VOLUME 1, ISSUE 3
APRIL 2012

Newbubbles
the education marketplace

The FE Toolkit:
A Magazine for Grade 1 Teachers

CREATIVITY

SPECIAL FEATURES

Definitions

"Creative behaviour occurs in the process of becoming sensitive to or aware of problems, deficiencies, gaps in knowledge, missing elements and disharmonies. It also occurs when artists and other creative people bring together new relationships with the available information..."

(Torrance, 1969)

What is Creativity?

"The process of having original ideas that have value"

Ken Robinson (2006)

"We need to move away from the idea that creativity is the province of a few gifted people. Everybody has an imagination, and everybody is capable of creative thought. The difference between 'creative' and 'non-creative' people is the *time* they spend developing their ideas and bringing them to fruition".

(Tully, 2006)

Assessment Corner

Simple ways to test learning

Quick Wins for Students and Teachers

Make the first exam relatively easy. Research on motivation indicates that early success in a course increases students' motivation and confidence (Lucas, 1990). In particular, students who do well on the first test generally improve their grades on subsequent tests (Guskey, 1988).

WHY BE CREATIVE IN THE CLASSROOM?

Geoff Petty (2009) identifies *four reasons* why setting creative learning tasks is important in subject delivery:

1. **It develops students' ability to think creatively and to solve problems**
2. **It enables students to use knowledge productively and meaningfully**
3. **It increases students' internal motivation**
4. **It provides students with an opportunity to explore feelings and develop skills in self-expression**

CREATIVITY: INNATE OR LEARNED?

Case Study: Mozart, Creativity and Deliberate Practice

Mozart 1756-1791

When you think of the term 'creative genius', for most people Mozart would come into that category. A list of his celebrated achievements give substance to this claim:

- He was composing by the age of five.
- He was well-known across the world as an influential music figure.
- He apparently wrote the entire Haffner symphony in six days, without ever once going to the keyboard.
- At 12 he wrote his first opera; at 17, he wrote the famous 25th Symphony in G minor
- He was probably the best pianist in Europe of the time, and one of Europe's very best violinists.

In one notable story, when attending a performance as a little boy, (his father would bring him along), he walked across the stage before the curtains opened and informed one of the violinists that his instrument was an eighth tone sharp!

The term 'genius' is not a term accepted by Phil Grabsky, director of the film '*In Search of Mozart'* for Channel 5 in 2006. 'What the characters we sometimes call geniuses have in common is drive and determination, often good parenting, and the fact that they are products of the social conditions of their time,' he said. 'All of this was true for Mozart. His talent wasn't simply a gift from God, it was the result of tremendously hard work' *(in Guardian, 01 Jan 2006).* Contrary to the stereotypical portrait of Mozart as an undisciplined genius, Grabsky argues that Mozart was dedicated to his craft and a very hard-worker : "In fact, he was going to concerts every night, meeting musicians, listening to other people's work, writing and rewriting his own. He was very practical about his work, and entrepreneurial.

This concurs with **Ericsson's (1993)** work on 'Deliberate Practice'. According to Ericsson, there is a great deal of evidence now that 'talent', 'I.Q.' and the ability to perform in an exceptionally skilful manner are all learned through 'deliberate practice'. In studies of violinists at the Music Academy of West Berlin, Ericsson found that the best musicians had simply practiced more across their lives than the next best ones, who in turn had practiced more than the ones likely to become music teachers. Each of the musicians was asked to estimate approximately how many hours a week they had practiced each year since the outset of their musical training, and these estimates yielded cumulative totals of about 10,000 hours for the best musicians, followed by 8,000 for the next best ones and 5,000 for the least accomplished. The message for teachers is that creativity and accomplishment comes at a price: many hours of hard work...but anyone can do it!

Art Students

Getzels and Csikszentmihalyi's (1976) study of art students found that the more creative students were those who spent the most time discovering and examining problems before starting on solutions.

