

"Thinking skills and VCAL students".

## **an intro which includes how I came across dispositional thinking skills theory**

During my Master of Education study at the University of Melbourne, studying a course called 'Thinking about thinking' by Doctor ????. This research asks the question 'in what ways does Certificate III in Commercial Cookery prepare students for continuing education?'. If we can accept cookery apprentices are similar to VCAL students (history of non-achievement in mainstream classrooms, often resulting in low literacy and/or numeracy

However, far from an expert in thinking skills, this is an example of applying higher education to teaching practice.

This is one approach that is used in my practise. It is underpinned with relationship building (kids have to feel comfortable to participate in discussions), valuing empowerment and applied 'hands-on' learning

## **why dispositional thinking applies to VCAL students**

The **skills approach** identifies good thinkers as capable of making quick decisions. Time-consuming critical reflection is limited due to its polarity with this approach's primary goal of efficiency. This is an approach that values high IQ (Harpaz 2003). Not to be confused with hand skills, motor skills etc, it is *the skill of thinking*.

Harpaz (2003) provides an attractive argument for his preferred **understanding approach**. Good thinkers within this theory apply skills, value thinking and make personal value judgments on new information based on accepted knowledge (Harpaz 2003). However, this is an amalgam of skills (IQ) and disposition (motivation)

The **dispositions approach** states that students' ability to think is predominantly limited by their motivation to think (Ritchhart 2002). Subject knowledge is only a vehicle with which to teach the thinking dispositions (Harpaz 2003).

Ritchhart (2002: 23-27) studied eight lists of theories, and distilled them down to six common, though not definitive, dispositions divided into three sections:

**“Creative thinking; looking out, up, around, and about**

**Open-minded**

**Curious**

**Reflective thinking; looking within**

**Meta-cognitive**

**Critical thinking; looking at, through, and in between**

**Seeking truth and understanding**

**Strategic**

**Skeptical”.**

### **Issues**

The efficiency promoted by the skills approach aligns it with the requirements and problems of both the VET paradigm (Burns 2002) and with traditional views of industry needs (Bourdain 2001; Hegarty 2004; Pepin 2003). The ability to think within the culture of the real world provided by the understanding approach has the greatest potential for transferability beyond cooking. However, the dispositional approach is the most inclusive for cooks **and VCAL students** requiring only motivation, rather than intelligence or thorough subject understanding. (Harpaz 2003)

Harpaz (2003: 14) states “people choose an approach for its ideological vista”. The dispositional approach places subject knowledge as neutral and emphasises thinking as the primary goal, while the other approaches require cognitive understanding of subject content. Good thinking is more transferable between jobs and careers, and more durable than specialised subject knowledge. (Harpaz 2003)

The dispositional approach is further reinforced by analysis with meta-cognition. The skills and understanding approaches rely on understanding subject content before achieving meta-cognition. The dispositional approach is far more achievable for apprentice cooks especially considering their history

of school failure (Teese, R. & Polesel 2003). Meta-cognition can be achieved if students have the motivation or “disposition to implement it” (Harpaz 2003: 15).

The final reason for favouring the dispositional approach occurs by analysis of thinking approaches with intelligence. The dispositional approach requires just the motivation to think, while both the skills and understanding approaches use IQ testing as a measure of intelligence (Harpaz 2003). Ritchhart (2002) believes IQ is an inaccurate predictor of aptitude for tradespeople. He questions, “What does intelligence look like in action?” (Ritchhart 2002: 14). Hernstein and Murray (1994 cited in Ritchhart 2002) tested US Marines employed in technical jobs with a range of IQs. Lower IQ marines scored lower in written testing, but had similar practical work output. This research mirrors a problem with VET: students can be assessed incompetent in the classroom, but perform satisfactorily or better in the workplace (Burns 2002: 337).

## how it is used in the context of the Hospitality subject at The Island

mapping Ritchhart's dispositional commonalities

Sous Chef

First	Adam
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Toast	Chris
Beverages, Spreads, Cups	Della

### Lunch Preparation

1	Dish Name	Crumbed lamb cutlets
	Who	Evan & Francis
	Time given	30 min crumbing, 30 min pan-panfry, 10 min Oven, 10 min plate
2	Dish Name	Braised and wilted Rainbow Chard, baby beets
	Who	Greg
	Time given	30 min prep, 30 min braise, 10 min wilt, 10 min plate
3	Dish Name	Orichiette Salad (Pasta, dressing, fried crumbs)
	Who	Chris
	Time given	20 min boil water, 10 min cook, 10 min dressing, 20 min fry crumbs, 10 plate
4	Dish Name	Fruit Salad and Garden Salad
	Who	Della
	Time given	30 mins

### Hygiene

Dish (am)	Bruce
Dish	Chris
Pots	Della
Dry Away	Evan
Floor	Francis
Rubbish	Greg
Laundry	Greg

## **Sous Chef Tasks**

4.2

### **Beginning of Day**

Fill in Daily Student list.

