

## Creative Thinking and Problem Solving

A series of workshops for the University of the Third Age at Emerald, Victoria

Pat and Martin Buoncristiani  
Thinking and Learning in Concert

March 2010



Copies of the slides are available online at

[ThinkingAndLearningInConcert.org](http://ThinkingAndLearningInConcert.org)

There is also other information there.

### Session One

A brief review of what we know about thinking and how to improve it  
Problem solving - what it is and how we do it  
Memory and Remembering

### Session Two

How do we talk about how we think and think about how we think?  
Cognitive skills  
Attention directing skills (deBono Six Thinking Hats)  
Habits of Mind (Costa & Kallick)

### Session Three

Lateral Thinking - escaping the dominant paradigm  
Breaking the bonds of conventional thinking

### Session Four

Gathering information, quality questions, thinking interdependently

## Examples of lateral thinking



## Lateral Thinking Techniques

Change the pattern of thinking from a **dominant paradigm** to an **alternative** which may provide **unexpected** insights or solutions.

New ideas must have **value**, not just be different.

We may need to solve problems not by removing the cause but by designing the way forward even if the cause remains in place.

– Edward de Bono

## Lateral Thinking

Introduce Randomness

Provocative Operation (PO)

Change Perception of the problem



Off the Dominant path

Can you think of an example of Lateral Thinking in your life or something you learned about?

Information is obtained from different sources.

Humans are social beings.

Group dynamics and the feedback of others is important to good thinking.

Good conversations and effective problem solving happen when the participants are good listeners and ask good questions.

Different kinds of questions result in different levels of understanding.

What courses are available at the U3A?

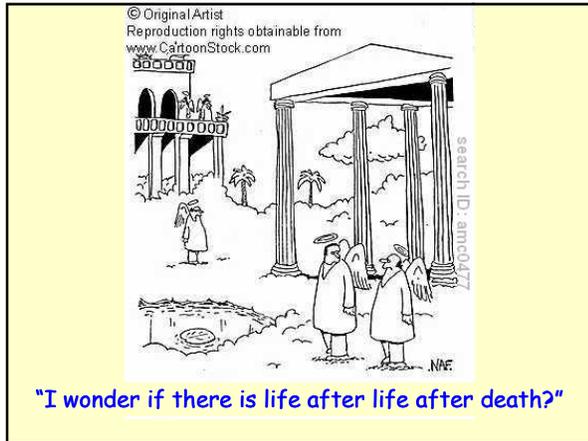
What courses are available at the U3A that will teach me more about something that interests me and about which I already know a little?

As I think about the U3A offerings what are some of the courses that will stimulate me to think more deeply about things that are important to me?

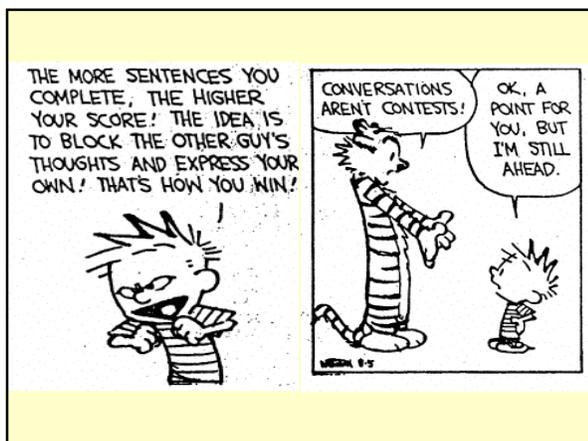
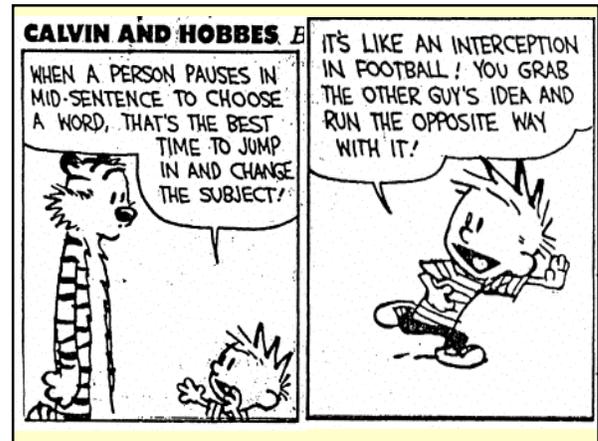
Some questions are more important than others

"Are our children learning enough about whales?"