Picasso Quotes

Picasso had much to say about creativity and individuality:

"Each second we live is a new and unique moment of the universe that will never be again. And what do we teach our children? We teach them that two and two make four and that Paris is the capital of France. When will we also teach them what they are? We should say to each of them: Do you know what you are? You are a marvel. You are unique. In all the years that have passed, there has never been another child like you".

Quote of the Week

"I feel sorry for you teachers. You're not allowed to touch the kids; you're almost not allowed to talk to them, otherwise you'll be out on your ear. You're supposed to stand there in the classroom and be abused—allowing the young louts to scream and shout and call you names under the sun—and you can do nothing about it. There is no discipline any more with the younger generation. I sympathise with teachers in our education system...They have to overcome so many obstacles before they can get round to doing their job"

Alan Sugar, The Way I See It, 2011, p19

THE BIOLOGY OF CREATIVITY!

A study by **Peterson, Carson & Higgins (2003)** reported in the Journal of Personality and Social Psychology argued that the brains of creative people appear to be *more open to incoming stimuli* from the surrounding environment. Other people's brains might shut out this same information through a process called "latent inhibition" - i.e. our ability to ignore stimuli irrelevant to our needs. Leading researcher, Jordan Peterson suggests: "The normal person classifies an object, and then forgets about it, even though that object is much more complex and interesting than he or she thinks. The creative person, by contrast, is always open to new possibilities."

The researchers found that Harvard undergraduates who were classified as eminent creative achievers - participants under age 21 who reported unusually high scores in a single area of creative achievement - were *seven times* more likely to have low latent inhibition scores. Creative people—it appears— are able to discriminate between useful and irrelevant information much more effectively than 'non-creative' individuals, and are therefore able to handle more 'useful ideas' at the same time. The study also found that schizophrenics who feel 'swamped' by external stimuli score highly on latent inhibition whilst those that report feelings of deep personal or religious insight show little evidence of latent inhibition. Professor Peterson states that: "It appears likely that low levels of latent inhibition and exceptional flexibility in thought might predispose to mental illness under some conditions and to creative accomplishment under others." In a related study by **De Manzano et al (2010)**, 'creative brains' were found to behave similarly to schizophrenics, having a lower density of D2 dopamine receptors than a 'non-creative' control group which corresponded to greater divergent thinking.

CREATIVITY— REVISING BLOOM'S TAXONOMY

In his new book '*The ilearning revolution: a new pedagogy*', Bradley Lightbody identifies creativity as the "defining skill for the 21st Century" as it describes people's ability to identify problems, find solutions and design new products and services for a new hi-tech economy (Lightbody, 2012, p96). It's not surprising therefore that Lightbody is keen to promote Lorin & Krathwohl's (2001) revision of Bloom's taxonomy as an important change in how we train teachers and deliver learning.

Bloom Original (1956)	Lorin & Krathwohl (2001)
Knowledge	Remembering
Comprehension	Understanding
Application	Applying
Analysis	Analysing
Synthesis	Evaluating
Evaluation	Creating

Whereas 'Evaluate' was to pass critical judgement, 'Creating' is to invent something original. Creativity often presupposes a critical evaluation of the status quo and a re-organization of existing elements to produce an outcome which is quite distinctive from what has been achieved before. Links between creativity, enterprise and economic growth are consequently at the heart of Lightbody's treatise on 21st Century education and teacher development initiatives, since it is creativity—in his view—that will transform businesses and economic prosperity.

Importance of Culture

Three studies by researchers William W. Maddux, Hajo Adam, and Adam D. Galinsky looked at students who had lived abroad and those who hadn't, testing them on different aspects of creativity. Relative to a control group, which hadn't experienced a different culture, participants in the different culture group provided more evidence of creativity in various standard tests of the trait. Those results suggest that multicultural learning can act as a catalyst for creative thinking.. The effect is not seen in those who did not have experience living abroad.

The message for teachers is to plan overseas visits into your curriculum!

