

Strategies for Generating Challenging & Creative Questions ...



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An IDEA for PLANNED questioning strategies

- l dentify the key Qs in relation to learning objectives/outcomes
- ${\bf D}~$ ecide on level & sequence of questions
- ${\bf E}\ \ {\bf xtend}\ {\bf the}\ {\bf key}\ {\bf questions}\ {\bf with}\ {\bf subsidiary}\ {\bf questions}$
- A nalyse the answers you are given and decide on follow-up responses

E. C. Wragg & George Brown (Routledge, 2003)

Appropriate Challenge

"Insanity is doing the same thing over and over again and expecting different results."



Albert Einstein

Intended Outcomes:	
What do I want pupils to	Opportunities:
learn/develop?	What variety of activities/ tasks ovist/cap we create?
	lasks exist/call we create?
	\
How will I/pupils know that they have	
achieved the intended outcomes?	
	/
	ning
Gnailla	augle
Sharing	
How will I share my intended outco	omes with pupils?
· · · · · · · · · · · · · · · · · · ·	
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Generating questions to encourage independent & creative thinking

- Provide students with a stimulus (visual/audio/object etc)
- Ask them to come up with 3 questions about the stimulus (either on their own or in groups)
- Then ask them to ensure that at least TWO of their questions are 'higher order' (see Bloom's)
- Ask students to explain their reasoning to each other as they work through this process.

How you might use this ...

• As a starter to introduce a new topic or simply get them all focused and thinking

OR

• Share the questions generated and decide which you will use to guide their learning during the lesson/topic

OR

- As a plenary to consolidate their learning to make links to the nexet piece of work
- **NB** The key is for them to refrain from playing 'guess what's in the teacher's head', so try to encourage them to create their own connections and lines of enquiry and enjoy the variety of responses they come up with.

Using multiple intelligences & learning styles

Encourage leading numbers learners: feelings sights Ask students to take the lead for the group or for the collation of ALL of the themed questions from the WHOLE class, for people TOPIC example all the number questions or all of the words questions. actions sounds nature

8-way thinking-pupil-friendly multiple intelligences:

Inspired by Independent Thinking http://www.independentthinking.co.uk

words

Developing independent enquirers: two thinking tools

Introduction

Independent enquiry involves the ability to use and combine the entire spectrum of thinking skills from information processing to reasoning, from creativity to evaluation. Take a look at the QCA's definition for example. The framework describes an 'independent enquirer' as a person who can:

- identify questions to answer and problems to resolve
- plan and carry out research, appreciating the consequences of decisions
- explore issues, events or problems from different perspectives
- analyse and evaluate information, judging its relevance and value
- consider the influence of circumstances, beliefs and feelings on decisions and events
- support conclusions, using reasoned arguments and evidence.

Enquiry: structured, supported or open?

The aim of enquiry-based learning is for students to progressively take full responsibility for the content, processes and outcomes of their enquiries. Many students, however, need to be protected into that change – a novice enquirer will flounder if an enquiry is too 'open', lacking a clearly explained structure that will support their thinking and make the enquiry process explicit. At the same time, a tightly structured enquiry risks being too 'closed' if the topic, questions, data, and method have all been predetermined. The trick is to provide the kind of support that does not rob students of a sense of ownership and excitement.

Introducing enquiry

Below are two specific classroom activities relevant for students who would benefit from structured enquiry – the first stage of the progression model. Both involve thinking tools specially designed to help students to an understanding of what an enquiry is, how it can be structured and how they can generate questions to guide enquiries of their own.

Thinking tool 1: Mystery

A 'mystery' is a problem solving activity based round a given central question that is open to more than one reasonable answer. The information or 'clues' needed to answer the question are presented on separate slips of paper that your students will analyse, sort, sequence and link.

Mysteries are a good introduction to enquiry because they:

- provide your students with an enquiry experience that fits neatly into one lesson
- provide you with the opportunity to make enquiry structures and skills explicit and memorable
- motivate the narrative thread that runs through a mystery will successfully engage your students and they will be eager to find out more about the characters at the centre of the action and events.

Mystery: instructions for making

Identify a theme in your topic that will lend itself to enquiry or which would benefit by being ' problematised' and 'personalised' in a narrative. For example a science project on energy might lend itself to a mystery, 'Why did Mr and Mrs Green sell their car?'

