is the question that has formed the basis of all great movements and inventions. Using this strategy encourages students to think beyond the immediate reality of our physical and social environment, – for example, just suppose the world stopped spinning?



### trainstorming

Trainstorming, or brainstorming, is a well used, but fantastic thinking tool for 'train' thinking. And there are many ways to brainstorm other than concept maps. Use the countdown approach and have student find 10 capital cities, 9 countries, 8 rivers and so on or use the letters of the alphabet to compile lists of words which are relevant to a given topic.



### train derailed

Many creative ideas have come from times when people get 'stuck' and a problem seems impossible to solve or resolve. Following new tracks encourages divergent thinking – ways around, over or under the problem; persistence; and risk-taking.



### 'trains'-formations

Many inventions have been re-invented through 'trains'-formational thinking. Common items or old inventions can be redeveloped for new purposes using unusual or new materials. Systems and concepts can also be reapplied using this train.



### forced connections

This is a divergent thinking strategy. Train carriages of all sorts need to be connected in some way to find solutions that incorporate the characteristics of a number of dissimilar objects. For example, a solution to poverty may be based on the attributes of a platypus, a map and a boot.



### why–because

The why–because train asks students to think of reasons, explanations or interpretations about why a situation or thing exists. Questions such as *Why do frogs jump?* or *Why did dinosaurs die out?* are fun and sometimes challenging thinking exercises. This train of thought is great for developing skills of hypothesising.



### another track

This train is about looking for different tracks. Thinking beyond the first answer, even when that answer is right, can help students add depth to their understanding of a concept. Students can devise as many ways as possible to complete a task, or as many questions as possible to get to the same answer.



### 3 enquiring

Consider our world community as one where people are often not aware of how and when they enquire. People may have no idea of the value of asking questions in order to find out what they need to know. Perhaps they have no capacity to plan and set out on a course of action that is needed in order to overcome a problem. They constantly have to learn through trial and error because they cannot predict and anticipate consequences. Entrenched, and often subconscious, thought patterns such as 'I don't want to discuss this. I just want to be given the answer' and 'It's (war has broken out) got nothing to do with me' and 'So long as it doesn't affect me I don't care why', shape human behaviour and experience.



### 4 creating

Consider our world community as one where people are often not aware of how and when they create. People do not often apply their imagination and ask 'What if?' type questions. Some people have little interest or capacity to generate or extend their ideas. People have no conscious intention of ever looking for innovative ways to improve the quality of lives for themselves and the wider community. Entrenched, and often subconscious, thought patterns such as 'Creativity is for the arty types, I don't need it' and 'I can't ever see my life being any different' and 'I'm waiting for retirement' shape human behaviour and experience.



### 5 evaluating

Consider our world community as one where people are often not aware of how and when they evaluate. People do not often judge the usefulness, relevance or truthfulness of what they have said or done or have had said or done to them. People may live their lives speaking and acting from opinions that are fixed and based on little or no reasoning (opinions they may have difficulty expressing anyway). They have little inclination to challenge their thinking and no criteria by which to do so. Entrenched, and very often subconscious, thought patterns such as 'I'm right, you're wrong' and 'I don't care what you think; I think I'm right and evidence to the contrary is irrelevant' shape human behaviour and experience.



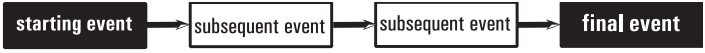
## temporal

## visual tools... TVTs

TVTs represent the ordering of events into a chronological sequence. A major example is...

### flow chart

Use to show the sequence of events or stages of a plan.



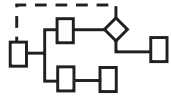
### other TVTs



**cycle** – use to show cyclical events.



**storyboard** – use to set out a plan for a story or project.



**algorithm** – use to show different pathways.

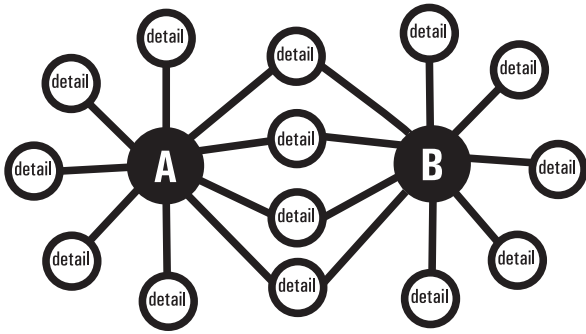
## differential

## visual tools... DVTs

DVTs identify similarities and differences. A major DVT is...

### double bubble

Use to compare and contrast two ideas or themes.



### other DVTs



**SWOT analysis** – use to direct perception or thinking.



**matrix** – use to compare and contrast two or more ideas.

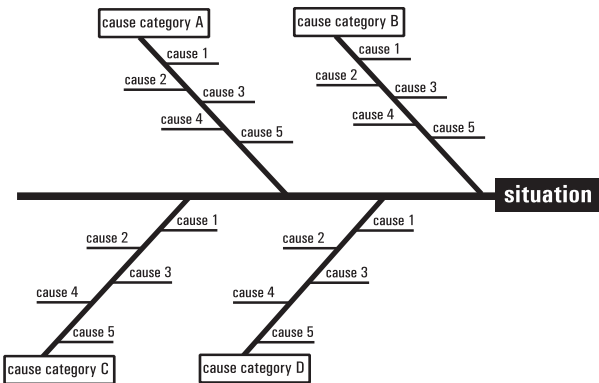
## causal

## visual tools... CVTs

CVTs analyse causal connections and influences. A major CVT is...

### fishbone diagram

Sets out the main and contributory causes that lead to an effect. Use to explore and investigate why 'x' happened.



### another CVT

**relations diagram** – use to show relationships between contributory causes.