ScienceDaily, June 30, 2010

Future Employment

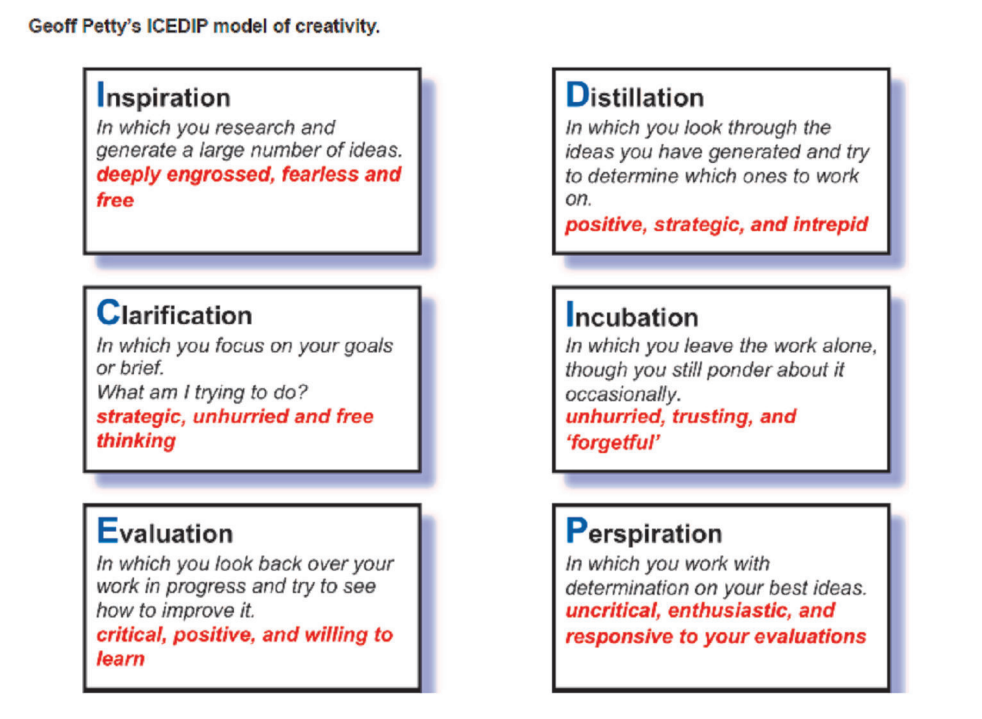
According to the IBM 2010 Global CEO Study, which surveyed 1,500 Chief Executive Officers from 60 countries and 33 industries worldwide, CEOs believe that, "more than rigor, management discipline, integrity or even vision - successfully navigating an increasing complex world will require creativity."

CEOs say creativity helps them capitalise on complexity "The effects of rising complexity calls for CEOs and their teams to lead with bold creativity, connect with customers in imaginative ways and design their operations for speed and flexibility to position their organisations for twenty-first century success."

GEOFF PETTY'S 'ICEDIP' MODEL

Geoff Petty's book "*How to Be Better at Creativity" (1996)* identifies a six-stage model of creativity ('ICEDIP') for guiding the planning and delivery of creative tasks.

- All stages of the model are required for creative learning
- Stages do *not* have to be followed in the same order
- Stages can be repeated across the creative cycle
- Stages can last seconds, or minutes, or even hours
- Each stage is defined by a different set of attributes and attitudes (mind-set)



Using the ICEDIP Model: National Diploma in Textiles

Scenario: The teacher is keen to get her students to generate their own ideas, despite their lack of confidence in design. She wants each student to develop his or her own simple abstract design.

Clarification: The teacher shows the group four pieces of original embroidery work and asks them to work in teams of 'judges', as if they were judging a competition. Each group is asked to agree what constitutes a good abstract design, and these criteria are used to formulate a design brief.

Inspiration: In the next session, the teacher provides several different pictures of design work from trade magazines, and uses a mirror to create new symmetrical design patterns. Students produce four different designs using this activity.

Distillation: Students choose the best one of their four different designs.

Perspiration: The students produce a first draft of the basic shapes, ignoring colour.