Make a set of 15-25 slips that provide the necessary information. Continuing with the Greens' car sale example, a set of slips might include:

- 6-7 background or context clues (e.g. Mrs Green's driving licence/wage slips/ pension plan/date/method for measuring CO2 emissions)

- 4-5 actions or causes of change (e.g. doctors report on Mrs Green's heart, CO2 emissions report, visit of Greenpeace activist)
- 4-5 reactions or effects of change (e.g. application to join the local golf club, email regarding sale of house, car sale advert)
- 2-4 red herrings to confuse. They are relevant to the theme but not to the enquiry question (e.g. formula for combustion, nuclear energy facts)
- 1-3 pieces of irrelevant information (e.g. Mr Green's favourite food)

Mystery: instructions for teaching

- Organise your students into groups of four and give them the key 'mystery' question.
- Show them the information slips and explain that their task is to solve the mystery by providing a full answer to the question. Encourage them to think of a strategy for doing this.
- Hand out the information slips and allow the students to get on with it. Some will sequence the slips into a story, others may group together those that relate to each character.
- Hear the conclusions as well as the different strategies that students have used.
- If appropriate, students could then be asked to classify the information in a variety of different ways, e.g. into sets of background, long-term, short-term and trigger causes .
- Other possibilities could involve asking students to prioritise the reasons they have found or linking the evidence in a Concept Map.

Mystery: teaching tips

Introduce the mystery tool by asking, 'Who in real life solves mysteries?' Having established that this is typically the work of detectives, you can ask, 'How do they do this?' and draw out from your students suggestions about the enquiry process. Vary the level of difficulty by changing the amount, complexity and literacy demands of the information, by introducing all the slips at once, or distributing them in stages.

Allow room between your pieces of information for ambiguity and inference. Enquiry often throws up facts that can appear unrelated until new evidence provides the link and the 'Ahh...now it makes sense!' moment. Allow questions to clarify meanings and terminology on the slips.

Mystery: talking about thinking

Words that might help in the course of the activity and in the plenary are:

enquire, infer, plan, link/connect, probable, analyse, hypothesise, conclude, evidence, possible, sequence, predict, refine, data, certain

Plenary questions might include:

- How did you solve the mystery?
- Is that a full answer; is there anything left unexplained?
- What assumptions/inferences have you made: are they reasonable?
- What have you learned that could help you to find answers to your own questions? What other information could be presented as a mystery?

The Standards site has a selection of subject specific mysteries and other thinking tools . These can accessed at: <u>http://www.standards.dfes.gov.uk/secondary/keystage3/all/respub/ws_lil_ts</u>

Thinking tool 2: Inference Square

The inference square is a particularly effective strategy for stimulating curiosity and for encouraging students to take ownership of the enquiry process.

It is also useful for students who tend to take information at face value, as it encourages them to:

- 'read between the lines' drawing inferences from what they see or read
- take a more take critical approach to the information and evidence they are using during their enquiry, therefore increasing the validity their conclusions.

What does the	source NOT tell you?	
w	hat can you INFER from the source?	¬
	What does the source tell you for CERTAIN?	
		_

You can download an inference square template from: <u>http://www.teachingexpertise.com/files/Inference%20square%20template.pdf</u>

Inference square: instructions

The inference square stimulates curiosity by starting with an intriguing source - usually a picture or photograph - that will act as a starting point for enquiry.

1. Organise students into groups of four and distribute the source and the inference square template.

2. Working outwards from the centre, students must respond to a series of questions:

- What does this source/picture/information tell you for certain?
- What can you infer (work out) from this source?
- What does this source not tell you?
- What questions do you have?

These questions draw students into an increasingly sophisticated analysis and evaluation of the source and spur them to create enquiry questions of their own.

Inference square: teaching tips

With a more complex picture, you could overlay a grid and ask each group of students to look in detail at a different section. This tends to encourage students to look longer and 'see more' within their particular section.

Make the skill of inference more explicit and visible to your students by asking them to draw lines between facts they have recorded in the central box and the related inferences. The example is taken from an inference square on Victorian towns.

