



# Modelling Learning

presented by  
Dr Alan B Jones

member



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**Warning : These EMOTIVE STATEMENTS are designed to provoke an emotional response in you!**

**ANYONE WORKING WITHIN EDUCATION NOT ACTIVELY INVOLVED IN THEIR OWN LEARNING SHOULD BE REMOVED FROM THEIR POST**

**ALL STAFF WITHIN SCHOOLS SHOULD HAVE A PERSONAL LEARNING PROFILE AND TALK OPENLY WITH STUDENTS ABOUT THE FACT THAT THEY ARE ENGAGED IN LEARNING**

**ALL LEARNERS (including School Staff) SHOULD BE PRAISED FOR THEIR ACHIEVEMENTS AND ENCOURAGED TO EMBRACE THEIR “FAILURES”**

# VALUES and ATTITUDES

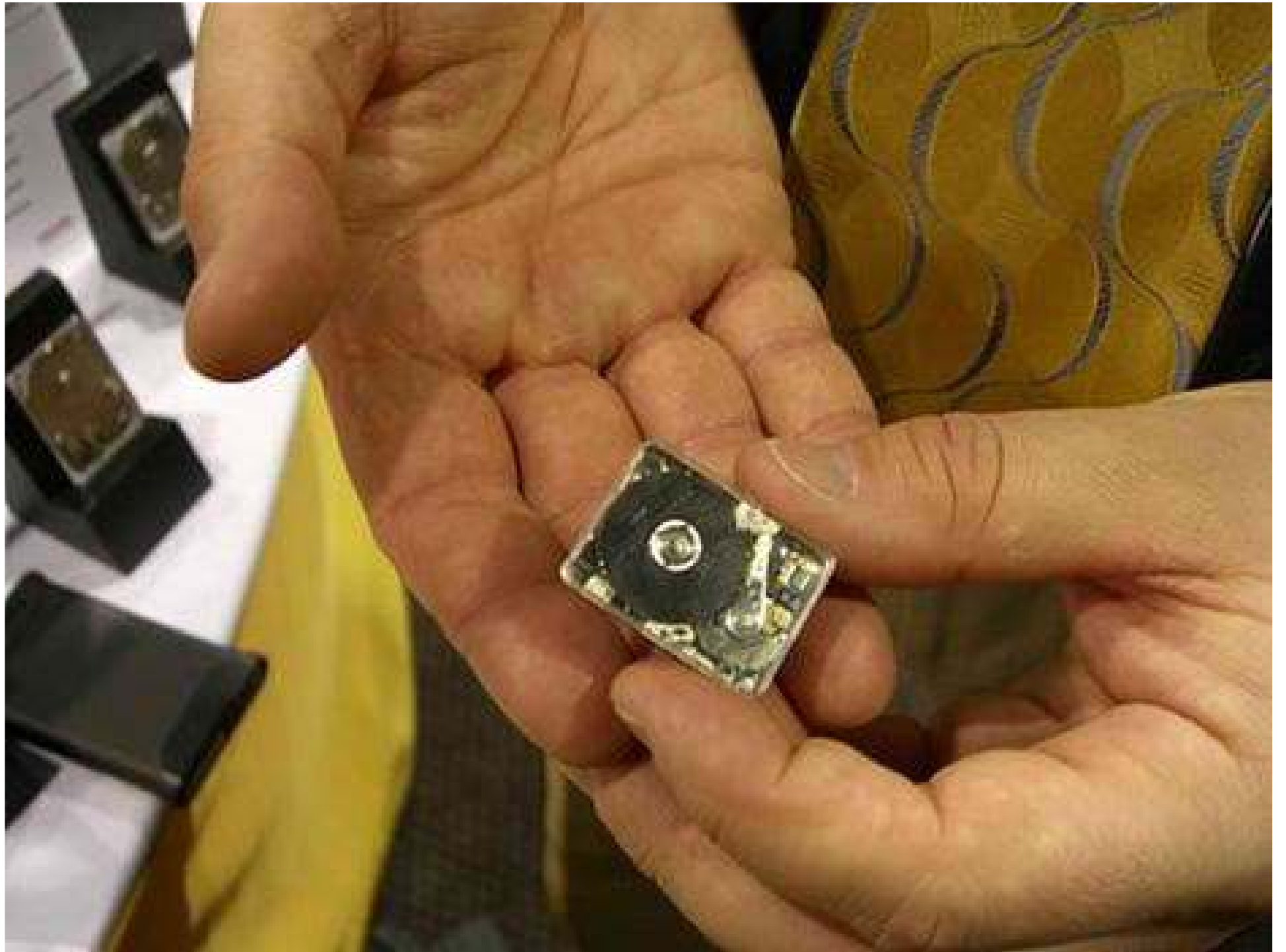
- Learning is a LIFE LONG endeavour
- Learning is NOT about passing exams
- Learning for LEARNING sake is to be celebrated
- We are ALWAYS learning

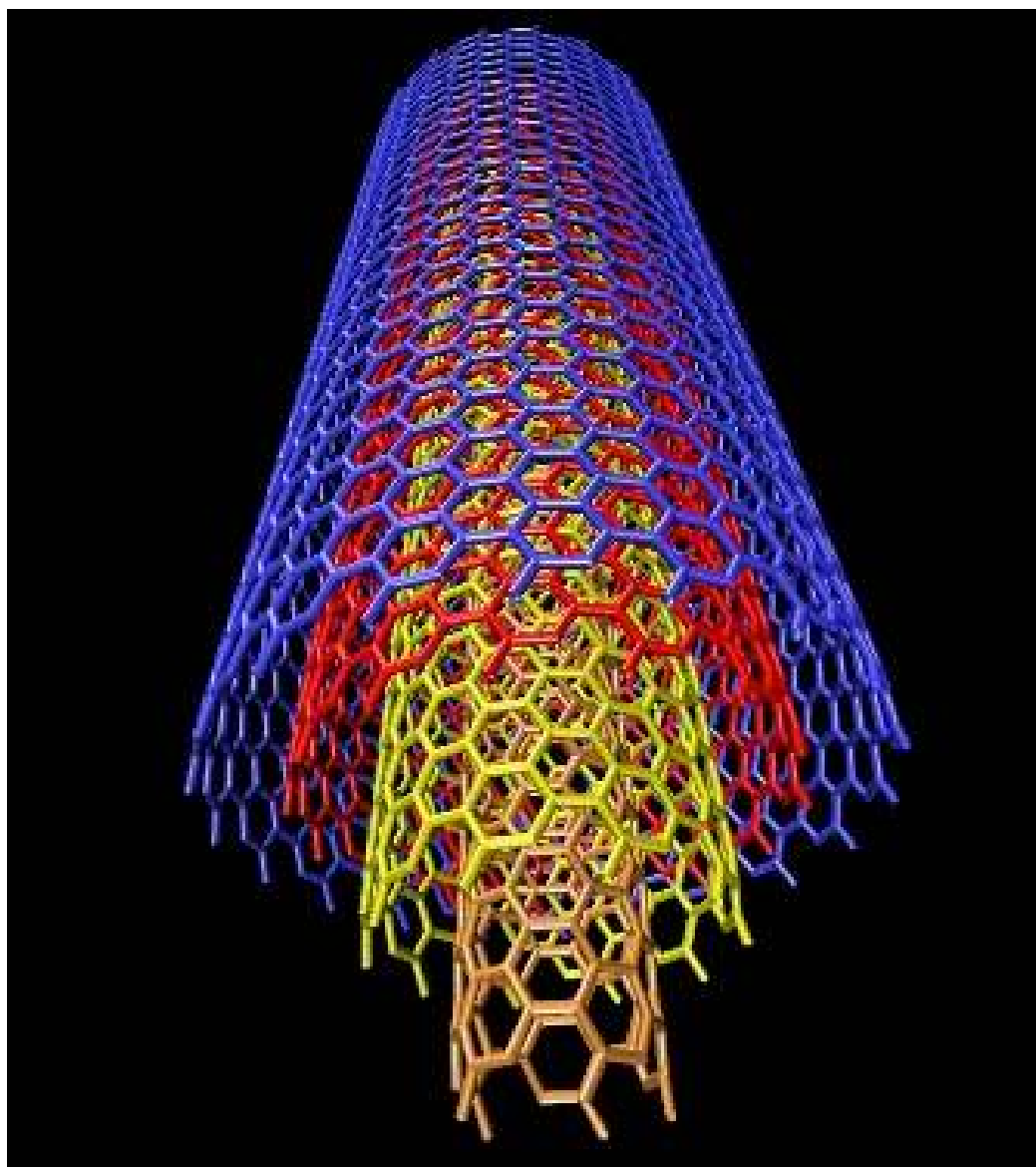
## Children starting school now will:

- Be 18 in 2022
- Retire in 2075

**The world we are educating children to enter does not yet exist.**

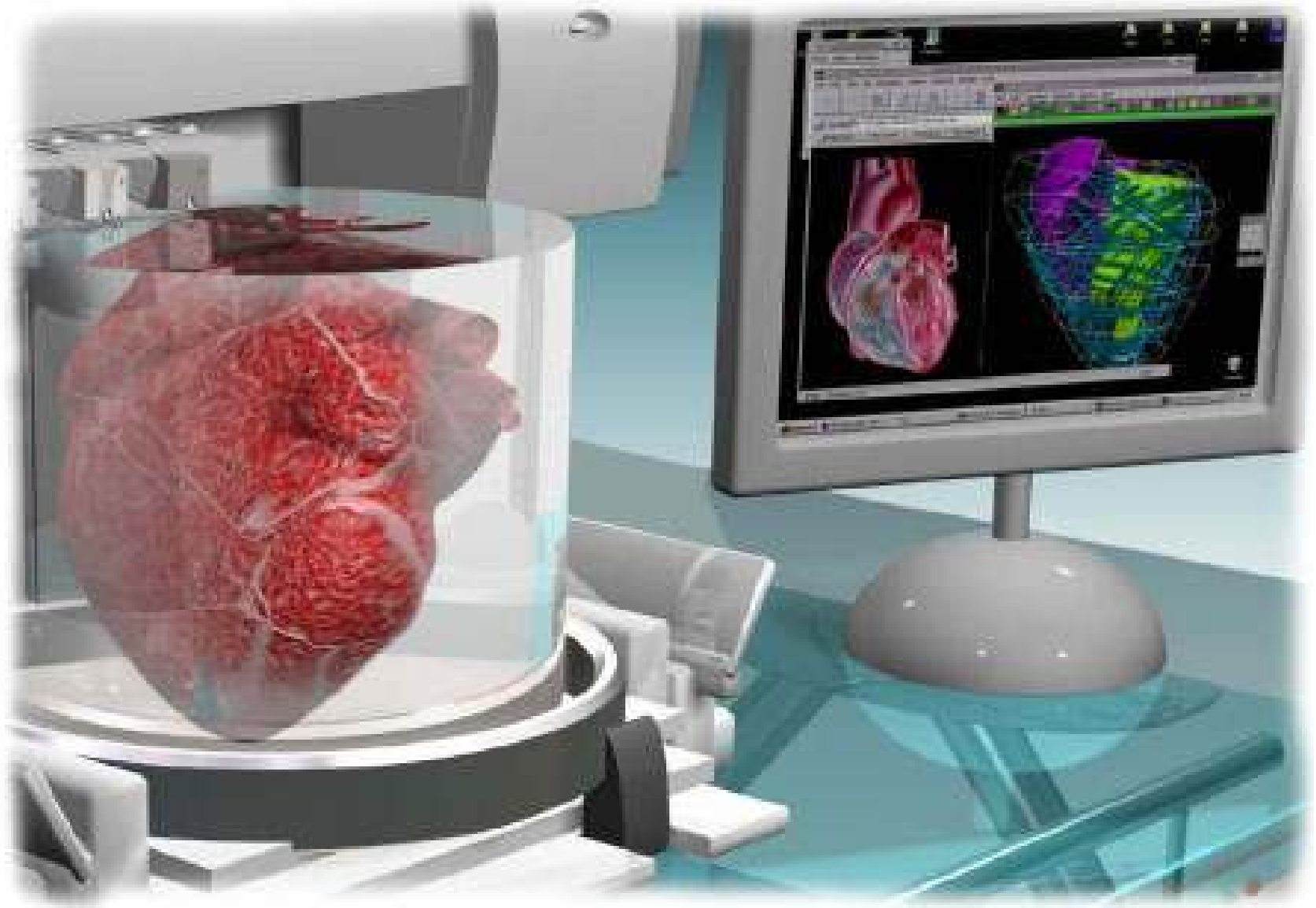
Despite this we are designing education programmes and defining what is to be learned, examined, understood based on what we know of the world now!