Evaluation: The students are asked to identify their design's main strengths and weaknesses, and to modify the design accordingly (perspiration).

Inspiration: The students look through colour photographs of garden flowers, trees, fields, etc to get ideas for a colour scheme for their design.

Perspiration: The first colour design is then produced using paints and paper.

Evaluation: The students assess the colour design against their plan, make alterations (more perspiration) and apply to their final design.

Creativity & Video Game Playing

Jackson et al (2011)

Both boys and girls who play video games tend to be more creative, regardless of whether the games are violent or nonviolent, according to research by Michigan State University scholars.

A study of nearly 500 American 12-year-olds found that the more kids played video games, the more creative they were in tasks such as drawing pictures and writing stories. In contrast, use of cell phones, the Internet and computers (other than for video games) did not enhance creativity. Linda Jackson, professor of psychology and lead researcher on the project, said the study appears to be the first evidence-based demonstration of a relationship between technology use and creativity.

The researchers surveyed 491 middle-school students as part of MSU's Children and Technology Project, which is funded by the National Science Foundation. The survey assessed how often the students used different forms of technology and gauged their creativity with the widely used Torrance Test of Creativity-Figural. The Torrance test involved tasks such as drawing an "interesting and exciting" picture from a curved shape, giving the picture a title and then writing a story about it.

The study found that boys played video games more than girls, and that boys favoured games of violence and sports while girls favoured games involving interaction with others .

Science Daily, 02.11.11

SUPPORTING CREATIVITY: THE 'PLAY' FOCUS

According to the great Russian psychologist Lev Vygotsky (1896-1934), everybody has an imagination, and everyone has experienced the joys of play. For Vygotsky, play is not just for fun; it is the work of childhood. Through play, children learn to give meaning to objects, to tease out relationships, to try on and practice different roles, to exercise their growing capabilities (Vygotsky, 1999, translation).

In short, "play is the best preparation for future life…play is self-education" (Vygotsky, 1998, p. 26 and 28). Nursery rhymes, fantasy role plays, outlandish stories, jokes and riddles bring relationships, which may be hidden "in reality," to the fore. Children learn about the real world via the absurd worlds of play (Smolucha & Smolucha, 1986). Yet, children do not confuse reality with such games and can move back and forth between the two frames.

Tully (2008) suggests that a child's play can be divided into five types: imitative (e.g. of adult behaviour), reconstructive (of previous incidents or events), artistic (creating a something new) discovery-based (e.g. finding out something) or fantasy-based (hypothetical, imaginative, acting out). If you want students to be creative, teachers should consider ways of injecting play into learning.

Guidance for teachers:

Tully's categories of play are useful to teachers because they suggest certain activities that learners find enjoyable and engaging. The following types of activities are strongly recommended to put fun back into your classroom:

- ***Imitative*** — reproduction/copying of phrases, sequences, techniques or behaviours of the teacher or other adults
- ***Reconstructive*** — visualisation techniques, personal disclosures, past experiences, simulations, storytelling
- ***Artistic*** — producing or building something (e.g. models) drawing/painting exercises (e.g. Pictionary), stories & music creation exercises, movement activities
- ***Discovery*** — competitions based on problem-solving, trips & excursions, webquests, jigsaw learning activites, collaborative projects, lateral thinking exercises, brainteasers,
- ***Fantasy*** — roleplay, in-tray exercises, 'substitution' activities (e.g. using props/ objects to mean something else), improvisation exercises, game-show activities.

Example: Topic — Customer Care

Sample activities that inject play into teaching and learning...

- *Imitative — teacher gives learners a series of assertive phrases to deal with an angry customer, and the learners practise these in pairs*
- *Reconstructive — learners work in threes to reveal their worst customer service experience.*
- *Artistic — learners are set a 15 minute exercise to create a jingle to promote a fictional company and its reputation for good customer care*
- *Discovery — students find their own solution to a given customer care problem by researching examples from three different companies*
- *Fantasy* — students act out a roleplay as either customer service agents or angry customers, and have to use previously learned skills to manage these encounters effectively.

