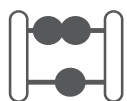




Caulfield Racecourse



Thinking & Learning Conference

2014



23–26 May

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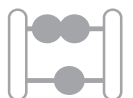
Inspire!



Cath Hogan

Monday 26 May

Thinking Skills within the Australian Curriculum



Session 2



CATH HOGAN



Cath Hogan is an experienced teacher and consultant with a teacher background in primary, secondary, special and gifted education. Starting life as a primary teacher Cath has always been passionate about ensuring the inclusivity of all students both academically and culturally. Studying and working in London, Zimbabwe, Hong Kong and Australia in primary and secondary settings, Cath has qualifications in special education, gifted and a Masters in Human Relationships.

Cath's passion for teaching and learning led her to consultancy work, creating opportunities to share best practice with teachers with a focus on maximising learning opportunities for all students. She currently works as an educational consultant with much of her consultancy centering on Professional Learning Communities at Work™, 21st Century Thinking Skills, Curriculum Design through inclusive practice and coaching.

Cath is well known for her ability to interpret academic theory into practice and supports schools to do this through professional learning, consultancy, coaching, mentoring and curriculum development.

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CODE: 11CH0402
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Thinking Skills within the Australian Curriculum



Cath Hogan
HBE Conference
May 2014



Learning intentions

1

- A reflective 'time out' to consider the 'thinking' in your school or region

2

- Shared understanding of an aligned and guaranteed 'thinking curriculum'

3

- Shared understanding of the processes and protocols used in developing a 'thinking curriculum'

PLOT YOURSELF:

1 2 3 4 5

*REFLECTIVE 'THINKING' TIME

*ALIGNED 'THINKING' CURRICULUM

Background....



- ⊙ Australian Curriculum
- ⊙ Professional development on 'Thinking'
- ⊙ Concerns over test scores
- ⊙ Concerns over a consistent approach and understanding of the teaching of thinking skills



Is our change going to be successful?

- ⊙ Implementing successful change means — getting everyone on the bus
- ⊙ Sustainable
- ⊙ Research based
- ⊙ Best practice
- ⊙ Evidence it's working





The 3 Big Ideas of a PLC

The professional learning community model requires the school staff to **focus on learning** rather than teaching, **work collaboratively** on matters related to learning, and hold itself **accountable** for the kinds of results that fuel continual improvement.





Where are we at.....

What does the data tell us?

- ✓ Naplan results
- ✓ Standardised testing
- ✓ Numeracy Interviews
- ✓ Class performance
- ✓ Curriculum & planning documents
- ✓ Knowledge of the National Curriculum
- ✓ Knowledge of a 'Thinking curriculum'



Year 6 Pat Maths Analysis Thinking Skills highlighted				
Q	Item	<39 th %	Errors	% /75
1	Shaded fraction on a hundred grid	1	1	1%
2	50% off a dollar amount with 50c	4	6	8%
3	Number line with negative numbers	3	4	5%
4	Rounding to the nearest million. Had to look at ten thousands to choose	13	30	40%
5	Multiple step worded problem	14	18	24%
6	Counting pattern to hundredths	9	19	25%
7	Order from smallest to largest from hundredths to hundreds	12	22	29%
8	Number of grams in a kg. Calculating price of multiple items. Calculating change from whole dollars	14	19	25%

The starting point....



- ⊙ *Australian Curriculum*
- ⊙ Professional development on 'Thinking'
- ⊙ Concerns over some test scores
- ⊙ Concerns over a consistent approach and understanding of the teaching of thinking skills



Australian Curriculum says:

acara

Our students will become

... "successful learners, confident and creative individuals and active and informed citizens."

Melbourne Declaration, 2008

... "Melbourne Declaration identifies essential skills for 21st century learners..."

General Capabilities in the Australian Curriculum, 2012



Where are we at.....



Are all our students

- ✓ successful learners
- ✓ confident and creative individuals
- ✓ active and informed citizens
- ✓ Taught the essential skills necessary to become 21st century learners?



Reflective thinking....



Consider a lesson where you explicitly taught thinking skills

- Was it planned or incidental?
- Did you assess how much learning occurred?
- Did other classes have a similar learning opportunity?
- Was it part of a deliberate developmental program?





The hard questions....

Can we improve on this?

"Is the teaching of 'thinking' explicit enough and embedded continuously through the grades in order to achieve this?"

How will we achieve this?



One school's commitment in becoming a successful 'thinking' school?