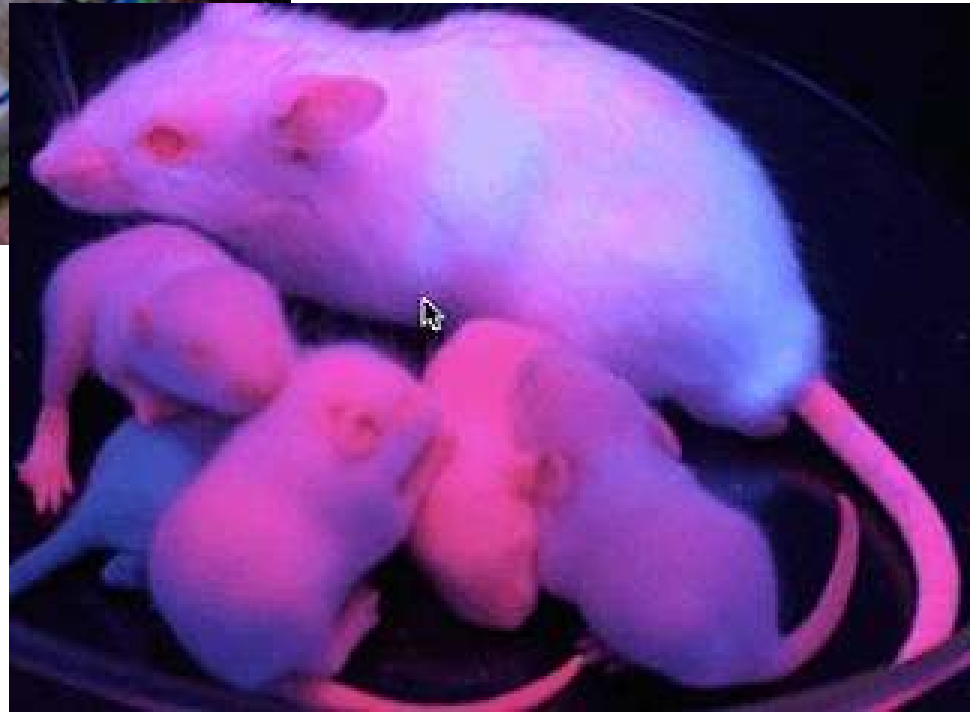
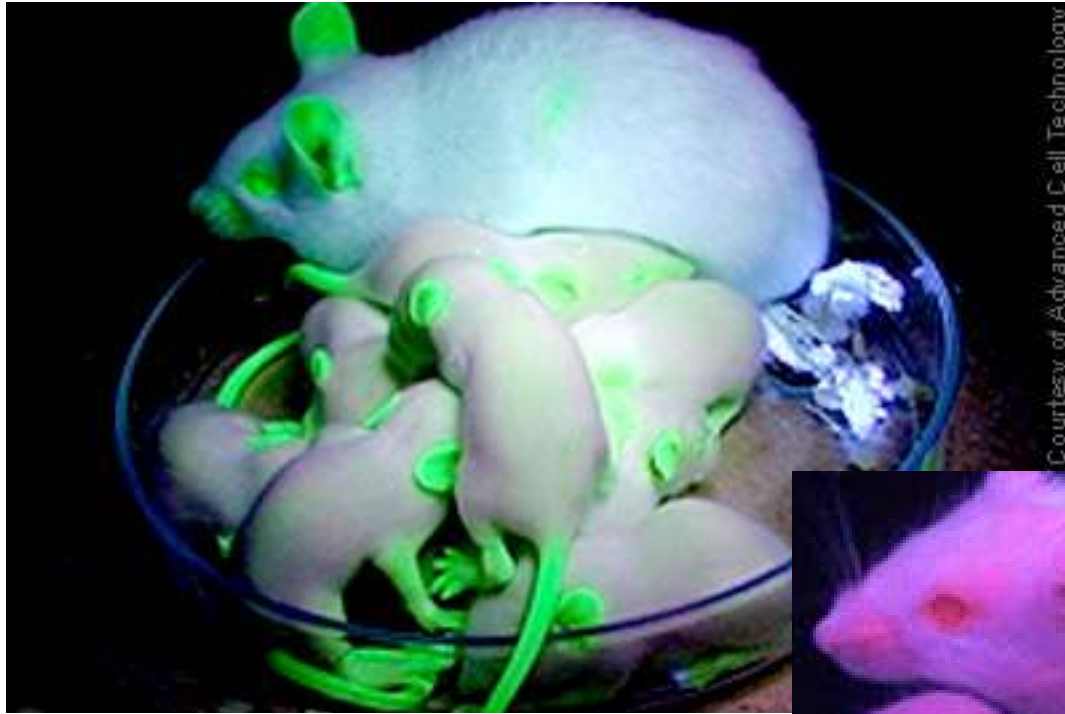


