Teaching Tips for Generating Ideas

*The best way to have a good idea is to have lots of ideas. -* Linus Pauling, US chemist & pacifist (1901 - 1994)

Creative thinking is the act of coming up with new ideas (new to the thinker, not necessarily to the world). It is something which can be taught. It’s not necessarily about arts, but about teaching students initially to be curious and then teaching them how to ask good questions.

# What can you do to develop your students’ creativity?

* Believe (and let them know you believe) that they can all be good at generating ideas. Build self-efficacy in this skill.
* Value (and teach students to value) a variety of approaches, methods and solutions, moving them away from thinking that an idea that seems to work is the only ‘right’ idea. Tolerate ambiguity.
* Adopt (and encourage students to adopt) a playfully thoughtful approach to conjuring up and exploring possibilities.
* Challenge (and encourage students to challenge) assumptions and preconceptions of creativity.
* Value (and encourage students to value) mistakes and the learning that can arise from them. If students fear mistakes they become afraid to risk the independent and sometimes-flawed thinking that leads to creativity. Many ideas are great, not because they are perfect themselves, but because they become the basis for other ideas.
* Role of usual assessment in this?

# Activities that promote idea generation

The potential of activities to promote students' idea generation skills is enhanced by framing projects around a significant and engaging question. The question should arouse students’ curiosity in order to engender spontaneity and creativity. It may create dissonance – be paradoxical.

Below are a few suggestions for developing your students’ ability to be creative and innovative:

* Teach, practise and assess the four rules of brainstorming by Osborn (1963):
  + Judicial judgment is ruled out. Criticism of ideas will be withheld until the next day;
  + “Wildness” is welcomed. The crazier the idea, the better; it’s easier to tone down than to think up;
  + Quantity is wanted. The more ideas we pile up, the more likelihood of winners; and
  + Combination and improvement are sought. In addition to contributing ideas of our own, let’s suggest how another’s idea can be turned into a better idea; or how two or more ideas can be joined into still another idea.
* Ask “what if ...?” questions and encourage students to generate their own “what if ...?” questions.
* Teach students to piggyback on the ideas of others – this also encourages active listening.
* Encourage students to develop metaphors and use analogies to trigger new ideas or novel ways of thinking about something.
* Construct problem based projects and assessments with open- ended tasks and activities that promote novel solutions and ideas.
* Ask students to come up with unusual ways to use known objects, ideas or solutions, for example: *Here is a hat – what could it be used for?*
* Employ enablers (enabling in terms of thinking differently) when asking students to be creative, such as introducing the session with a fun and humorous activity, or changing the setting by removing desks or meeting outdoors.
* Connect the unconnected by using mind mapping with a twist:
  + Place a key word or phrase in the middle of a page;
  + Write anything else that comes to mind on the same page (don’t judge, just write); then
  + See if you can make any connections.
* When setting problem-solving challenges, encourage students to develop multiple solutions to a set problem.
* List assumptions associated with a task or problem, for example, that a solution is impossible due to time and cost constraints; something works because of certain rules or conditions; and people believe or think certain things. Then ask under what conditions these assumptions are not true. Continue the process of examination as old assumptions are challenged and new ones are created. Avoid “we can’t do that” or “we did that before and it didn’t work”
* Encourage students to identify and then question their own and others’ assumptions – this often leads to new ideas. For example: *We don’t have enough money. Don’t we? What if we sell... What if we don’t buy...*
* Teach students how to use *laddering –* from Personal Construct Psychology (Kelly, 1955):
  + Beginning with an existing idea, "ladder up" by asking what wider category this is an example of.
  + "Ladder down" by finding more examples for that category.
  + Then "ladder up" again by seeking an even wider category from the new examples obtained from step 2.
* Structure brainstorming sessions using processes like [SCAMPER](http://www.mindtools.com/pages/article/newCT_02.htm):
  + Substitute
  + Combine
  + Adapt
  + Modify
  + Put to other uses
  + Eliminate
  + Reverse
* Guide students through a process of reframing the problem from a number of perspectives. Each perspective may reveal different aspects of the problem, generating different ideas. A [Reframing Matrix](http://www.mindtools.com/pages/article/newCT_05.htm) can be a useful visual tool for this strategy. Another way is to start a session with the phrase: *If I were...*
* Encourage quantity of ideas and initially suspend judgement about the quality. If ideas are judged too early it could diminish the courage of students to contribute future ideas. Remind students that if most of the ideas they come up with are workable, then they didn’t take enough risks.

# References

Kelly, G.A. (1955). *The psychology of personal constructs, Vols 1 and 2.* New York: Norton.

Osborn, A.F. (1963). *Applied imagination: Principles and procedures of creative problem solving* (3rd Ed.). New York: Charles Scribner’s Sons.