Inference square: talking about thinking

Students will find the following words useful to help them talk about their thinking: fact, opinion, certain, infer/inference, hypothesis, source, evidence, challenge, question, evaluate, useful, reliable, connection, prove, inquire

Encourage students to explain the inferences they have made with reference to the source, asking, 'What made you think that?', 'What are the clues in the source that led you to that conclusion?'

Other talking points might include:

- What's the difference between giving an opinion and making an inference?
- What's the difference between imagining and making an inference?
- When might 'reading between the lines' be a useful skill to have in everyday life?

This article was first published in an e-bulletin - issue September 2008.

Archaeological Enquiry Method

- This method is borrowed from archaeology, whereby students are encouraged to formulate a wide range of questions and develop hypothesis based on a single object. It works from the object 'outwards'.
- One of the many benefits of this approach is that it can be a way to encourage links with previous learning/learning from other subjects/personal experiences. As a result, underachieving and/or disengaged students can find a way to connect with their learning.
- Students can use it to generate questions in an entirely open way or can be prompted by referring to specific subject discipline-related skills and thinking.
- In addition, the approach can be used to scaffold higher order questions, supporting lower ability students and encouraging higher ability students to 'go deeper' and put a brake on their thinking.
- Each group can then take responsibility for the teaching of other groups in what they have learnt.
- **NB** a key component of this method is to underpin the enquiry and questioning with the question: "How will I/we find out?"

Examples:

Students may come up with ...

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Build a sequence of questions in response to an object ...



Who used/uses this?		
When was/is this used?		
What is it made of?		
How was/is this made?		
What was/is it used for?		
Where was/is it used?		
What does it say about the people/ environment/communities?		
Why was/is it important?		HOW WILL
What do I think about it?	$\left \right $	
What do others think?		
Why does it matter to anybody NOW?		
How does this link with what I already know?		
How does this link with my OWN life?		
What if we used this now?		

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Structuring enquiry-based learning & group work discussions

TASC: Thinking Actively in a Social Context (Belle Wallace)

TASC means Thinking Actively in a Social Context and is a framework that helps develop thinking and problem solving skills. With TASC students can think through a problem to the best outcome – and understand why it's the best outcome. It guides you through the stages of thinking and problem-solving in an organised way. If you have a complex or wide-ranging problem you want to tackle, it offers a means of organising and synthesising a range of ideas.

TASC – Thinking

- Can be improved;
- · Can cope with complexity;
- Across the spectrum of human abilities.

TASC – Actively

- Ownership of learning;
- Part of decision-making;
- Self-esteem;
- Aware of long-term goals.

TASC – Social

- Independence;
- Inter-dependence;
- Enviro-dependence.

TASC – Context

- · Immediately relevant concrete;
- Wider world abstract.

The framework empowers learners to:

- Work independently yet within an inclusive school policy;
- Develop skills of research, investigation and problem solving that can be used across the curriculum;
- Develop a positive sense of self as active learners;
- Demonstrate their abilities using the full range of multiple intelligences;
- Develop skills of self-assessment.

TASC provides teachers with a framework for:

- Lesson planning that systematically develops students' thinking and personalises their learning;
- Effective planning for differentiation and extension;
- An holistic approach to incorporating the multiple intelligences;
- Assessing the processes of students' learning.

Students can learn these expert thinking skills and gradually become more like expert thinkers. They need to use the TASC Wheel to guide the stages of their thinking. TASC provides a model for Inclusion and Personalised Learning: more able students can fl y with it; children with special learning needs can use it as a thinking support.

Any method that claims to develop students' problem-solving skills should include the following:

• Learners need to gather and organise what they already know at the beginning of each new topic. In this way both teachers and students identify what is known and understood.



This makes it possible to differentiate in lesson plans, and to avoid repetition of work for the more able. Repetition often leads to the more able becoming bored and frustrated.

- Students need to establish the criteria for success at the beginning of the task. More able students also need examples of excellence to analyse so that they can identify what they are trying to achieve; this helps them to evaluate their own work and measure their own success against known criteria.
- Since able students often easily satisfy the expectations of their teachers, they need to be challenged to achieve excellence beyond the norm.
- Learning is crystallised when students reflect on the 'what' and the 'how' of their learning. All learners need to be able to see how they are developing and progressing. By analysing what new knowledge, skills and concepts they have learnt at the end of every topic, students can consider how they can be used elsewhere within and beyond school.