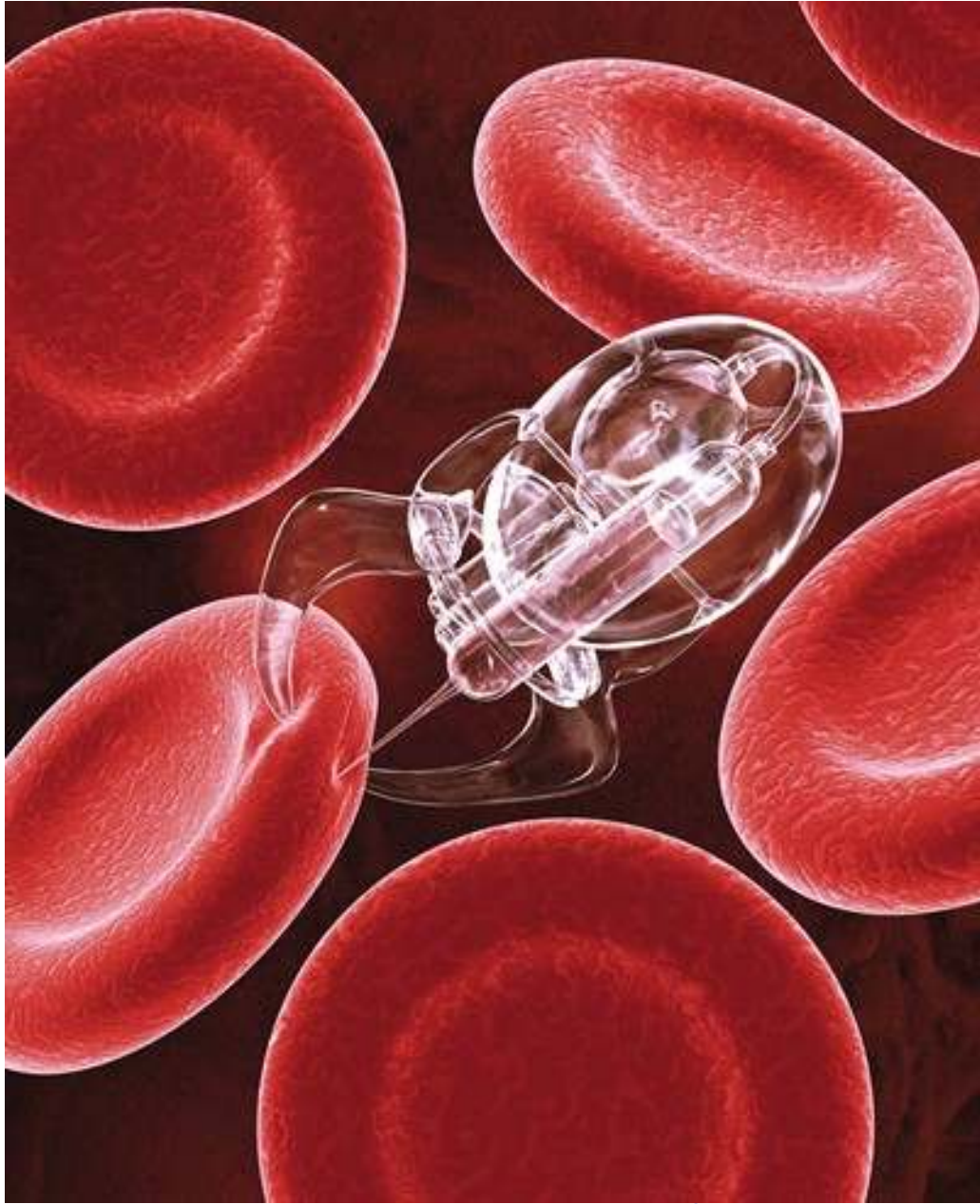




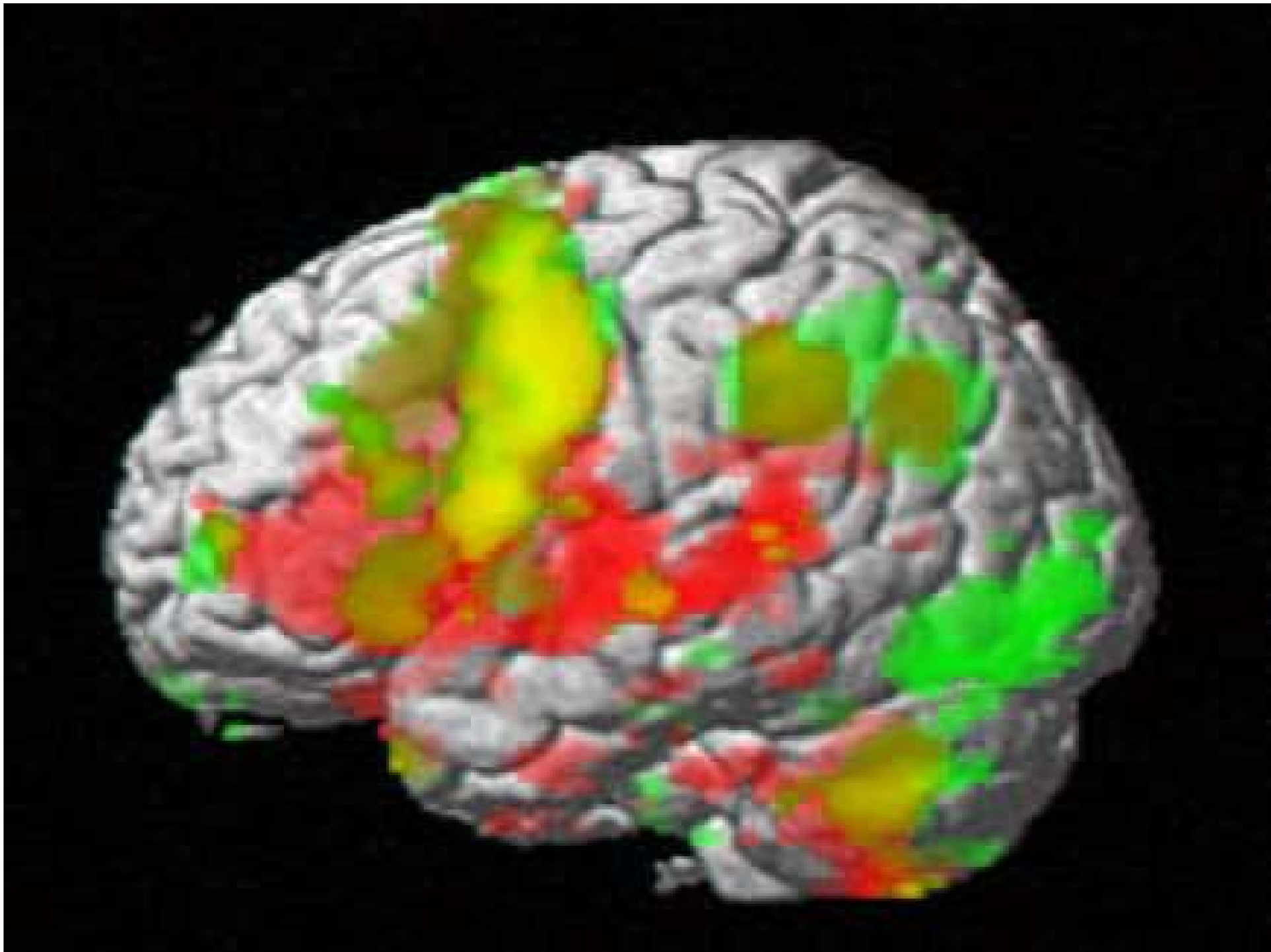


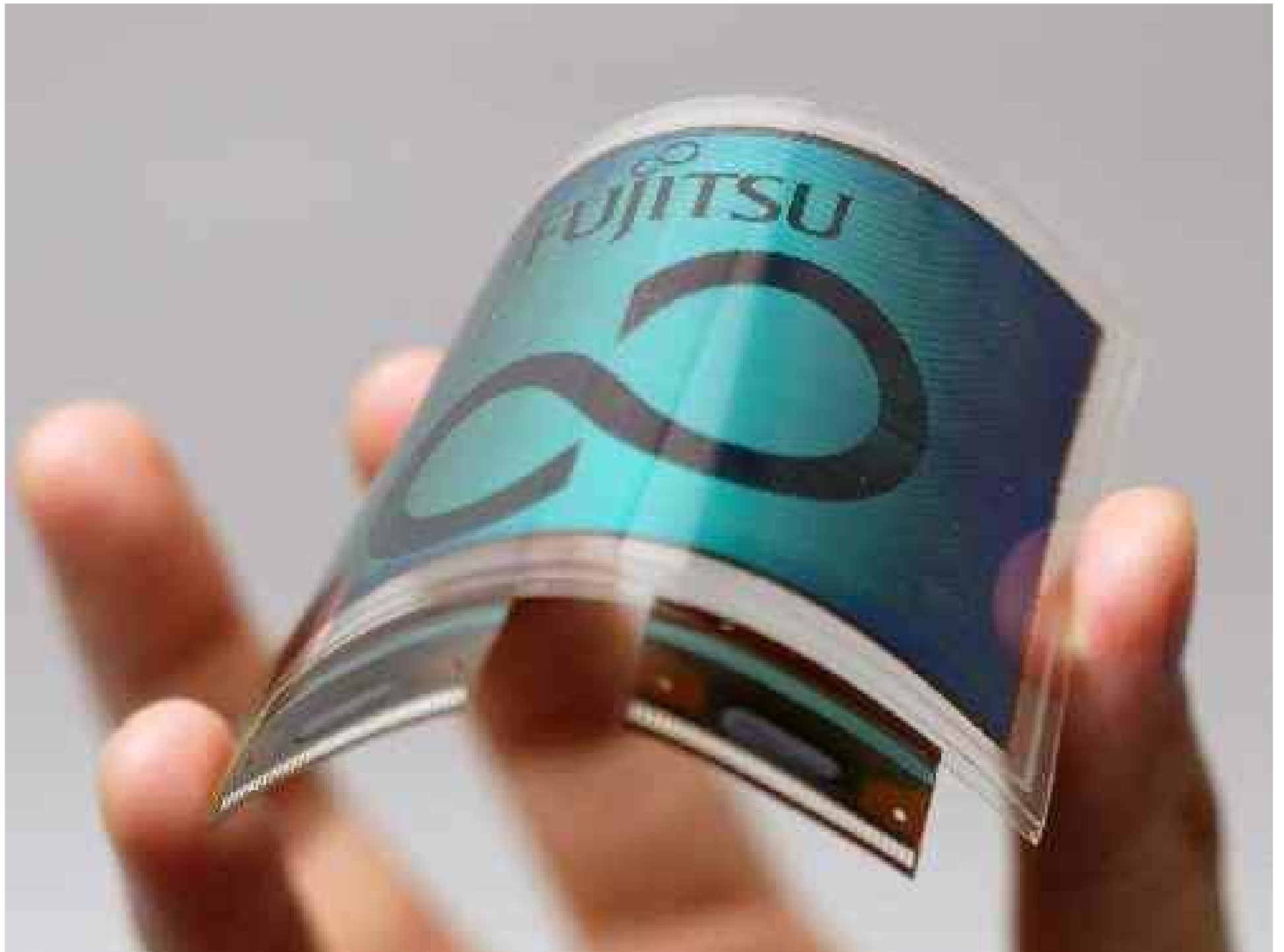






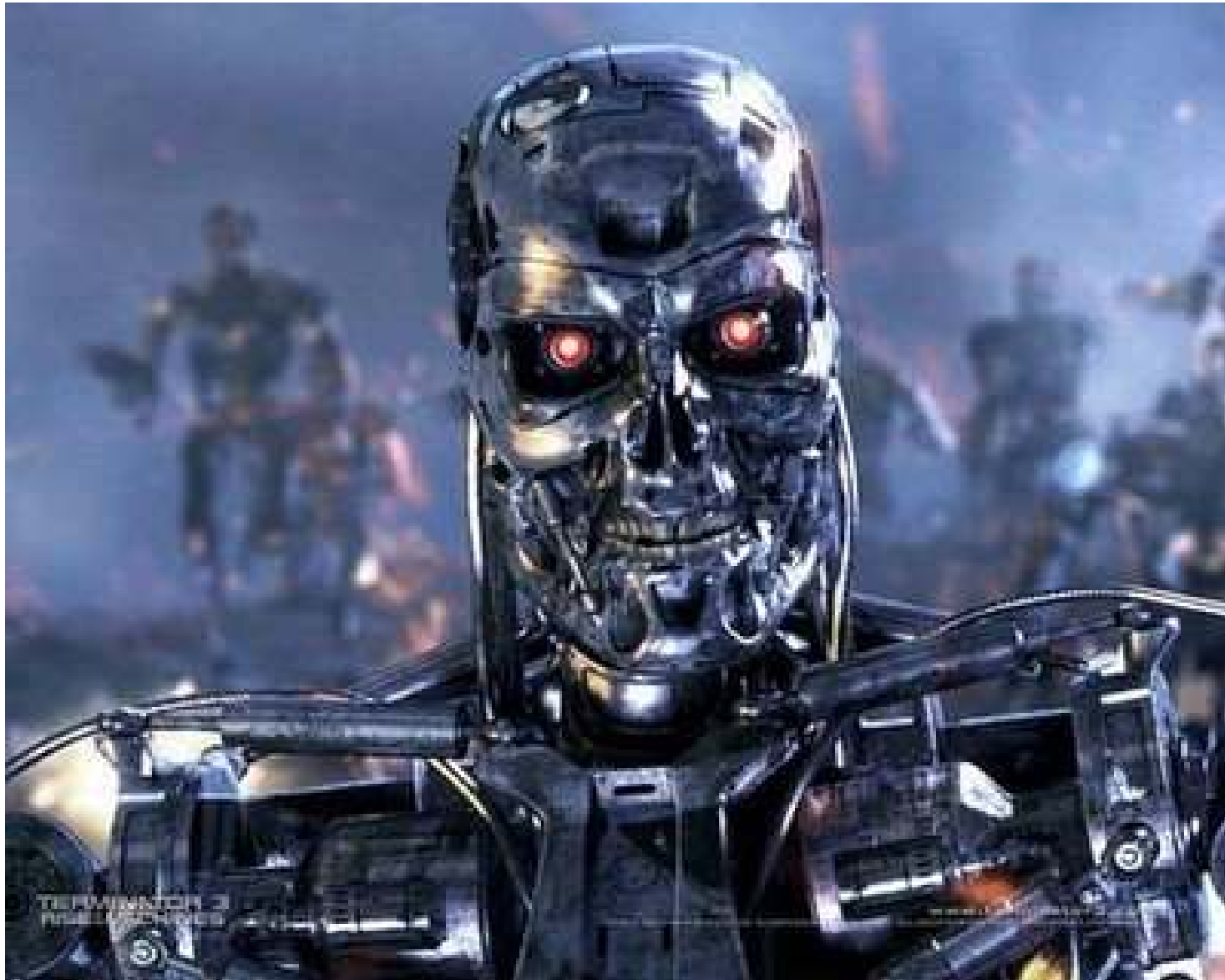
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A number of years ago educational authors Dryden and Vos noted:-

***“We are currently preparing students for jobs and technologies that do not yet exist and to solve problems we do not know are problems yet.”***

# Four Key Skills Areas

The ability to ACCESS and ASSESS information

Read, Think, Question, Research, Evaluate, Reflect

The ability to COMMUNICATE with others effectively

Literacy, Numeracy, Graphicacy, Operacy, IT

The ability to MANAGE and LEAD self

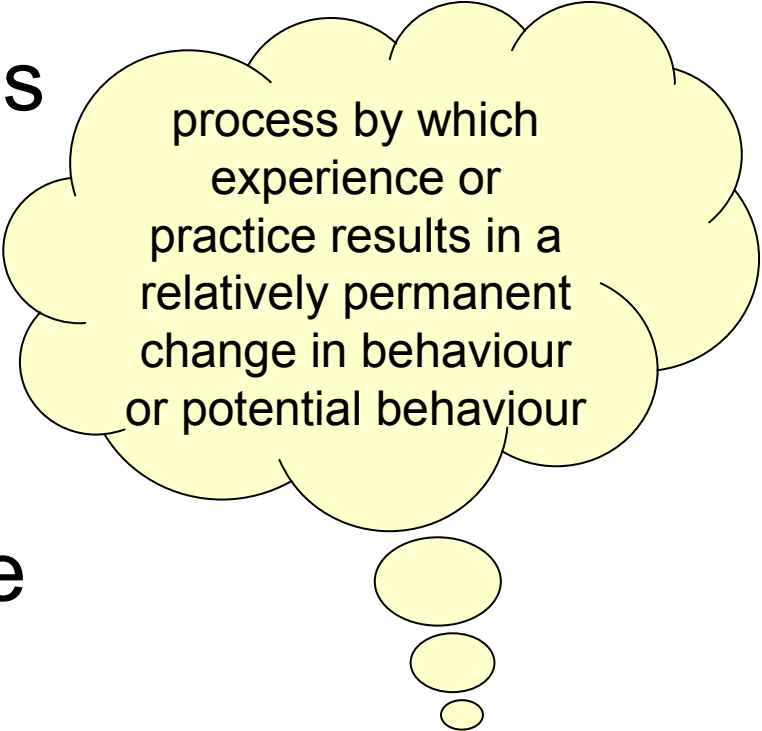
Self Evaluation, Emotional Intelligence, Motivation