- ☐ High expectations
- ☐ 21st century thinkers
- ☐ Australian curriculum: general capabilities
- ☐ Collaborative team effort
- ☐ Motivation
- ☐ Evidence V Intention
- ☐ Professional learning community



Protocol for beginning the journey

- ★ Collaborative Culture
- ★ Developing a shared understanding
- ★ Focus on learning
- ★ Well articulated curriculum
- ★ Results orientated



Focus on Collaboration



Our collaborative journey...

- ✓ We work in true collaboration
- ✓ Embedded meeting times
- ✓ Focus is on learning
- ✓ Common formative assessments
- ✓ Meet to 'torture the data'
- ✓ Plan intervention collaboratively
- ✓ Collective ownership



Our shared vision

- ✓ Shared mission, vision, values, goals
- ✓ Crystal clear on outcomes
- ✓ Everyone is 'on the bus'
- ✓ We send a clear message
- ✓ 'Just do it'





Our shared vision



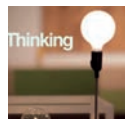
It is the mission of our School to ensure all students learn the essential skills, knowledge and thinking necessary to become responsible and active global citizens.



Goal: 80% of our students will increase Standardised test scores by at least one stanine in a school year.

Action Steps & Ss	People responsible	Resources Needed	Timeline	Evidence of Effectiveness
PLT Meetings	Each tr	Text: <i>Think</i> Graphic Org	3 weekly	*Looks like/ Sounds like *Lesson plan *CFA
Agenda	Team leader	Meeting template	3 weekly	Minutes Results

Protocol for beginning the journey





- ★ Collaborative Culture
- ★ Developing a shared understanding
- ★ Focus on learning
- ★ Well articulated curriculum
- ★ Results orientated



'Thinking': What is it for us?



A shared definition: *Thinking is...*

Looks like	Sounds like



Protocol for beginning the journey

- ★ Collaborative Culture
- ★ Developing a shared understanding
- ★ **Focus on learning**
- ★ Well articulated curriculum
- ★ Results orientated

Four Critical Questions

- ★ *What do we want students to learn?*
- ★ *How do we know if they have learned it?*
- ★ *What do we do if they don't know it?*
- ★ *What do we do if they already know it?*



Our thinking journey...



What do we want our students to learn?

- ☐ What is thinking? What are the skills to be prioritised?
- ☐ How can we align this across our school?
- ☐ What learning needs to take place for us?



Skills:Yr 5	Eng	Maths	Science	History	Total
Identify	12	10	10	10	42
Clarify	6	6	8	10	30
Reflect	14	8	7	1	30
Generate	10	7	5	4	26
Analyse	3	3	8	2	16
Synthesise	4	3	8	2	17
Evaluate	3	4	8	2	17
Prob Solve		2	1		3
Connect	4	3	1		8

Skills:Yr 3	Eng	Maths	Science	History	Total
Identify	11	11	6	9	37
Clarify	8	10	6	9	33
Generate	7	5	6	5	23
Reflect	6	2	6	2	16
Synthesise	2	1	3		6
Analyse	2		3		5
Evaluate	2		3		5
Connect	2	1	1		4
Prob Solve		1			1

Digging deeper

7 Key Student Proficiencies:

- ❖ critical thinking
- ❖ creative thinking
- ❖ complex thinking
- ❖ comprehensive thinking
- ❖ collaborative thinking
- ❖ communicative thinking
- ❖ cognitive transfer



(Bellanca, Fogarty & Pete,)



Scope and Sequence

- ☐ Horizontal alignment
- ☐ Vertical alignment
- ☐ Repeats
- ☐ Omissions



Prep	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Identify	Identify	Identify	Identify	Identify	Identify	Identify
Generate	Clarify	Clarify	Clarify	Generate	Clarify	Clarify
Clarify	Generate	Generate	Generate	Clarify	Reflect	Reflect
Reflect	Reflect	Reflect	Reflect	Reflect	Generate	Generate
Synthesise	Synthesise	Analyse	Synthesise	Synthesise	Analyse	Analyse
Analyse	Analyse	Synthesise	Analyse	Analyse	Synthesise	Synthesise
Evaluate	Evaluate	Evaluate	Evaluate	Evaluate	Evaluate	Evaluate
Connect	Connect		Connect	Connect	Connect	Connect
Prob Solve			Prob Solve	Prob Solve	Prob Solve	Prob Solve



On the journey



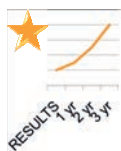
- ★ Collaborative Culture
- ★ Developing a shared understanding
- ★ Focus on learning
- ★ **Well articulated curriculum**
- ★ Results orientated



In support of a well articulated curriculum...