Sometimes we need to ask questions about the questions!



Good thinkers know how to ask  
**good questions**  
 and how to  
**listen.**



The Good Listener's Sequence

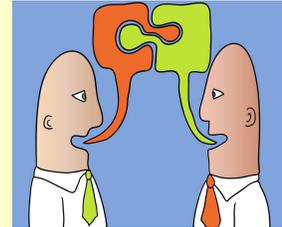
Pause  
Paraphrase  
Probe  
P P P

**Pause**

In conversation, as the time you wait after you ask a question increases the following also increase:

- Number and length of responses
- Evidence of speculative thinking
- Participants listening to each other
- Participants asking questions
- Quality of the discussion
- Contributions from all participants

**Paraphrase**



Lets listeners know:

- that you are listening,
- that you are trying to understand them,
- that you care about their thoughts.

**Paraphrasing is not just repeating**

...

Let me make sure I have this right, the main thing that worries you about this plan is ....  
Right?

"So, when you were travelling abroad you found one of the main problems to be ...."



"You are suggesting that we could begin solving this if we ...."

**Probing is not prying.  
Probing genuinely seeks to increase ...**

Clarity

Use of clear language



Precision

Higher level thinking

"I understand you feel some of the teachers don't understand you." (paraphrase)  
Tell me something that happened today that makes you feel this way." (probe)

"We've agreed that we don't want to go back there for vacation this year. What are some places that we could afford but have never visited before?"

"I think we all agree that sudden change can be scary. What are some of the aspects of this change that worry you the most?"

**Good questions are not a matter of chance.**

**They take conversation and thinking to a deeper level than simple recall.**

**Jay Leno**



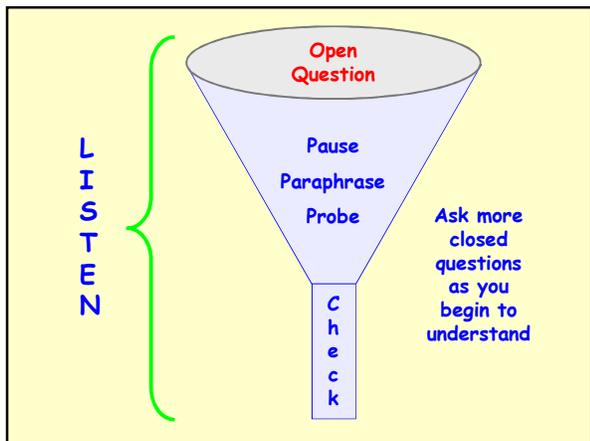
### Thinking interdependently

Bringing more than one mind to bear on an issue

- Giving your ideas
- Taking the ideas of others
- Growing deeper understanding

Every good conversation begins with a good listener

### Good questions are like sparks

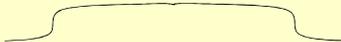



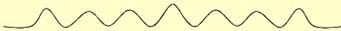
### Elements of Questioning

- Intonation
- Plural Forms and Tentativeness
- Invitational stems - question setup
- Empowering Presuppositions
- Inclusiveness
- Cultural Aspects

### Intonation

How you speak really matters.  
"I did not steal that coat."

Credible voice (I mean business) 

Approachable Voice 

### Plural and Tentativeness

"What might be some factors that would cause ..."

"In what other ways could you solve this problem?"

"What ideas do you have that may explain this situation?"