The ability to MANAGE CHANGE

Emotional Awareness, Creativity, Response-ability

# Learning

- Making new connections
- Finding associations
- Resolving dissonance
- Finding relevance
- Developing competence



process by which  
experience or  
practice results in a  
relatively permanent  
change in behaviour  
or potential behaviour

# *Superficial Learning*

- Immediate
- Answers Questions Set
- Reactive
- Spoon-Feeding

# *Deep Learning*

- Considered
- Explores own answers
- Reflective
- Creative - Associative

# Superficial vs Deep Learning

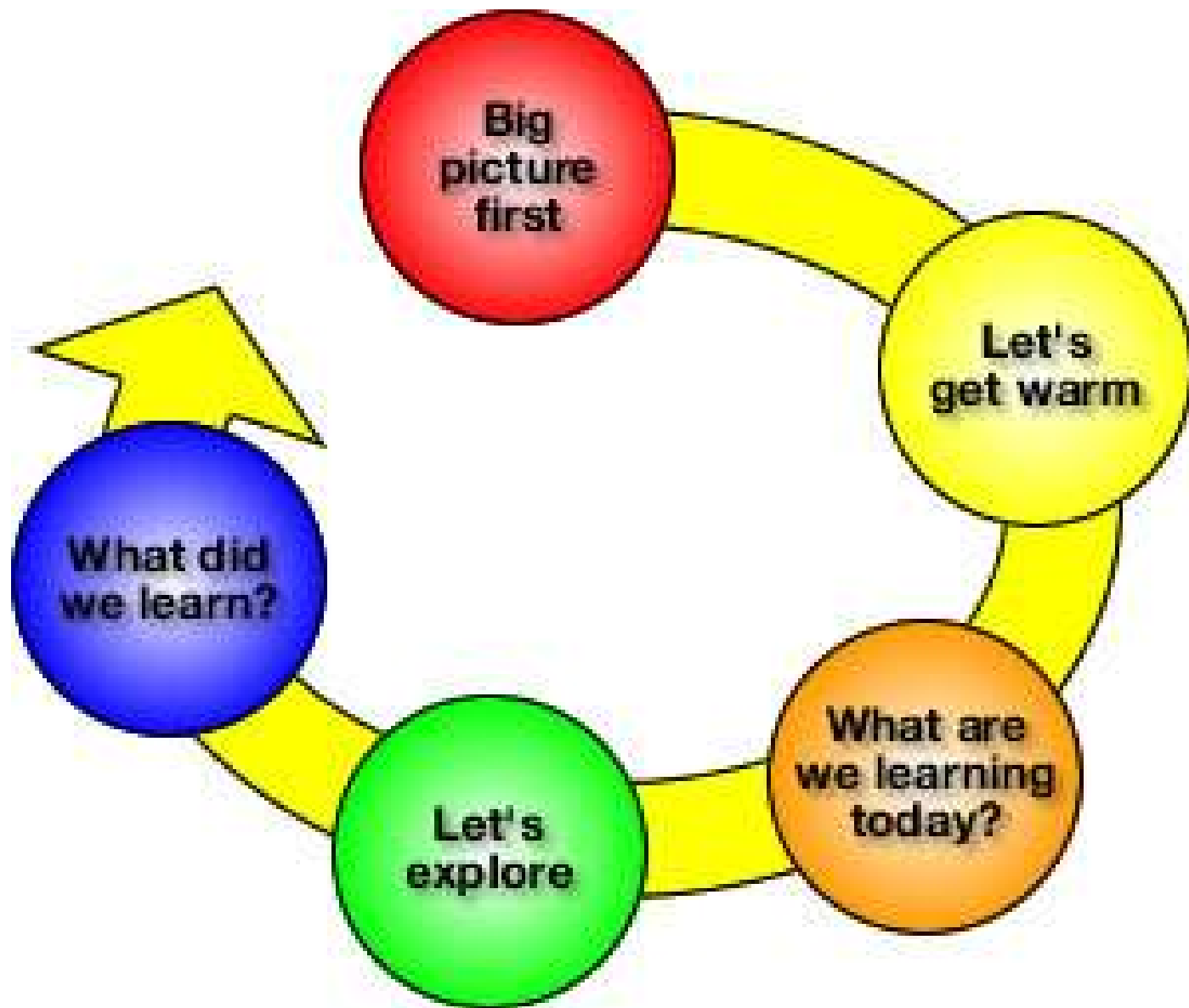
- Tasks Closed
- Immediate Response
- A “correct” answer
- Emotional Immediacy
- Knowing

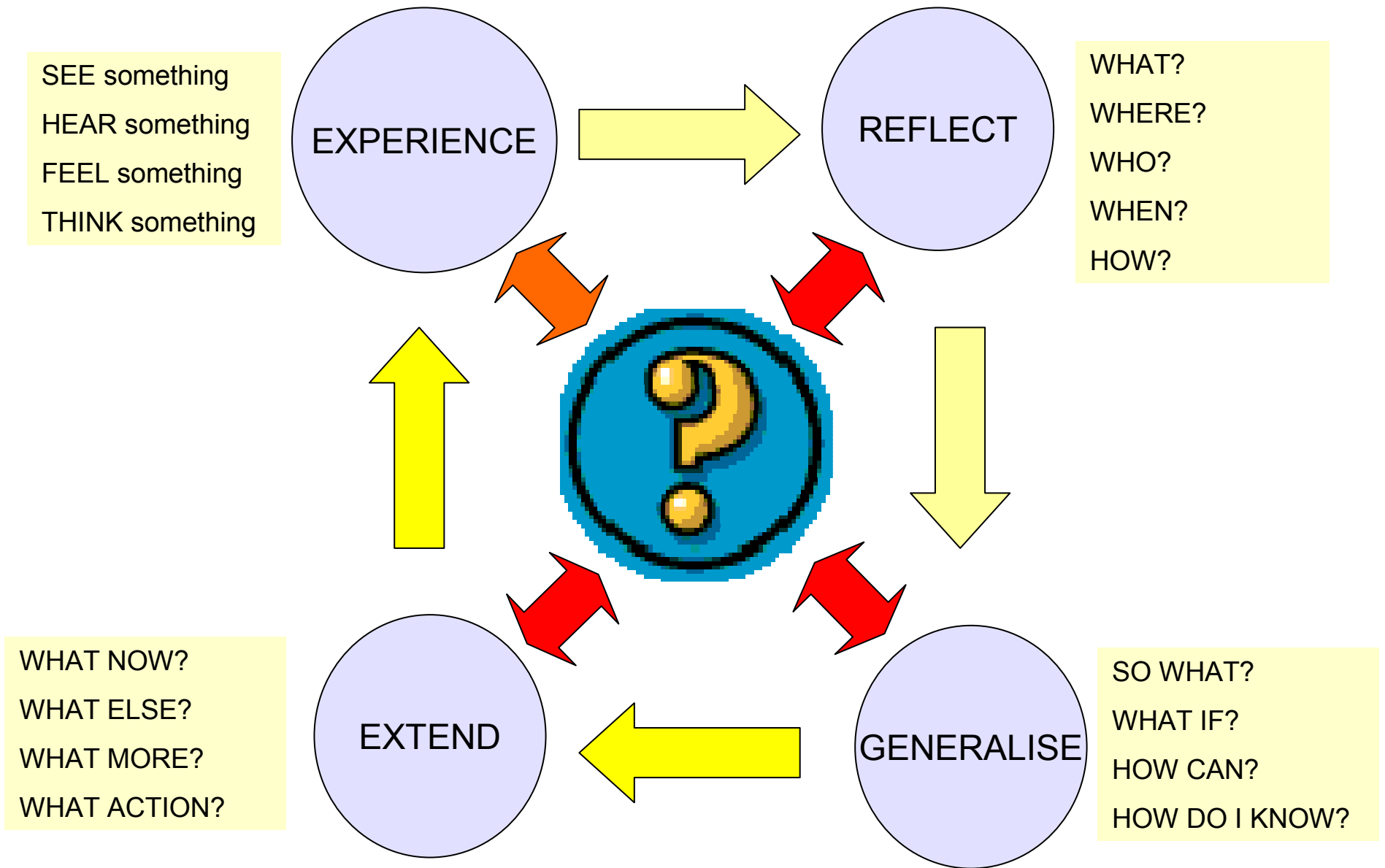
- Tasks Open Ended
- Exploration and Play
- A range of possibilities
- Meta-Cognitive
- Understanding

# How we learn

- SEEING
- HEARING
- DOING
- THINKING

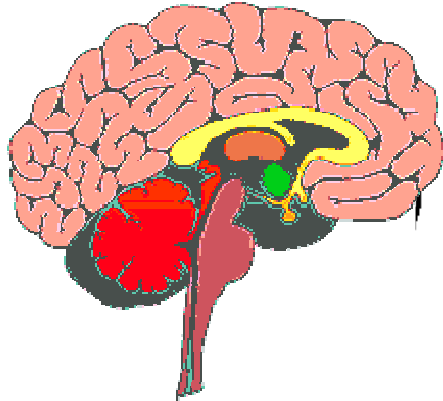
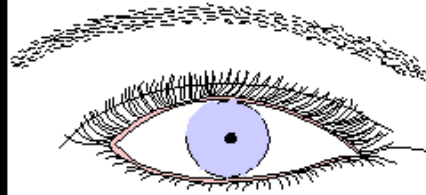
These key processes are often defined, in terms of teaching, as being part of a **Learning Cycle**





# How we learn

- SEEING
- HEARING
- DOING
- THINKING



SEE

HEAR

FEEL - DO

THINK

# A GOOD...

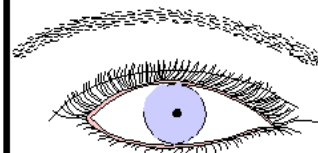
What would you HEAR

- The words & phrases
- The tonality
- The content



What would you SEE

- The activities
- The body language
- The groupings



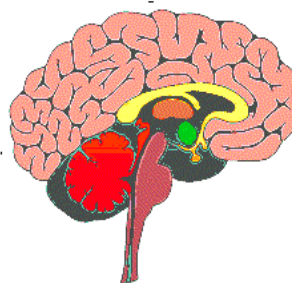
What would you FEEL

- The EMOTIONS
- The FEELINGS



What would you THINK

- Internal Dialogue
- Self Talk
- Reacting
- Evaluating



# S.H.F.T. Grid

SEE	HEAR	FEEL	THINK
<p>What would you <b>SEE..</b></p> <p>The behaviours Body Language Actions Attitudes</p>	<p>What would you <b>HEAR..</b></p> <p>The Language Specific Words Specific Phrases Tone of Voice How things are said</p>	<p>What would you <b>FEEL..</b></p> <p>If you were working in a good group If your group was working hard on a specific task</p>	<p>What would you be <b>THINKING</b></p> <p>Your Self-Talk Questions Ideas</p>