- ◆ Marzano, 2003
- ◆ Brophy, 2004
- ◆ Saphier, 2005
- ◆ Hattie, 2009





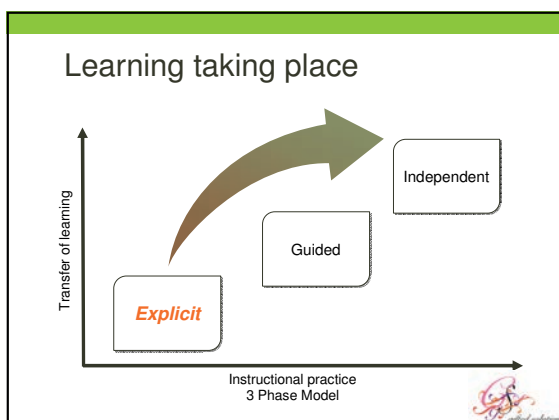
Team talk: learning

- ★ *What do we want students to learn?*
- ★ *How do we know if they have learned it?*
- ★ *What do we do if they don't know it?*
- ★ *What do we do if they already know it?*



The What?	The How?
Skill of clarifying: *I can tell you what the author means in my own words *I can unpack the text and express the meaning in my own words	Collaboration: ✓ Shared knowledge of definition ✓ Professional learning ✓ Common formative assessment ✓ Sharing Data & Strategies ✓ Explicit teaching ✓ 3 Phase Model

Clarify	
Definition	Clarify: to untangle the text so as to explain in our own words. Clarify is to make an idea or statement clear or intelligible
Looks like:	Peer editing, revising writing, finding precise words, paraphrasing
Sounds like:	"In my own words.... I would express it as.... If I could clarify..."
Related words:	Explain, unpack and tell, illuminate



**Curriculum: Clarify**

Year 4 English



Interpret ideas and information in spoken texts and listen for key points on order to carry out tasks and use information to share and extend ideas and information (ACELY 1687)



Curriculum: Clarify

Year 5 Science



With guidance, pose questions to clarify practical problems or inform a scientific investigation and predict what the findings of an investigation might be (ACS515231)



Curriculum: Clarify

Year 8 History



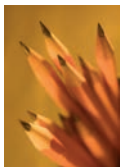
Draw conclusions about the usefulness of sources (ACHHS154)



Explicit

➤ Find a partner, divide roles:

- 'A' – the illustrator
- 'B' – the communicator



➤ B gives verbal instructions to A, who draws what he/she hears

- Compare original and result
- What worked? What was unclear?

➤ Repeat with new picture and swapped roles

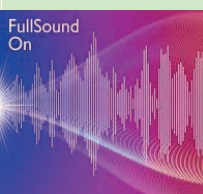


'Clarify': What is it for us?

Looks like

Doesn't look like

Sounds like



Explicit

If words remain words and sit quietly on the page: if they remain nouns and verbs and adjectives, then we are truly blind. But if words seem to disappear and our innermost self begins to laugh and cry, to sing and dance and finally to fly... if we are transformed in all that we are, to a brand new world, then and only then, can we READ.

(p 46) Joe Wayman, (1980)



**Explicit**

Seek the meaning of words and phrases

Express these in your own words

Expose the essence of the idea in the simplest terms



Explicit

*If words remain words and sit quietly on the page: if they remain nouns and verbs and adjectives, then we are **truly blind**. But if words seem to disappear and our **innermost self** begins to laugh and cry, to sing and dance and finally to fly... if we are **transformed** in all that we are, to a brand new world, then and only then, can we READ.*

(p 46) Joe Wayman, (1980)



Explicit

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(p 46) Joe Wayman, (1980)



Commonwealth of Australia Constitution Act

[9th July 1900]

WHEREAS the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, humbly relying on the blessing of Almighty God, have agreed to unite in one indissoluble Federal Commonwealth under the Crown of the United Kingdom of Great Britain and Ireland, and under the Constitution hereby established: And whereas it is expedient to provide for the admission into the Commonwealth of other Australasian Colonies and possessions of the Queen:

Be it therefore enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of

Explicit

- Tear the paper into 4
- Number students 1, 2, 3, 4
- All #1s to 1; #2s to 2 etc.,
- Read all your comments and summarise orally
- Share and reflect: 1 thing I learnt about the word 'clarify' was.....
- Rank individual clarity Vs team clarity