The TASC wheel can be used to help assess students' problem-solving ability. This can be used in conjunction with the following.

 Gather and organise Does the student show: a wide knowledge of the topic? recall of extended information? a sound understanding of advanced concepts? the ability to organise data in complex groups? 	 Identify Can the student: demonstrate full understanding of the tasks set? explain the task fully? work to advanced/high-level objectives? identify missing detail or knowledge?
 Generate Can the student: suggest alternative methods? collect and organise a variety of evidence? see different perspectives? find new ways of accomplishing tasks? 	 Decide Can the student: demonstrate full understanding of the tasks set? explain the task fully? work to advanced/high-level objectives? identify missing detail or knowledge?
 Implement Can the student: carry out a plan efficiently? monitor and analyse progress? change direction when necessary? see the next steps clearly? 	 Evaluate Can the student: evaluate work against criteria? see ways to improve work? carry out improvements? reflect on the quality of the task?
Communicate Can the student: • explain clearly to others? • share what is known? • select relevant information? • present in different modes?	Learn from experience Can the student: • reflect on and learn from experience? • transfer skills and knowledge? • retain new knowledge? • articulate new skills?

Remember that you can move forwards and backwards through TASC stages – changing and adding to your ideas. For more information visit: <u>www.nace.co.uk</u>.

The TASC Problem-Solving Wheel



Children can cut and laminate the TASC wheel and fasten it with paper clips into their writing books. They can also redesign the wheel and invent their own symbols for each stage of the problem-solving wheel. Then pupils can use the wheel to guide their thinking and planning. Importantly, the problem-solving process must be used across the curriculum whenever it is appropriate.

© Belle Wallace (2000) Teaching the Very Able Child: Developing a Policy and Adopting Strategies for Provision, David Fulton Publishers (in association with NACE)

Developing Learners' Language for Thinking: Self and Group Assessment



Questions to Develop Thinking in the TASC Problem-Solving Model

© Belle Wallace (2001) Teaching Thinking Skills Across the Primary Curriculum (NACE/Fulton Publication) David Fulton Publishers

Assessing my Project



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Practical teacher observation checklist outlining general problemsolving abilities (identified through DISCOVER/TASC observations)

- Ideas are used by other children
- Recalls strategies
- Transfers strategies
- Sees connections
- · Reflects on own practice
- Suggests improvements
- · Explains and justifies
- · Discusses similarities and differences
- Monitors own progress

- · Makes several groupings of ideas and things
- Invents strategies for problem-solving
- Develops others' ideas
- Understands tasks quickly
- Distinguishes important features
- Organises materials
- · Generates several ideas
- Needs minimum explanation
- Explains task easily



© Belle Wallace, June Maker et al. (2004) Thinking Skills and Problem-Solving – An Inclusive Approach David Fulton Publishers, with acknowledgement to Karen Collins and Usanee Anuruthwong

The Fox Thinking Tool

How it works:

- Organise students into groups.
- Give each student a 'wedge' on which to write their own personal thoughts/ideas.
- Each student in the group takes their turn to read out what they have written. As this is done, they stick their wedge to the previous wedge, eventually creating a doughnut shape.
- The doughnut is placed on a large piece of paper and a circle is drawn around the inner ring.
- Students then agree similarities in each of their contributions and make a bullet point list on the inner ring.
- The doughnut is then removed and the students are asked to respond to sub-questions, using the bullet point list as a start point for their responses.
- Several sub-questions can be asked (maximum three) before the students have enough information to create their action plan.



Why it works:

- Encourages/allows ALL students to contribute and listen during a brain-storming session.
- Slows thinking down, encouraging students to consider alternate views/ideas to their own.
- Everybody HAS to be involved.
- Everybody's contribution is visibly valued as part of the process.
- Allows big questions to be tackled in manageable 'chunks'.
- Prevents rushing ahead into what is believed to be required or 'the right answer'.
- Allows students to think at their own level, starting at their own entry point, and work on from there.

Higher Order Questioning



Good questioning is a key component of the effective teachers' repertoire

- Key questions are identified in planning, to assist with input delivery and as a basis for formative assessment;
- Probing questions are used early on in a unit, to establish prior learning;
- Questions can uncover pupils' errors and misunderstandings;
- · Questions can invite pupils to explain their ideas, approaches and views;
- Questions can challenge pupils to think more deeply;
- Imaginative questions can really inspire children, and stimulate creative activity.