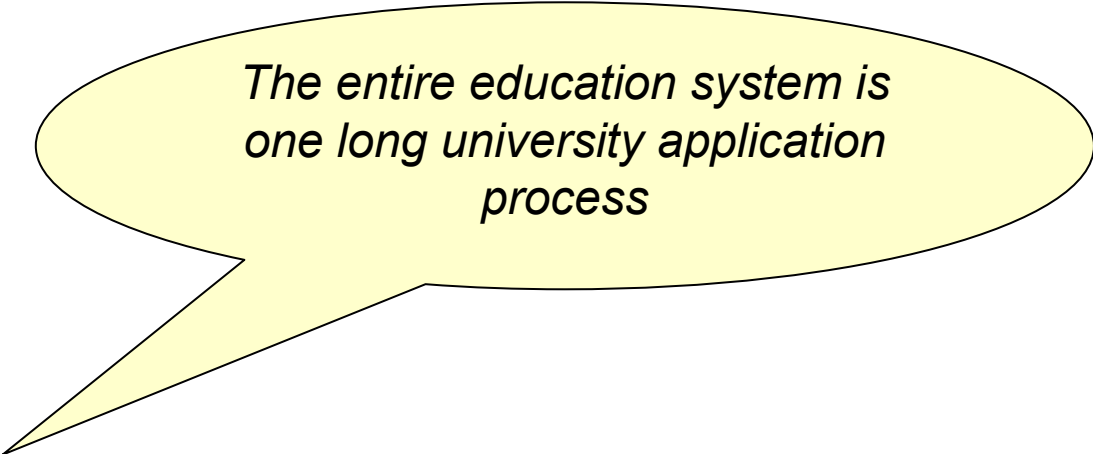
**Education is:**

**From the WAIST-UP**

**Celebrates Academic Achievement**

**Based on meeting the workforce needs**

**Suffering from “academic inflation”**



*The entire education system is  
one long university application  
process*

Sir Ken Robinson TED Conference 2005

# What are the current needs?

Our students need to be able to think constructively and creatively

*Generating ideas in unstable times where change uproots old ways.*

*Engaging in 'What if' thinking to challenge the status quo in order to stay competitive.*

*Involvement in a non-adversarial, collaborative framework that is also productive.*

# LEARNING SKILLS

- What are we really talking about?
- How are they defined?
- Is there a 'common' (shared) definition?
- How are 'they' taught?
- How do learners 'own' them?
- How do we 'assess' their effectiveness

# Effective Learning

## CONNECTING the LEARNING

- Providing a (real world) context
- Giving learning value in and of itself

## PROVIDING TOOLS

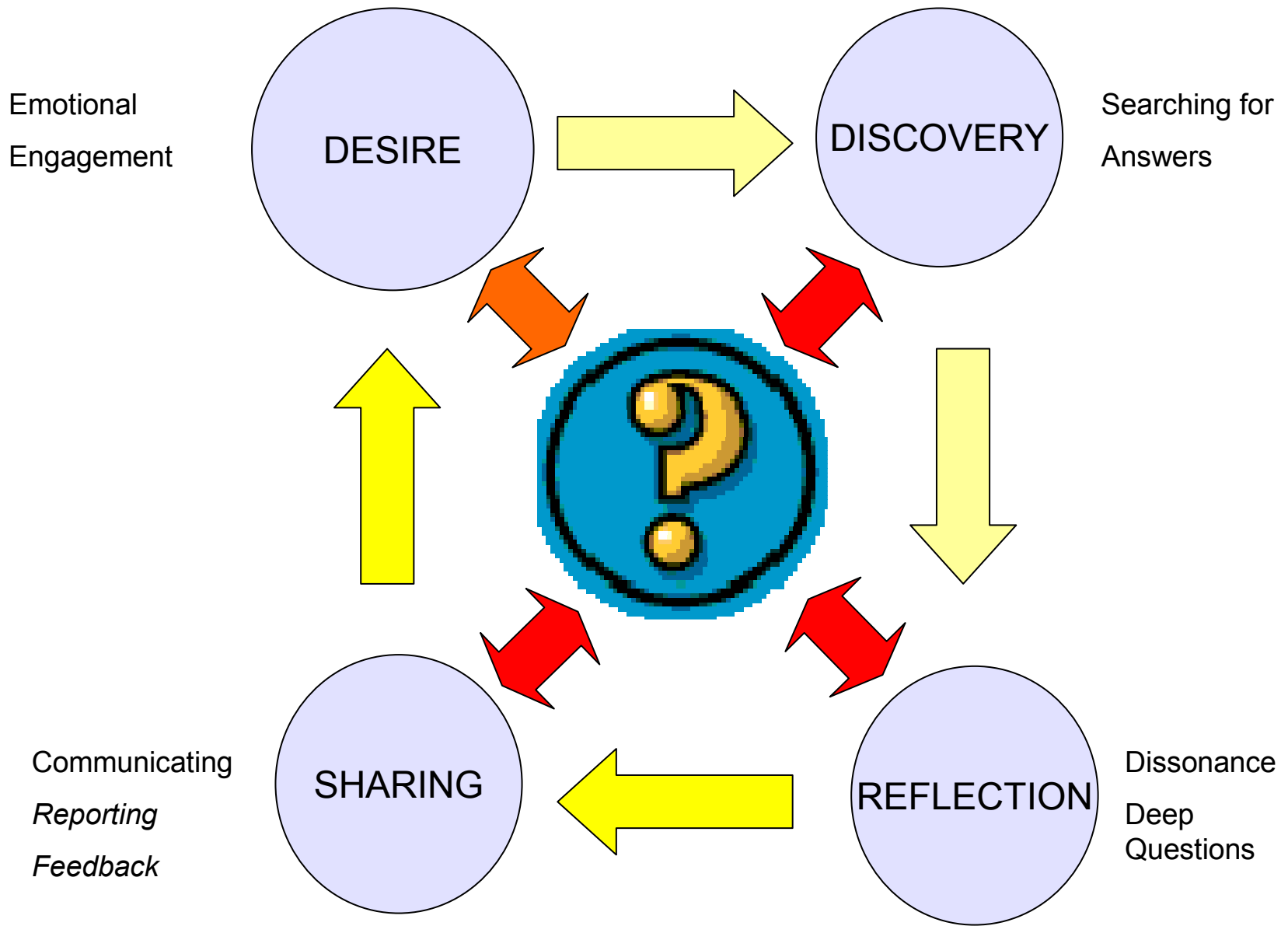
- RECORDING
- EXPLORING
- THINKING
- SORTING

# A Learners Tool Kit?

- Active Listening – Questioning Skills
- Note Taking
- Sorting and Sequencing Tools
- Thinking Tools
- Memory Tips and Tricks
- Re-Presenting Ideas
- Time Management/Organisation
- Target Setting – Ownership and Review

# A Route to Learning...

- DESIRE
- QUESTIONS
- DISCOVERY
- REFLECTION
- SHARING
- MORE QUESTIONS



# Questioning – Life Long Learning

- **Form habits of thinking**
- **Verify and justify their positions**
- **Transfer knowledge to other areas**
- **Reflect on what is being learned**

# MOTIVATING

- Contextualisation      **RELEVANCE**
- Modelling Outcome      **ATTAINABILITY**
- AFL      **FEEDBACK**
- Scaffolding      **TOOLS**

The learners **PERCEPTION** of the **relevance and attainability** of the learning task will **drive their level of engagement**.

The learners **RESPONSE** to **feedback** and **ACCESS** to **clearly defined learning tools** will **drive their level of performance**.

# FUN!

- Learning is NOT always fun
- FUN (enjoyment) is the INITIAL HOOK
- CURIOSITY MOTIVATES LEARNING!
- C.C.E. SUPPORTS EXPLORATION

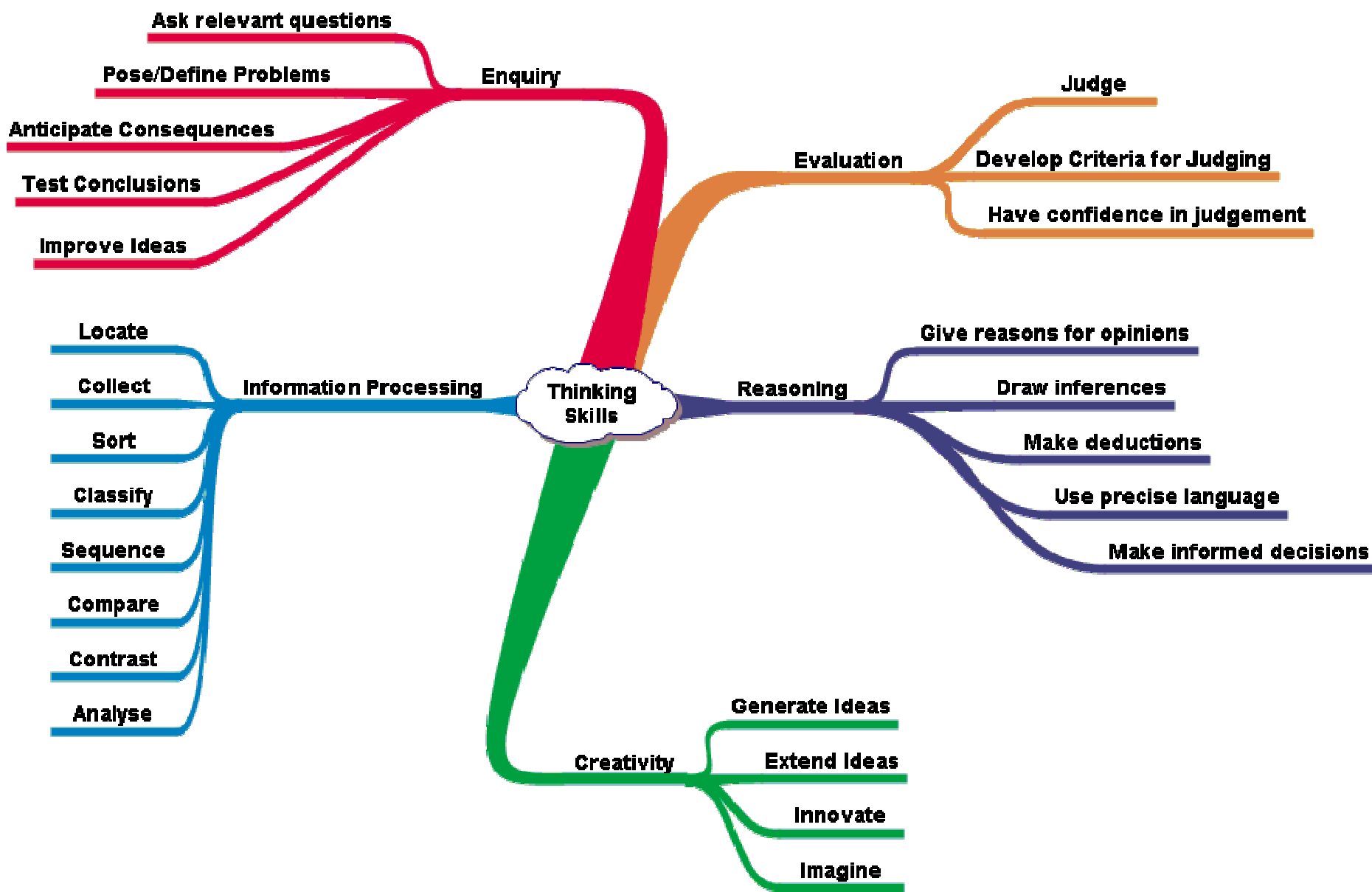
**Confidence : Competence : Emotional Resilience**  
elsewhere defined as  
**SELF-ESTEEM**