Instructional Strategy

1. Select three words or phrases to clarify	2. Write a clarifying question about a confusing phrase
3. Paraphrase in your own words	4. Give a nutshell summary

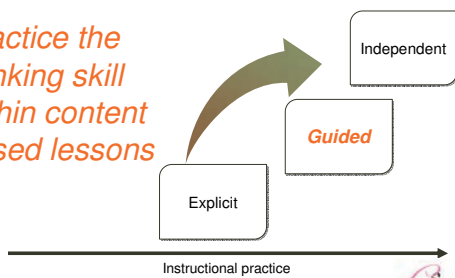


Instructional Strategy

whereas, humbly, enacted, indissoluble, expedient	What does the writer mean by 'have agreed to unite in one indissoluble..?'
The five Aus. states mentioned have decided to form one combined lasting government	The Act (CACA) is an important law upon which Australia's government was founded

Learning taking place

*Practice the
thinking skill
within content
based lessons*



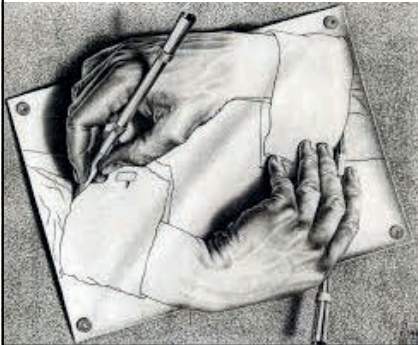
Guided

** Tell Retell*



Guided

Use optical illusions: M.C Escher

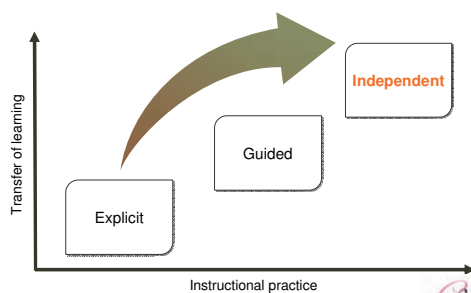


Guided

Political Debate



Learning taking place





Independent

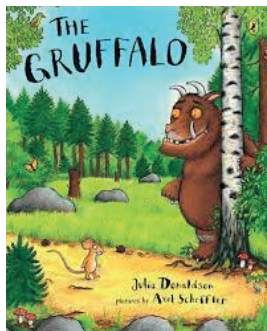
Year 4 English



Use comprehension strategies to build literal and inferred meaning and begin to analyse texts by drawing on growing knowledge of context, language and visual features, and print and multimodal text structures (ACELY 1670)



Portfolio sample



Read a story of your choice and retell in sequenced images and accompanying print



Independent

Year 5 English



Recognise and analyse the ways that characterisation, events and settings are combined in narratives, and discuss the purposes and appeal of different approaches (ACELT 1622)



Portfolio sample



*Develop a profile of Ned Kelly from 'Black Snake'

*Compare with historical texts and id representation in each

*Respond to :
Was Ned Kelly a villain?
Support with evidence



Independent

Year 10 Science

Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (ACSHE191)



Portfolio sample

The model of the atom you learnt last year is rubbish!

*How have different atom models developed over time?

*Which scientists have made major contributions to the development of atom models?

*Is the atom model likely to change in the future?





On the journey

- ★ Collaborative Culture
- ★ Developing a shared understanding
- ★ Focus on learning
- ★ Well articulated curriculum
- ★ **Results orientated**



'I can' CLARIFY Statements

I can find the words I don't understand			
I can look for clues in the text to help me understand (pictures, title, bold type)			
I can read around the words to help me understand			
I can say what it means in my own words			
I can tell what it's about in my own words			
I can find the words that seem important to the text			
I can say what they mean in my own words			
I can say what the text is about in a nutshell			
I can select key words or phrases from a text			
I can ask a clarifying question about a confusing phrase			
I can say what the text is about in my own words			
I can give a 'nutshell' summary			

Data Orientated



- How will we know our students have learnt it?
- What are our results telling us?
- Therefore, what do we need to do next?



Data 'INFORM'ation

•Results Orientated Protocol

- ◆ Where do our students struggle the most?
- ◆ What are some of our effective instructional strategies?
- ◆ What resources are available for intervening?
- ◆ What needs to be done by each of us to implement the strategy?
- ◆ Are there additional ideas to further differentiate our instruction?
- ◆ What classroom checks will we use and when?



Sustaining the journey

*Celebrate your success!!