Building Blocks to Thinking



Bloom's Taxonomy

Bloom's taxonomy is very useful both in planning objectives and in planning increasingly challenging questions. The taxonomy classifies educational objectives into groups according to the level of cognitive complexity involved and kind of thinking needed to meet the objectives.

In summary, Bloom's taxonomy suggests that people first need to acquire knowledge before they can understand the knowledge. They need to be able to understand the knowledge before they can apply it to different contexts. They need to be able to apply knowledge before they can analyse, question or infer from the knowledge. Only when they have done that can people combine different kinds of knowledge to create new knowledge. Finally, when a person is able to combine knowledge in this way, they are then able to evaluate. Moving between these stages demands increasingly complex thinking on the part of the learner.

Building on Bloom's Taxonomy, teachers can easily move students to recall more than simple knowledge-level facts. By asking higher-order questions, teachers can require students to think about what they've learned and find ways to apply it to their lives and other disciplines. Over the page are some examples of questions that go with each level of Bloom's Taxonomy.





Questions FROM more able pupils

- It is crucial that children with potential to think in highly creative ways are given the opportunity to ask questions themselves.
- They need encouraging to take these mental plunges into the unknown.
- They also need support in acquiring the ability to frame their questions properly.

Ten 'Top Tips' for effective questioning

- 1. Use of body language (eye-contact, smiling, raising eyebrows, nodding etc.) to encourage responses.
- 2. If a child doesn't respond at all, ask a simpler question that leads to the answer to the original question.
- 3. Use wrong answers constructively, so that children retain the confidence to think for themselves.
- 4. Do not ignore answers. Make a positive response of some kind, perhaps offering alternative suggestions to be considered.
- 5. Place key questions, including those for higher attainers, in the introduction to each planned lesson segment, i.e. the lesson intro, the focused group work and the plenary.
- 6. Direct your questioning, with pre-planned differentiation for higher attainers.
- 7. More able (G&T) pupils need their own particular questions.
- 8. Invite specific individuals to respond.
- 9. Allow pauses for reflection and response, and do not answer your own questions.
- 10. Use sequences of increasingly difficult questions.

Questions/Prompts to Develop Cognitive Thinking

- When have you done something like this before?
- How do you feel if?
- Yes, that's right, but how did you know it was right?
- When is another time you need to?
- Stop and look carefully at what you are doing.
- Can you think of another way we could do this?
- Where have you done that before to help you solve a problem?
- How can you find out?
- How is Different from (like)?
- Tell me how you did that.
- What do you need to do next?
- What do you think would happen if?
- What do you think the problem is?
- Why is this one better than that one?
- · Let's make a plan so we don't miss anything.

Greating More Challenge

Starters

- Set investigations across a sequence of lessons.
- Select pupils to set the starter activity.
- Address the same objective through texts and tasks at varying levels.
- Use pair or small group work with ability pairings or groupings at times.
- Expect pupils to articulate rules or patterns to clarify understanding.
- Have tasks or examples that require higher-order thinking skills.
- Use differentiated or open-ended questioning.
- Make a statement and ask for it to be justified.
- Exploit the power of the follow-up question: 'What makes you think that?'
- Have a range of tasks based on the same text or focus.
- Ask more able pupils to articulate the skills involved in completing particular tasks.

Whole class

- Use differentiated questions.
- Differentiate expectations.
- Prepare questions targeted on particular pupils that reflect their needs and personalities.
- Prime able pupils for contributions that extend the experience of all.
- Pitch texts just above the independent reading level of the class.
- Avoid over-exposure of able pupils.
- Direct questions to individuals to involve able pupils in interactive discussion.
- Expect able pupils to articulate what has been learned.
- Give an oral commentary with the more able in mind.
- · Involve pupils in modelling if appropriate.
- Ask able pupils to articulate explanations and principles.
- Make it possible for able pupils to enter tasks at a higher point.
- Use modelling to build the confidence of able pupils.
- Model problem-solving at different levels.
- Use the terminology to support meta-cognition.
- · Model only that which able pupils need to know.