# Ways Forward?

- Look at where learners ARE being effective
- Define a range of COMMON TOOLS LEARNING TOOLS and teach them EXPLICITLY
- Agree school-wide focus

# Thinking

- INFORMATION PROCESSING SKILLS
- ENQUIRY SKILLS
- REASONING SKILLS
- EVALUATION SKILLS
- CREATIVE THINKING SKILLS



# Blooms Taxonomy

- KNOWLEDGE
  - Recall
- COMPREHENSION
  - Describe
- APPLICATION
  - Classify
- ANALYSIS
  - Conclude
- SYNTHESIS
  - Predict
- EVALUATION
  - Assess

# The Value of Questioning

**Good questions lead students to inquiry and high levels of thinking.**

**“All learning begins with questions.”**

**Kenneth Chuska 1995**

# Getting Ready to Think

- Group Specific
- Lateral
- Fun

## **AIMS**

**To be inclusive**

**To remove barriers**

**To kick-start the mind**

# Puzzle Corner

**FISHING**

**C**

**DEEP SEA  
FISHING**

**STROKES!**

*STROKES*

**STROKES**

**DIFFERENT  
STROKES**

**you just me**

**JUST  
BETWEEN  
YOU AND  
ME**

**END  
N  
D**

**MAKING  
ENDS  
MEET**

# Mind Warmers

- Creativity
- Connections
- Free Association

# What's the question?

“..... No there was a dog in it”

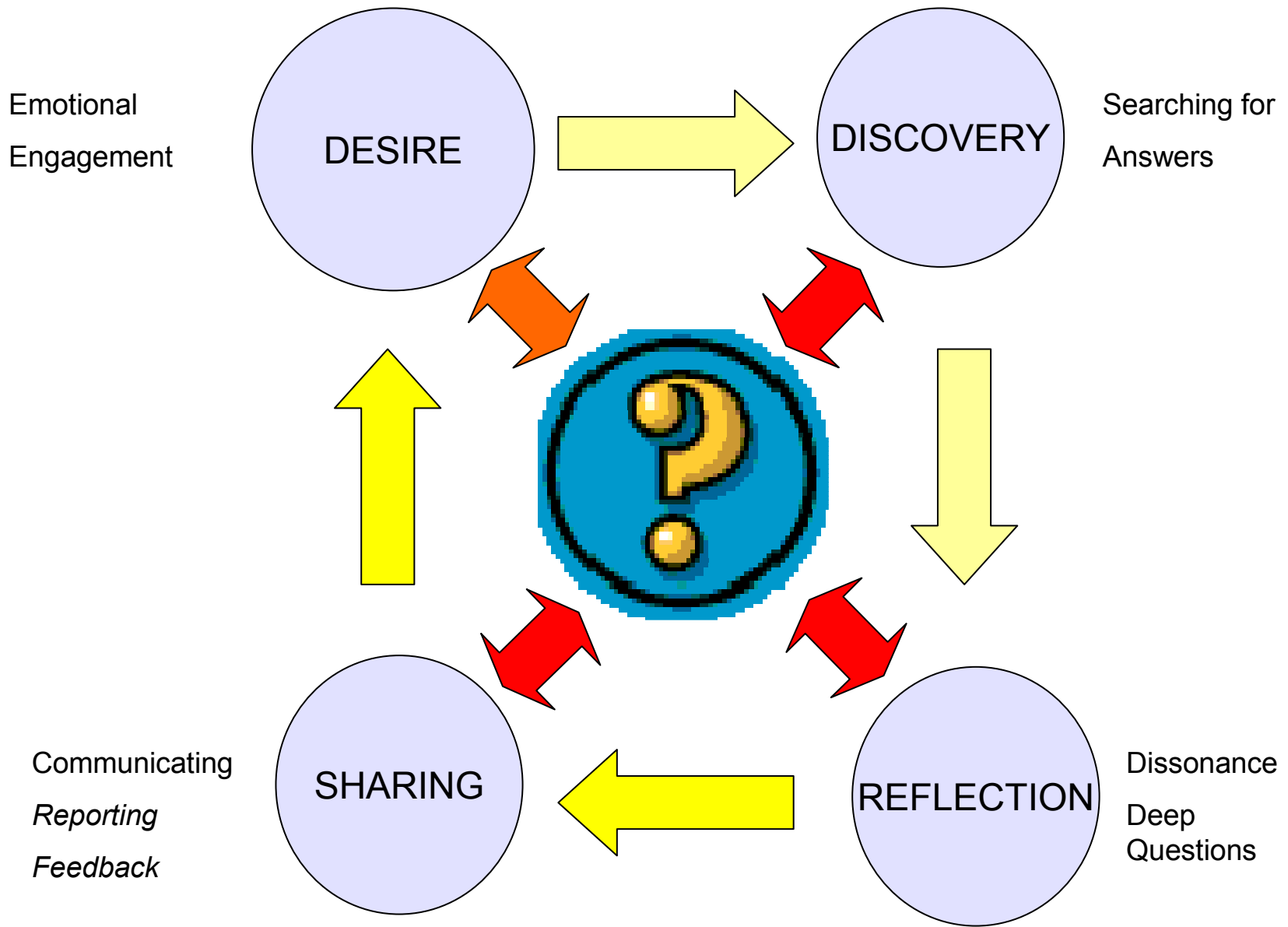
“..... Once... with a fish”

“..... Not with the car open!”

“..... A dolphin because it has a blow hole”

# Possibly Impossible Questions

- Which is heavier..
  - LOVE or HATE
  - FRENCH or HISTORY
- Five ways to confuse...
  - A Badger
  - A Kettle
  - A Train



# Effective Questioning

- Drives
  - Learning (AFL/Feedback)
- Requires
  - Active Participation
  - Structures and Scaffolds
- Fosters
  - Communication Skills
  - Thinking Skills

# Types of Questions

- Factual Questions
  - One correct answer
  - Answer not always simple
- Interpretive Questions
  - More than one answer
  - Supported by evidence
- Evaluative Questions
  - Asks for an opinion, belief or point of view
  - Depend upon prior knowledge and experience
  - Generally no right answer
- Probing Questions
  - Extension – Elaboration
  - Clarification
  - Justification
  - Prompting
  - Redirection

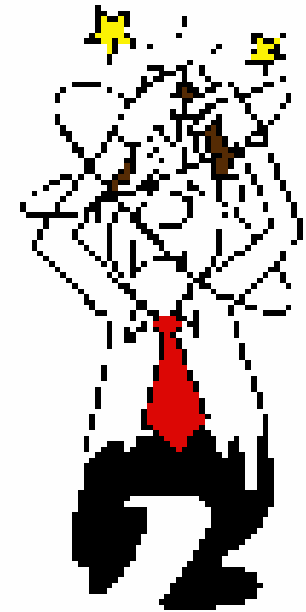
# Our Thinking & Questioning

Complicated by

- **Emotional responses**
- **Prior knowledge**
- **Experience**

Confused by

- **Not knowing where to begin**
- **Trying to do too much at once**



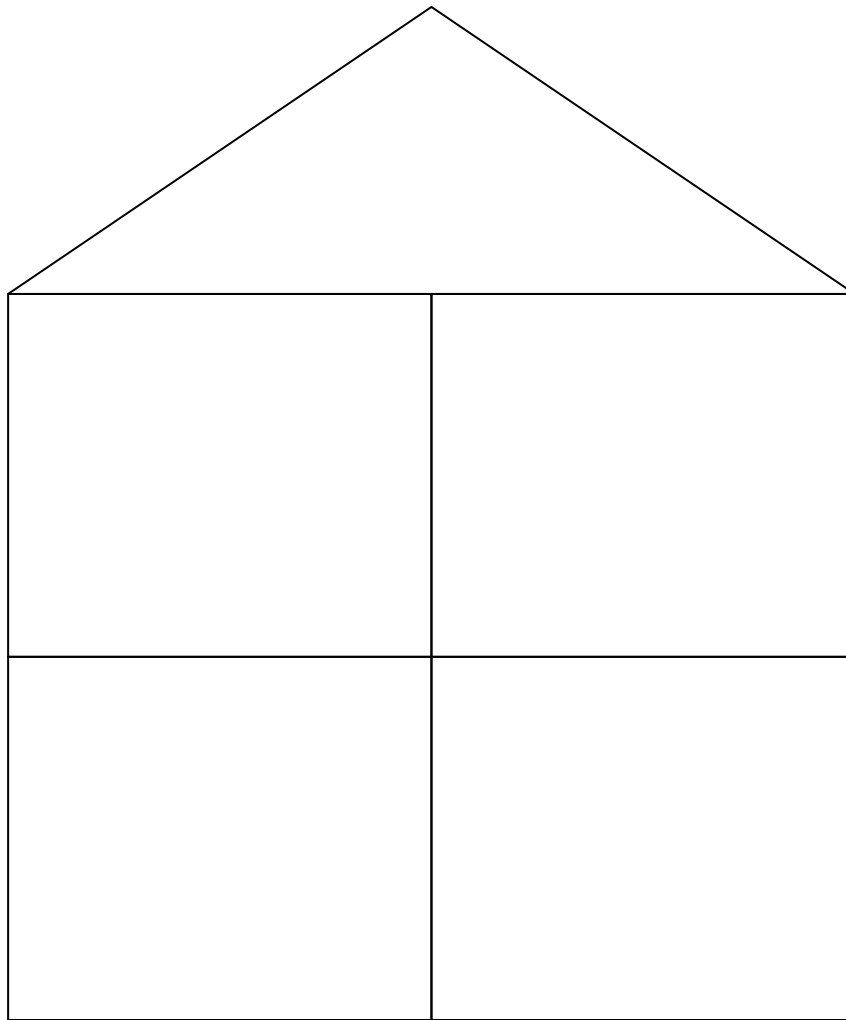
# Tools - Scaffolds

- Starting Points
  - KWL, RANTS
- Organising Information
  - Affinity Diagrams, Mind Maps
- Questioning and Research
  - QuADS, Mind Maps,
- Evaluation
  - P.M.I. (CoRT1)

# RANTS

- Record
- Accept
- Number
- Timed
- Sort – using an affinity diagram or Mind Map perhaps

# Affinity Diagrams – “Houses”



*POLAR BEARS*  
*MELTING ICE*  
*SEA LEVEL*  
*CO2*  
*PEOPLE*  
*STORMS*  
*FLOODS*  
*FAMINE*  
*FOOD*  
*TOURISTS*  
*MONEY*  
*BRITNEY SPEARS*



# K.W.L. Effective Questioning

<b>K</b>	<b>W</b>	<b>L</b>
What you KNOW	What you WANT to know	What have you Learned?