*Teachers change attitudes and belief when they see student results improve



**I can
statements**

* Identify the thinking skill that is targeted in the 'I Can Statements' by matching them with the relevant thinking skill and student proficiency





Learning intentions

- 1 • A reflective 'time out' to consider the 'thinking' in your school or region
- 2 • Shared understanding of an aligned and guaranteed 'thinking curriculum'
- 3 • Shared understanding of the processes and protocols used in developing a 'thinking curriculum'



gifted solutions

cathhogan@tas.gmail.com





Handwriting practice lines consisting of 20 horizontal lines.

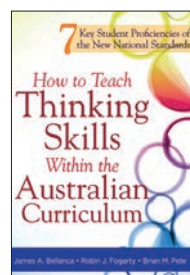
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RELATED RESOURCES

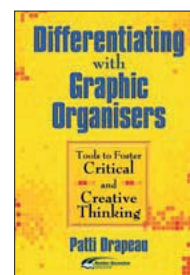


Available from Hawker Brownlow Education

Qty	Code	Title	Price
	CO8427	Differentiating with Graphic Organisers: Tools to Foster Critical & Creative Thinking	\$65.95
	SOT6925	How to Teach Thinking Skills Within the Australian Curriculum	\$32.95
	HB1533	Inquire: A Guide to 21st Century Learning	\$69.95
	HB9980	Inquire: A Guide to 21st Century Learning, Teacher's Guide	\$21.95
	SOT7177	Learning by Doing: A Handbook for Professional Learning Communities at Work, 2nd Edition	\$35.00
Total (plus freight) \$			



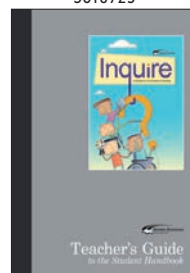
SOT6925



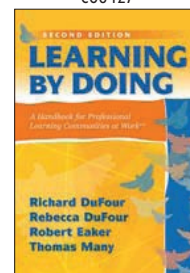
CO8427



HB1533



HB9980



SOT7177

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Thinking Skills 'I can statements'



Thinking Skill Comprehensive Thinking

Understand	'I get it'			
	I can 'figure out' the meaning			
	I can grasp the meaning of the text			
	I can identify details to support the main idea			
	I can explain it in my own words			
	I can create a summary			

Thinking Skill Complex Thinking

Clarify	'I can say what it means'			
	I can look for clues in the text to help me understand (pictures, title, bold type)			
	I can read around the words to help me understand			
	I can find the words that seem important to the text			
	I can say what the text is about in a nutshell			
	I can select key words or phrases from a text			
	I can ask a clarifying question about a confusing phrase			
	I can say what the text is about in my own words			

Thinking Skill Creative Thinking

Generate	'I can brainstorm ideas'			
	I can list many ideas related to the topic			
	I can keep an open mind to include all ideas			
	I can piggyback on other ideas			
	I can rank them according to best ideas			

Thinking Skills 'I can statements'



Thinking Skill Metacognition				
Reflect	'I can think about my thinking'			
	I can identify something I would like to know more about			
	I can reflect upon the factors that help me learn well			
	I can articulate my learning			
	I can consider the big picture/ entire process and articulate my thoughts			

Thinking Skill Cognitive Transfer				
Synthesise	'I can mix the ideas together into one'			
	'I can combine the elements into a single entity'			
	I can explain the big picture			
	I can identify the elements			
	I can extract the essence			
	I can name the nuggets (ideas)			
	I can design the encapsulating image			

Thinking Skill		Critical Thinking		
Analyse	'I can pull the ideas apart'			
	I can look at the big picture			
	I can find the similarities			
	I can find the differences			
	I can classify/sort the information			
	I can make a summary			
	I can articulate my learning			

Thinking Skills 'I can statements'



Thinking Skill Critical Thinking				
Evaluate	'I can judge how good I think it is'			
	I can articulate the essential criteria against which I will measure			
	I can use the evidence to weigh against the criteria			
	I can decide how well the criteria are met			
	I can examine the total body of evidence			
	I can express a final judgment			

Thinking Skill		Communicative Thinking		
Connect	'I can link it together'			
	I can see how the ideas are associated			
	I can see the pattern			
	I can make sense of the information by bringing it together as a whole			
	I can name the connection			
	I can list what I know, need to know and what I learned			

Thinking Skill Critical Thinking				
Problem Solve	'I can solve it'			
	I can articulate the problem in my own words			
	I can identify the information I need			
	I can choose an appropriate strategy			
	I can examine the facts and data			
	I can express alternatives			
	I can select solutions			