Group work

- Recognise that able pupils are entitled to teacher time.
- Identify able pupils' shared needs and group accordingly.
- Use additional adults as mentors.
- Create task-specific groups.
- Vary group membership.
- Ensure that there are times when the ablest pupils work together.
- Ensure that able pupils have the opportunity to follow and to lead.
- Give able pupils roles in group work that reflect their abilities.
- Have group group/pupil targets, not just class targets.
- Promote self-evaluation.
- Recognise and use the linguistic expertise of multilingual pupils.
- Use out-of-lesson conferencing, for example with mentors.
- Encourage pupils to set questions, not just to provide the answers.
- Negotiate over objectives, styles of response and criteria for evaluation.
- Be open to suggestions that build on the pupils' cultural backgrounds.
- Decide together on the objectives to be addressed by able pupils.
- · Discuss possibilities over presentation.
- Allocate challenging roles in group work, for example, chairing the group, taking responsibility for moving discussion forward.
- Use peer editing or marking.
- Require the articulation of principles and development points.
- Expect 'different' rather than just 'more'.
- Help able pupils to contribute to the success of others.
- Focus on qualitative outcomes.
- Explore possibilities for acceleration.
- Give all learning a time frame, but match timing to potential.
- Compact the task and give a limited focus to promote depth.
- · Plan to engage with higher-order thinking skills.

Plenaries

- Expect pupils to offer explanation, not just presentation.
- Exploit the possibilities of presenting in role and reporting back.
- Encourage able pupils to take notes for feedback.
- Allow able pupils a different timescale for feedback, for example via OHP or ICT at the end of the week.
- Be aware of the attitudes of other pupils.
- Focus on the articulation of what has been learnt, using appropriate terminology.
- Tackle demanding objectives.
- Instil the habit of reflection on learning.
- Build understanding of the big ideas.
- Enable able pupils to work with others of similar ability.

Independent work

- Marking should be formative, not just celebratory, and should be focused on specific criteria.
- Share differentiated success criteria in advance.
- Vary styles of response and avoid excessive pressure.
- Offer the inspiration that can come from meeting older pupils who are gifted or talented.
- Encourage self-checking based on prompt sheets for self-analysis.
- Monitor independent reading round the subject.
- Learn about the process of enquiry via the published comments of practitioners.
- Extend and exploit the conventions of different text types.

- Match texts and tasks to pupils' abilities through negotiation based on high expectations.
- Establish extra-curricular groups.
- Foster originality, independence and initiative.
- Set investigative, research-based tasks.
- Make time for individual feedback.
- Promote extended reading and writing.
- Expect the use of ICT and encourage (monitored) e-mail link-ups with able pupils in other schools.
- Consider having students in training as e-mentors for able pupils.
- Ensure appropriate access to ICT.

Summary

- Questioning is a fundamental strategy in the effective teacher's repertoire.
- Open questions, especially conceptual and value-based questions, suit AGT children well.
- Highly effective teachers plan questions in advance and use them for a range of purposes, e.g. to challenge and assess the more able.
- Questions which promote analysis, synthesis and evaluation are essential to promote higherorder thinking in more able children (G&T).
- As we have seen, the higher the subject level, the higher the order of thinking that is required. Questions to more able children must reflect this reality.
- Various techniques need to be deployed if the able, gifted and talented are to be effectively questioned.

De Bono's StxThinking Hats

What is it?

Six Thinking Hats is a strategy devised by Edward de Bono which requires students (and teachers), to extend their way of thinking about a topic by wearing a range of different 'thinking' hats:



- White hat thinking focuses on the information available and needed.
- Black hat thinking examines the difficulties and problems associated with a topic.
- Yellow hat thinking focuses on benefits and values.
- Red hat thinking looks at a topic from the point of view of emotions, feelings and hunches.
- Green hat thinking requires imaginative, creative and lateral thinking about a topic.
- Blue hat thinking focuses on reflection, metacognition (thinking about the thinking that is required), and the need to manage the thinking process.

The colours help students to visualise six separate modes of thinking and to convey something of the meaning of that thinking, for example, red as pertaining to matters of the heart, white as neutral and objective.

Summary of Edward de Bono's Six Thinking Hats



What is its purpose?

Students learn to reflect on their thinking and to recognise that different thinking is required in different learning situations.