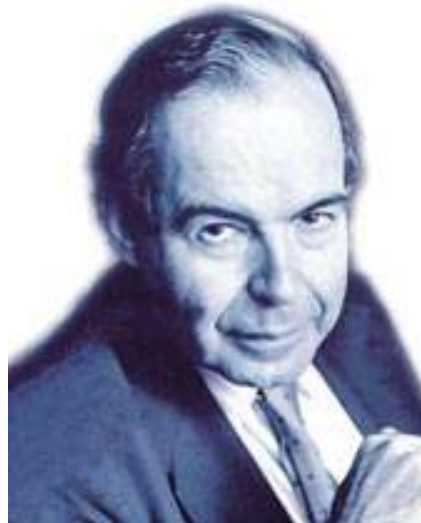
# QuADS

<b>Qu</b>	<b>A</b>	<b>D</b>	<b>S</b>
Question	Skinny Answer	Details	Sources (at least two)

# PMI

- Plus
- Minus
- Interesting

Part of the CoRT 1 Thinking Tools created by Edward de Bono



Six Thinking Hats

Value Medals

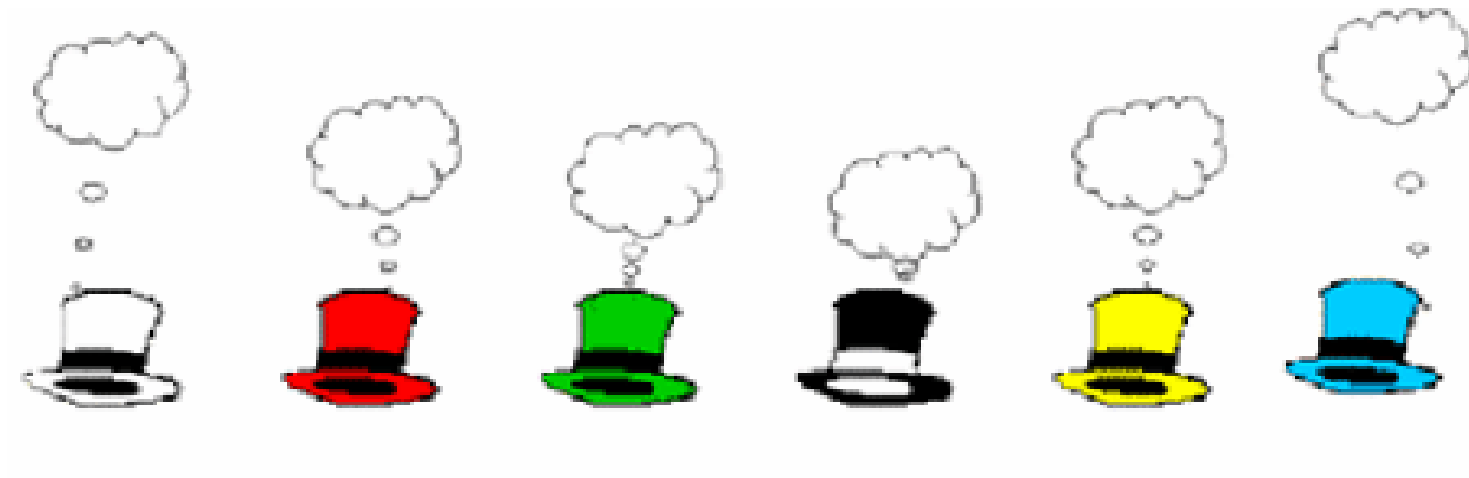
Action Shoes

CoRT

DATT

Lateral Thinking

# The Six Thinking Hats



# The Six Hats – Speed Learning

- SKY BLUE: **OVERVIEW**
- YELLOW SUN: **BRIGHT THINGS**
- BLACK, JUDGE'S ROBES: **WARNING**
- GREEN TREES: **NEW GROWTH**
- WHITE PAPER: **INFORMATION**
- RED HEART: **FEELINGS**

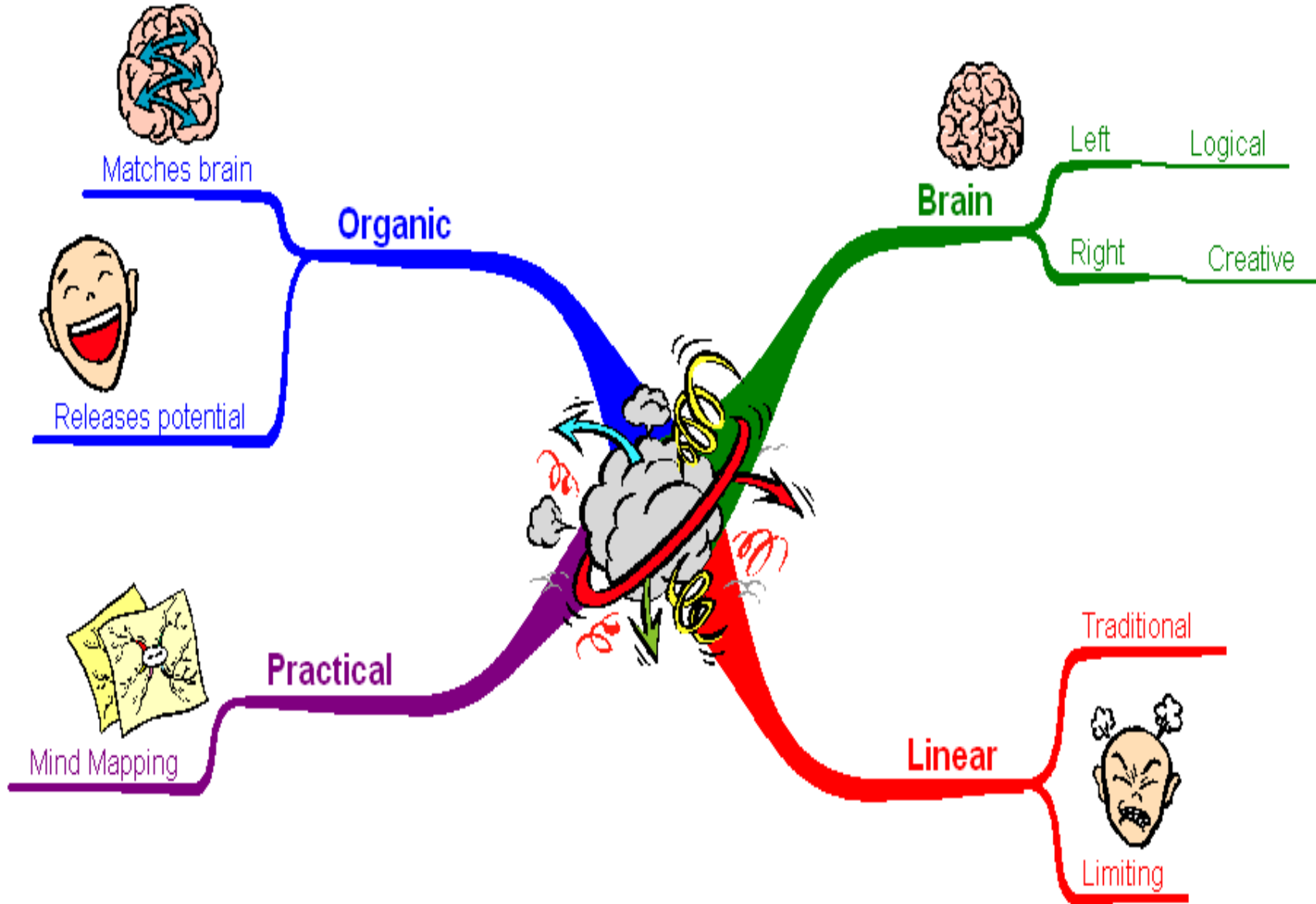
# Detail the Hats

- White Hat: Information – Facts: What you have, What you need and where to get it.
- Red Hat: Feelings – Emotions, Hunches, Intuition and instincts.
- Black Hat: Caution – Caution, Weaknesses, Difficulties, Dangers and Potential problems.
- Yellow Hat: Benefits – Benefits, Values, Good Points, Likelihood.
- Green Hat: Creativity – Alternatives, Possibilities, New Ideas, Options, New concepts.
- Blue Hat: Organisation of Process - Thinking about Thinking, Next Steps.

# Tony Buzan

*"A mind map harnesses the full range of cortical skills - word, image, number, logic, rhythm, colour and spatial awareness - in a single, uniquely powerful technique.*

*In doing so, it gives you the freedom to roam the infinite expanse of your brain."*



... good thinking is essential in meeting the challenge of living in a technologically oriented, multicultural world ... knowledgeable thinkers have a better chance of taking charge of their lives and achieving personal advancement and fulfilment.

Our students must be prepared to exercise critical judgement and creative thinking to gather, evaluate and use information for effective problem solving and decision-making in their jobs, in their professions and their lives.

Swartz, R and Parks, S,  
*Infusing the Teaching of Critical and Creative Thinking  
into Content Instruction*, Pacific Grove, CA, 1994

“Creativity : The ability to come up with an idea which relative to the pre-existing domain space in ones mind, one could not have done before.”

Bowden 1992

“We do not teach people to be creative, we just have to quit interfering with them being creative.”

R.L. Mooney

“Creative problem solving is looking at the same thing as everyone else and thinking something different.”

Albert Szent-Gyorgi

# Creativity Key Skills?

- Problem/Opportunity Finding
- Perception
- Idea Generating
- Persuading Others to Value Ideas

Basadur 1994

# Creative Schools

- Value individual contribution
- Encourage collaboration
- Provide structure
- Reflect diversity
- Maintain Pace whilst Creating Space

Evidence from inspection visits found that the dominant learning and teaching approach used in a subject or curriculum area determined the scope for creativity.

Where teachers emphasised didactic teaching, closed questions, recall and much practice and consolidation, there was limited scope to demonstrate creativity.

Where classroom relationships encouraged pupils to ask questions and to regard mistakes as part of learning, and teachers emphasised exploration of ideas, open-ended questions, expression of individual ideas and open-ended tasks, pupils' creative responses were much more frequent.

# Thinking Schools

- Teach “thinking tools” explicitly
- Are consistent in their use across the school
- Use these tools across the curriculum
- Use these tools in a variety of contexts e.g.
  - AFL
  - Conflict Resolution
  - Meetings
  - Feedback and Reporting

# Attributes of creative people...

- Not afraid of being wrong...
- Explore and Play...(experiment)
- Use their imagination...
- See things differently...
- Incubate ideas...
- Are rarely satisfied with one (right) answer...
- Are 'divergent' (lateral) thinkers

“All students are gifted some just open their packages earlier than others.”

Michael Carr

# The Evidence...

## Salfords Primary School

Age range - 4 –11

Gender – Mixed



### Comments made on OFSTED Report March 2003

*Throughout the school, teachers use the Thinking Hats Pupils use their Thinking Hats well to assess their own understanding and to suggest alternative approaches to a task. For example, during the Year 2 lesson using the floor robots, a pupil was heard to say, 'I've just put on my black hat and I think the problem is...'. Whilst another said, 'I've just put on my green hat and a better way to do it is to...'. As one parent said, 'they not only teach my child facts, but they also teach him how to think'.*

*Kirsteen McCrory, Lynncroft Primary School*



Kirsteen's experiment in employing Edward de Bono's CoRT 1 Thinking Tools for Year 4 pupils resulted in 80% of the group exceeding targets in reading SATs, and 67% exceeding the writing targets.