Ken Robinson Quotes:

Ken Robinson believes that children are born creative but have this squeezed out of them during schooling.

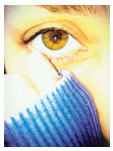
If you're not prepared to be wrong, you'll never come up with anything original."

"All kids have tremendous talents — and we squander them pretty ruthlessly."

"Creativity now is as important in education as literacy, and we should treat it with the same status."

"I believe this passionately: that we don't grow into creativity, we grow out of it. Or rather, we get educated out of it."

Rebecca Blyth Says...



ICT can build Creativity...

If you can use ICT software to make an interactive resource, so can the students. Sites like **GoAnimate.com**, **Prezi.com** and **HotPotatoes** are all pieces of software that create interactive and fun resources. Get the students to develop their own and showcase them on the Interactive Wipeboard. Make them accessible on the VLE. Upload them to YouTube or O2Learn.

Rebecca Blyth, 2011

CREATIVE PROBLEM-SOLVING

A Model for Creative Problem-Solving

Tully (2007) offers a simple FIVE STAGE model for planning a creative problem solving task for the classroom. In this case, a 'problem' could be a project or design brief.

STATE: State (*in a sentence*) the problem or issue that needs to be solved. Having a clear goal at the outset, with an idea of how this goal is going to be successfully measured (*'success criteria'*), is crucial to the effectiveness of the creative thinking process.

INVESTIGATE: identify the potential causes of the problem. This can be aided through the use of a *FISHBONE Diagram* tool as a way of analysing and teasing out the many possible causes.

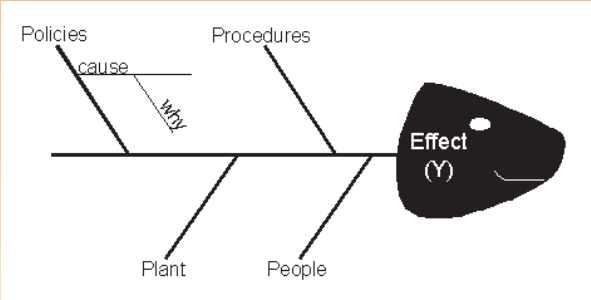
GENERATE: Use '*association tools'* to brainstorm ideas /solutions that could offer a new, inventive way of resolving the problem or issue. At this stage, *quantity is better than quality* — get lateral with your thinking and don't rule out any idea during this phase.

EVALUATE: Choose the solution that best fits the problem. Strike out those ideas that are clearly unsuitable and unrealistic, and with the remainder, score them against your initial success criteria (from the 'State' stage). If you are doing this as a group or whole-class, use a *Multi-Voting tool* to arrive at the most preferred solution.

VALIDATE: Once the solution has been chosen, develop a tracking system for its implementation and identify information that you will use to assess its impact (i.e. whether it is producing the right results). Develop milestones and check points along the way to keep the implementation on track. This plan may be revised or updated accordingly to suit the goal.

Investigation Tools: The Fishbone Diagram

A fishbone diagram is a management tool to analyse work problems and arrive at reasons causing those problems. The tool was developed by the great management thinker Kaoru Ishikawa (1968).



To use this tool, draw out a diagram similar to the one opposite and write your problem where the fish-head is.

You will also see that there are four main categories: Policies, Procedures, People, Plant (equipment) - known as the 4Ps— that are used to stimulate views about the causes of the problem. The idea is that problems can generally be analysed into four types of cause—relating to our 4Ps—and that by carrying out a brainstorm exercise under each P, you will develop a substantial list of possible causes that are contributing to your problem.

As the brainstorming exercise unfolds, bit by bit you start to dismantle the problem into its constituent parts, and as this continues, likely solutions begin to emerge.

One of the advantages of the fishbone tool— apart from its simplicity — is the ability to see connections (and develop joined up solutions) between different parts of the business.