### Invitational Stems

- "As you think about..."
- "As you anticipate ..."
- "As you envision ..."
- "Given what we know about ..."
- "As you think about this new problem, what questions might you ask?"

### Presuppositions

Hidden meanings below the surface of Language can block thinking.

- "Have you stopped beating your wife?"
- "Have you cut down your drinking?"
- "Were you able to pay cash for this one?"

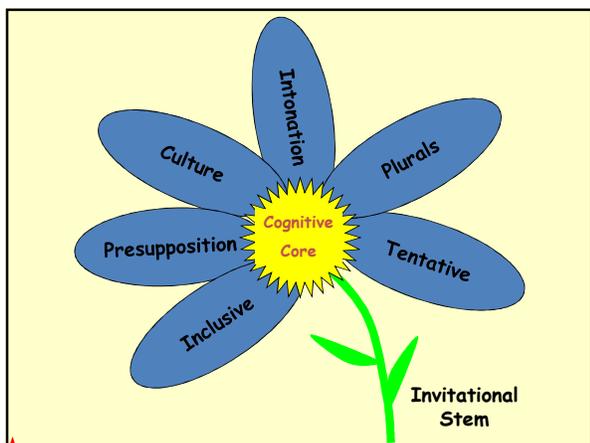
### Empowering Presuppositions

- "What are some of the goals you have for this meeting?"
- "As you consider your alternatives what seems to be the most promising course of action?"
- "What personal insights will you carry forward to future situations?"

### Inclusive Questions

Questions that invite a discussion with several respondents -

- "What are some of the reasons we developed to explain ...?"
- "Could those who have had experience with ... share some of your thoughts?"





When confronted with conflicting verbal and non verbal messages, humans inevitably choose the meaning behind the non verbal behavior.



Think about

- Posture
- Gesture
- Inflection
- Pitch
- Volume
- Rate of speech
- Language choice
- Breathing

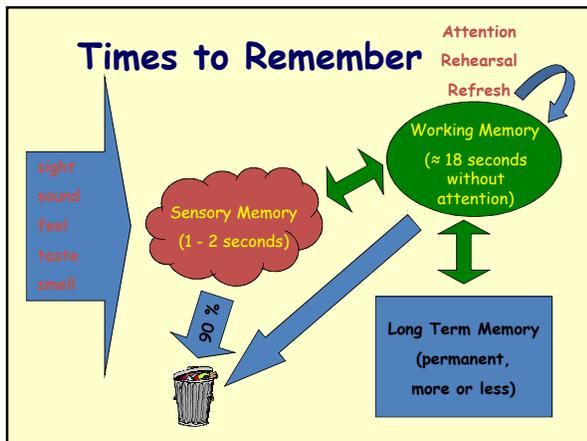


Can you recall/imagine a situation where the words and non verbal elements didn't match?

Parents are great at asking questions.



How many conversations have you had that felt like this?



### Visualization Techniques for Memory

Peg method -

- number sequence
- time sequence
- spatial sequence (Roman room)

Organizing and Chunking

Number	Peg
ONE	BUN
TWO	SHOE
THREE	TREE
FOUR	DOOR
FIVE	HIVE
SIX	STICKS
SEVEN	HEAVEN
EIGHT	GATE
NINE	LINE
TEN	PEN

### Peg Method

Remember 4281

Door - Shoe - Gate - Bun (Key back to the Number)

Stories for phone numbers, credit card numbers

269 - 4988

Shoe - Sticks - Line -- Door - Line - Gate - Gate

2	6	9	4	9	8	8
A	M	W	G	W	T	T
B	N	X	K	X	U	U
C	O	Y	I	Y	V	V

AMY IXTU

We invite your continued contact with us



## Thinking & Learning In Concert

... promoting the harmonious integration  
of skillful thinking and learning  
[ausaTLC@aol.com](mailto:ausaTLC@aol.com)

[www.ThinkingAndLearningInConcert.org](http://www.ThinkingAndLearningInConcert.org)