Other positive outcomes were also noted, including the children's useful acquisition of transferable skills.

Children also enjoyed using Thinking Tools in their work, demonstrating greater confidence and understanding.



The following has been collected from a trawl of internet published research on Thinking Skills...

It is not exhaustive

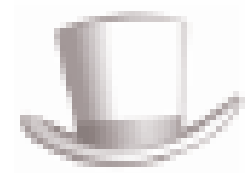
Unless acknowledged as such these do not come from De Bono supported/supporting sites

St Thomas More Comprehensive has infused thinking skills across the curriculum using de Bono tools.

Supported through coaching and help with handbook on thinking skills for staff  
Half staff have been trained and coach others across subjects

**GCSE results have risen over the last three years.**

*“Research and Realities in Teaching and Learning”  
by Dr John Edwards, Associate Professor of Education,  
James Cook University of North Queensland*



## The Six Thinking Hats Method.

Unstructured problem-solving approaches emphasized information gathering and brainstorming. The Six Thinking Hats Method provided a structure so groups evaluate benefits and risks associated with proposed solutions to the dilemmas.

The Six Thinking Hats Method provided a structure for group problem solving and provided a useful approach to ethical dilemmas confronted in pharmacy.

While students believe they are good critical thinkers, the data suggest that they may overestimate their ability to apply critical thinking skills to real-world problems.

Conceivably, this model may be more useful if included earlier in their professional education.

College of Pharmacy – Internal Research

## Year 4 national test results in Reading



Y4 Reading SAT	Target Group	Control Group 1	Control Group 2
% meeting or exceeding targets	87%	50%	67%
% exceeding targets	80%	42%	42%
% reaching or exceeding National Average (3b+)	73%	25%	50%
% reaching Level 4	53%	17%	33%

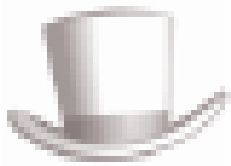
**Research in Queensland 1997 : NB : YEAR 4 = 12 YEAR OLDS**



## Year 4 national test results in Writing

Y4 Writing SAT	Target Group	Control Group 1	Control Group 2
% meeting or exceeding targets	80%	67%	25%
% exceeding targets	67%	17%	17%
% reaching or exceeding National Average	26%	10%	17%

**Research in Queensland 1997 : NB : YEAR 4 = 12 YEAR OLDS**



The headmaster in particular referred to 9 lower ability students in the class who had seldom contributed in class during their six years in the school:

“It's marvellous. Not just a minor miracle to change that sort of behaviour, six years or more of habit forming and then in eight months to change it to: 'I have something to contribute’”.

“I was thrilled ... they were certainly startling and outstanding.”

### Proportion of Students Above the Mean

National	Norm	School Norm	CoRT Group
Test A	31%	39.5%	52%
Test B	31%	31.2%	48%
Test C	31%	24.8%	52%
Test D	31%	42.8%	62.4%
Test E	31%	35.8%	50%

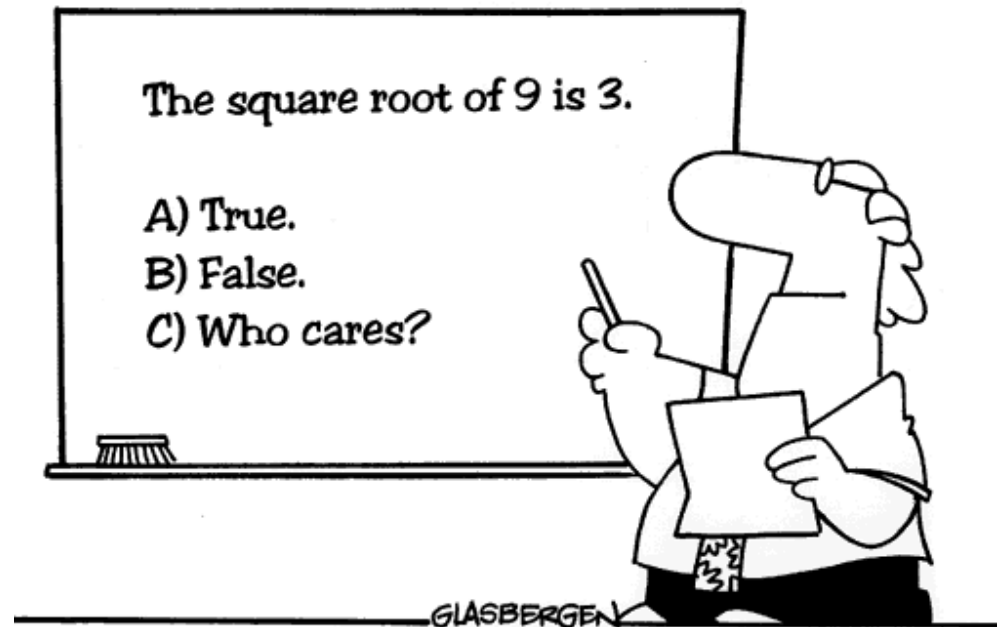
(Test A - Test of learning abilities, Test B - Study skills, Test C - Mathematics skills, Test D - Language vocabulary, Test E - Language comprehension)



# The “System”

- The Learner
- The Lead Learner
- The Environment
- The Material

Copyright 1996 Randy Glasbergen. [www.glasbergen.com](http://www.glasbergen.com)



**Many students actually look forward to Mr. Atwadder's math tests.**

# The Learner has... (brings)



- Competence
- Experience
- Confidence
- Expectations

Eq-ualise Training : Penponds Primary School, Camborne, Cornwall © ABJ

"It is absolutely untrue from the evidence available from the young people that they are disengaged from or disaffected by learning.

It is not learning, it is what has masqueraded in their minds as learning".

*Jim Doherty – Strathclyde University reviewing the New Directions Programme  
Reported in TES 13/02/2004.*

# The Lead Learner has... (brings)



- Competence
- Experience
- Confidence
- Expectations
- **FLEXIBILITY**

De Bono Thinking Skills Training; P.R.U. Team, Plymouth © ABJ

# The Environment



Year 11 GCSE Drama Workshop, Pool, Cornwall © ABJ

- Safe
- Inspiring
- Appropriate
- Supportive

“Pupil achievement & behaviour can be influenced (for better or worse) by the overall characteristics of the school environment”

Rutter & Maughan, 2002

# The Material



Year 4 & 5 Anti-Bullying Workshop, St Just Primary School, Cornwall © ABJ

- Engaging
- Relevant
- Emotional

# Principles

- Teaching & Learning
  - Understand the learner
  - Understand the learning process
- Environment & Materials
  - Supportive
  - Challenging
  - Creative



Little Britain © 2005

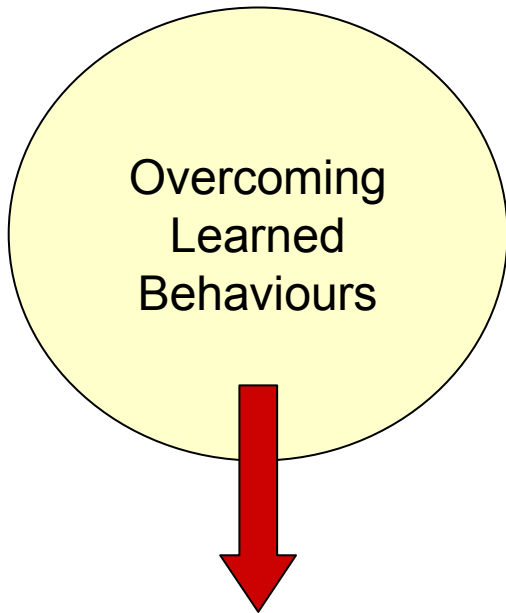
# Key Assumptions

- Every person is a learner
- Learning is a lifelong process
- Learning happens in a social context
- Effective teaching requires
  - Understanding of learning processes
  - An ability to manage the learning environment
  - Modelling learning
  - Understanding that learning is context driven

# Learning – “Learner Reported Blocks”

- **Tedium** – “It’s boring”
- **Isolation** – “Why can’t I work with...”
- **Rote-Learning** – “Remembering stuff...”
- **Elitism** – “I’m not that clever...”
- **De-Personalisation** – “It’s all about sets, SATS and tests...”

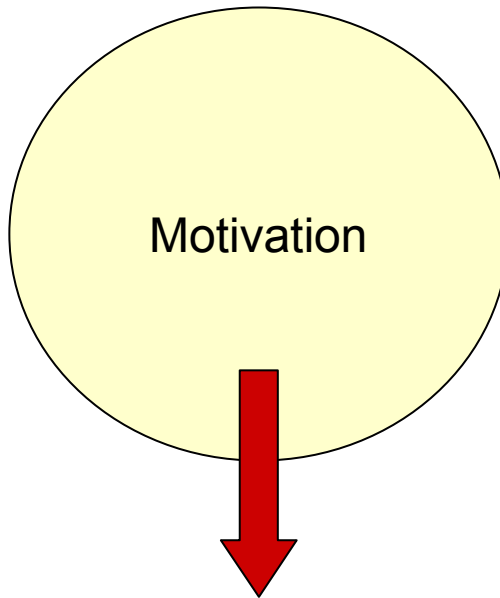
Attitude & Achievement of the Disengaged Pupil in Mathematics  
Classrooms – Nardi & Stewart 2004



Pupils who consistently opt out or who are disruptive are very successful at what they do...

*Failure is learned*

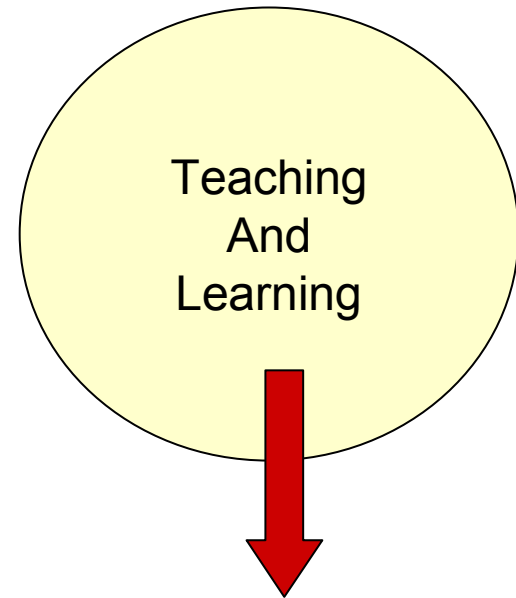
*Success is learned*



Meaningful  
engagement

Relevance

Owned rather  
than imposed  
targets



Learning TOOLS

Thinking SKILLS

Personal TARGETS

Collaboration

Challenge

Creativity

# Contact Points

- [www.learn2learn.co.uk](http://www.learn2learn.co.uk)
- [www.alanjoneseducation.com](http://www.alanjoneseducation.com)
- [www.magic4learning.com](http://www.magic4learning.com)
- [www.therationalmystic.co.uk](http://www.therationalmystic.co.uk)
- FACEBOOK          alanjonesUK
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