Hat	Explanation	De Bono says to think of	Key Questions
White	 Focuses directly on the available information Facts Neutral information NOT argument or making suggestions. 	Blank paper Computer printout	 What information do we have? What information is missing? How do we get the information we need?
Red	 Emotions Feeling Hunches Intuition Likes and dislikes 	Fire and warmth	 What do you like about the idea? How do you feel about this? What don't you like about this?
Black	 Most used of all the hats Concerned with truth and reality Hat of critical thinking Prevents us from making mistakes 	Stern judge	 Will it work? Does it fit? What are the dangers and the problems?
Yellow	 Benefits of an idea Yellow hat is full of hope logical hat so the reason behind the hope must be given Seeks to find and show the benefits 	Sunshine and optimism	 What are the benefits? Why should it work?
Green	 'Active' hat Used for creative thinking Concerned with proposals, suggestions, new ideas, alternatives, new solutions and inventions Emphasis is on 'newness' 	Grass, trees, vegetation	Key questions should focus on: 1. Exploration of the ideas 2. Proposals and suggestions 3. Alternatives 4. New ideas 5. Provocations
Blue	 Overview The process control Above the thinking, looking down on thinking Thinking about thinking! 	Blue sky (above everything) Conductor of an orchestra	 What sort of thinking is needed? Where are we now? What is the next step? Where have you been?

Reference: de Bono, Edward. (1992). Teach Your Child How to Think. London : Viking.

How do I do it?

Consider an issue or topic which you would like your students to explore, for example, the influence of an advert on its intended audience. Explain what thinking is required for each of the hats. Have students working in small groups to ask themselves a range of questions:

- White hat what are the facts about the advert?
- Black hat what are some of the negatives about the advert?
- Yellow hat what do people gain from looking at this advert?
- Red hat how does the advert make us feel?
- Green hat what could be changed to make the advert more accessible or more appealing?
- Blue hat how do the mass media in general affect our culture?

Groups report back to the whole class about the types of ideas generated using the six hats. The teacher points to the breadth of views and thoughts, and explains that this is as a result of making ourselves apply a range of different types of 'thinking'.

How can I adapt it?

Six Hat Thinking can be applied to many situations in which brainstorming, problem solving, creative and lateral thinking are required. This strategy can be a very useful tool in reviewing a range of texts or even creating a character profile. How can it be used to evaluate students' language learning?

There is a range of possible assessment outcomes in using Six Hat Thinking including:

- Understands and interprets the task
- Uses strategies to assist or facilitate discussion
- Contributes to discussion
- · Comprehends and applies the six ways of thinking





List 3 things you learnt today, 2 things you are unsure about and 1 question you would like to ask.

		1. A question I w	ould like to ask		
	2. What I am uns	ure about	2. What I am uns	ure about	
3. What I learnt		3. What I learnt		3. What I learnt	

Possible checklist of challenging activities

Strategy	Frequency	Example
Planned sequences of higher order questions at various stages of the lesson		
Time & resources to 'go deeper'		
Individual/group enquiry-based learning		
Individual/group structured open-ended tasks		
Different entry points (including student- determined)		
Explicit thinking & questioning skills		
Planned & structured opportunities for reflection		
Links to other subjects		
Links to 'real' world/personal experiences		

Useful Websites

www.nace.co.uk – home of NACE: National Association for Able Children in Education – the only independent source helping teachers in their daily teaching. Go here for specialist advice, resources for teachers and pupils, national conference, CPD and the famous NACE Challenge Award self-Evaluation Framework – **info@nace.co.uk** 01865 861879

<u>http://www2.teachernet.gov.uk/</u> - home of GTWise – Quality Standards and loads of information here to support the management of G&T provision.

<u>http://www.londongt.org</u> – London Gifted & Talented – a fantastic interactive site – if you register, you'll get a password that allows you to access pupil activities and teacher resources.

www.nagcbritain.org.uk – organisation that supports the parents/carers of G&T pupils.

www.barryhymer.co.uk – Barry Hymer's site – he does loads of courses and training/conferences. Lovely chap, very personable and might be good if you wanted to organise a conference/training day (also does P4C courses!)

www.YG&T.co.uk – newly created website to support ALL national developments in G&T Education. Acts as the hub of all things G&T.

www.independentthinking.co.uk – an educational consultancy with resources available on the website.

www.thinkingclassroom.co.uk – Mike Fleetham's site – he does courses and training and has resources available on his website.