Wang et al (1993) - Major Drivers of Attainment:

Research by Wang and colleagues identified the three top drivers of high attainment:

1. pupils' cognitive and Meta-cognitive activity
2. flow of challenging work
3. time on task

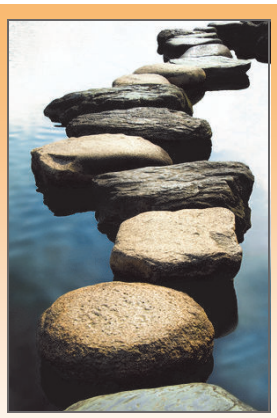
The most effective factor In raising attainment by a long way was activity which made students' minds work. Broadly described as 'cognitive activity', this includes problem-solving, thinking, analysing, synthesising, hypothesising and generally problem-directed thinking. The effect on attainment was even more enhanced to the degree that students were required to reflect back on their thinking, i.e. to think about thinking in order to learn more general lessons about managing their own intellectual processes. This reflection on thinking is generally known as 'metacognition'

The second most effective factor in promoting attainment was identified as the 'flow of challenging work'. In this context 'challenging', of course, refers to that work which requires the engagement of students' cognitive and metacognitive processes.

The third factor was 'time on task'. The tasks in question must be challenging (as above) - the more time spent on such work the more there is a return on effort in terms of attainment. Research has shown that a considerable amount of time in the teaching day can be lost by students being off task, or misused by students being engaged in unchallenging work. Work on maximising time spent on challenging tasks yields high gains in student achievement.

TOOLS FOR CREATIVE THINKING

Generation Tools: The Stepping Stone Technique



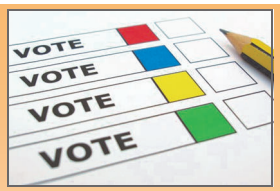
The *stepping stone technique* is an excellent device for getting students to think creatively about a project design. Ask the student to identify two interests they already have — when they have these, put each word/phrase at the opposite end of your stepping stones.

Example:

Football _____ _____ _____ Facebook

The student now has to generate three more words — each new word has to link to the word before, and the fourth word must also provide a link to the final word. In using the students' interests, new ideas based around these interests emerge. This technique can be repeated with two of the newly generated words to produce further ideas, and continued over and over again until the student has a long list of themes all related in some way to their original interests *(Tully, 2006, Creative Thinking Techniques for Teachers, unpublished)*

Evaluating Solutions: The Multi-Voting Technique



In a creative thinking exercise, it is not uncommon to come up with a long list of ideas that could serve as potential solutions....but you can't implement all of them, and some of them wouldn't be worth implementing ...so multi-voting is way of rating ideas so that popular ideas can be distinguished from unpopular ones.

This technique works particularly effectively where groups differ in their choice of preferred solutions.

The student is given 10 points to allocate across his/her list of solutions in whatever way they wish—they could allocate 10 points to one idea if they favour this very strongly and none to the others, or rate all 1 point equally if no preference, or any other combination, as long as the total points allocated equals 10 points. Example: student 1 allocates 3, 3 and 4, student 2 allocates 8 and 2, student 3 allocates, 2, 2, 2, 3, and 1 etc. The teacher's job is to collect the scores from all students against each solution, so that each solution arrives at a total score. At this stage, you could determine that the highest score is the winning solution, but it is often better to use these scores to draw up new shortlists (e.g. the top 5) and repeat the voting so that the final solution is the one that most students feel they have voted for.

NEW BOOK: THE ILEARNING REVOLUTION

Bradley Lightbody's new textbook The i-Learning Revolution: A new pedagogy (2012) explains how the power of the internet and the development of mobile computing are set to transform teaching and learning. Lightbody argues strongly for a 'flipped learning' solution that sees the internet and the VLE leading teaching in the classroom instead of merely supporting out-of-class research. Teachers will be needed more than ever to coach, stretch and challenge students to achieve their full potential and to become truly independent or i-learners.

The book is hot off the publishing press and may be purchased from Amazon or direct from Collegenet.co.uk. You can read the first chapter at the publications section of the Collegenet website and examine an exemplar of Lightbody's new concept — the Learning Portal (an electronic Scheme of Work).

Creativity and Motivation

The importance of motivation for creativity has long been recognised, Cox (1920) advised that if one had to bet on who is more likely to achieve a creative breakthrough, a highly intelligent but not very motivated person, or one less intelligent but more motivated, one should always bet on the second. Because introducing novelty in a system is always a risky and usually an unrewarded affair, it takes a great deal of motivation to persevere in the effort.

Teaching with Analogies

An effective method of getting students to visualise something in a different way is to use an analogy. Asking students: "In what way is _____ like a _____ is an easy way to unlock their imaginations. For example, in business one could ask: 'In what ways is an organisation like a human body?' In Travel & Tourism, one could ask: 'In what ways is tourist development like a disease? In teacher training, one could ask, 'In what ways is a college like a factory?' And so on. Of course, the opposite question is equally effective: In what ways is _____ NOT like a _____

CREATIVITY AND QUESTIONING TECHNIQUES: TIPS FOR QUALITY MANAGERS

Teachers can use questions to encourage learners to be more creative thinkers. The focus is on the 'how' of learning, not the 'what' (Guy Claxton, 2006) The teacher challenges students to think and talk about their own learning process with questions such as:

- How did you do that?
- How else could you have done that?
- Who did that a different way?
- What was hard about doing that?
- What could you do when you are stuck on that?
- How could you help someone else do that?
- What would have made that easier for you?
- How could I have taught that better?
- How could you make that harder for yourself?

In sessions that are workshop-based, these questions are invaluable as 'checking and extending' tools. Questions encourage deeper learning through elaboration and reflection.

NEWBUBBLES TRAINING SUMMER 2012

£99* *exc VAT*

Date	Event	Location	Trainer
06.06.12	Counselling & Coaching Skills for Teachers	Portsmouth	John Perry
15.06.12	Achieving Grade 1 in Equality & Diversity	Portsmouth	Trevor Gordon
22.06.12	Improving Motivation and Retention	Portsmouth	Arnie Skelton
29.06.12	Supported Experiments and Solutions-Focused Coaching*	Portsmouth	Joanne Miles
03.07.12	Assessment IS Learning	Portsmouth	Professor Phil Race
05.07.12	Effective Communication & Influencing Skills: A teacher's Toolkit	Portsmouth	John Hutchings

**Cost of this workshop is £129.00 exc VAT*

To book yourself onto an event, please e-mail gradeonetraining@newbubbles.com.

If you can offer a training specialism and your background is in further education, we would like to talk to you. E-mail us at gradeonetraining@newbubbles.com.

What the Experts Say

'All skills will become obsolete except one, the skill of being able to make the right response to situations that are outside the scope of what you were taught in school. We need to produce people who know how to act when they are faced with situations for which they were not specifically prepared.'

Seymour Papert, 1998

16 Creativity Tasks

Here are 16 creativity tasks that any teacher can use in the classroom. The example subject theme here is stress:

1. Brainstorm exercise to explore ideas about [stress]
2. Draw the feeling of [stress]
3. Find three photographs that illustrate your views about [stress]
4. Create a collage that expresses [stress]
5. Create a cartoon about [stress]
6. Write a poem or limerick about [stress]
7. Create a mindmap that reflects your understanding of [stress]
8. Create a mask that depicts a character called [stress]
9. Create a health booklet on [stress]
10. Create an improvisational acting piece about [stress]
11. Create a radio debate between three parts of the body who are discussing the issues relating to [stress]
12. Create a recipe for cooking up [stress]
13. Use a variety of materials to construct a [stress] sculpture
14. Create a video about [stress]
15. Explore two different book reviews on [stress]
16. Devise a scientific experiment about [stress]

Further Reading

The Ultimate Business Book of Creativity, 2000
Ros Jay

Next issue ...

TEACHER OBSERVATION—DOING IT RIGHT!