Inform your staff of the jobs that you have allocated them

Can you identify 5 potentially hazardous or unsafe jobs during your day in charge?

1.

2.

3.

4.

5.

Inform your staff of these potential risks.

4.3

### **End of day**

Sous Chef to debrief to kitchen staff by answering these questions.

What went well with your leadership today?

What could be improved with your leadership for next time?

What did you need to change?

Why did you need to make this change?

## a discussion detailing how it might be used in other classrooms.

Map to ISS outcomes, and literacy/numeracy/PDS as part of discussion

Links

Thinking matrix

<http://vels.vcaa.vic.edu.au/support/domainsupport/thinking/concept.html>

University of Melbourne

Thinking about thinking

Dispositional thinking links

The Island

[Woolcock.cameron.h@edumail.vic.gov.au](mailto:Woolcock.cameron.h@edumail.vic.gov.au)

0400 822 150

### ***Reasoning, processing and inquiry chart***

This chart identifies and, in some cases, elaborates the key concepts and skills in the standards.

Key concepts and skills	Levels 1 and 2	Level 3	Level 4	Level 5	Level 6
<b>Questioning/ Methodology of inquiry</b>	Standards do not apply at Levels 1 and 2.  The <a href="#">Level 1</a> and <a href="#">Level 2</a> learning focus statements suggest appropriate learning experiences from which teachers	Use their own or teacher or peer questions when seeking information.	Develop their own questions, as a guide, for investigation.	Use a range of question types, including more complex questions, when undertaking investigations.	Generate questions w allow exploration issues from multiple perspective
				Use a range of discipline-based methodologies (strategies, skills, techniques, procedures relevant to a discipline) when undertaking investigations.	Employ appropriate methodolog for creating verifying knowledge different disciplines.

<b>Managing information</b>	can plan relevant teaching and learning activities that support students to develop the concepts and skills.	Collect information from a range of sources - including observations and findings from their own investigations.	Collect relevant information from a range of sources, both primary and secondary, to begin investigations.  Distinguish between fact and opinion.	Locate and select relevant information from varied sources including quantitative and qualitative.	Discriminate the way they use a variety of sources
		Question the validity of sources when appropriate.	Make judgments about the worth of information.	Identify and synthesise relevant information and consider its validity.	
		Apply thinking strategies and tools, which might be suggested by teachers, to organise information and concepts in a variety of contexts, such as understanding of events, texts and issues.	Use the information they collect to develop concepts, by applying thinking strategies and tools.	Select relevant information and use appropriate thinking/reasoning strategies and tools when analysing evidence.	Process and synthesise complex information using appropriate thinking strategies and tools.
<b>Problem solving</b>		Use thinking strategies to organise their approach to problem solving activities.	Use information they collect to solve problems.	Complete activities focusing on problem solving which involve an increasing number of variables and solutions.	Complete activities focusing on problem solving which involve a variety of range and complexity variables and solutions.

<b>Decision making</b>		Provide reasons for reaching their conclusions.	Use information they collect to inform decision making.  Develop reasoned arguments using supporting evidence.	Complete activities focusing on decision making which involve an increasing number of variables and solutions.  Consider their own and others' points of view when evaluating evidence.	Complete activities focusing on decision making which involve a wide range and complexity of variables and solutions.  Make decisions informed by their analysis of various perspectives and of sometimes contradictory information.
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### ***Creativity chart***

This chart identifies and, in some cases, elaborates the key concepts and skills in the standards.

<b>Key concepts and skills</b>	<b>Levels 1 and 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
<b>Generating ideas</b>	Standards do not apply at Levels 1 and 2.  The <a href="#">Level 1</a> and <a href="#">Level 2</a> learning focus statements	Apply creative (speculative) ideas in practical ways.	Use creative (speculative) thinking strategies in a range of contexts.	Apply creativity in engaging with, and exploring, ideas in a range of contexts.	Experiment with innovative possibilities within the parameters of a task.
<b>Generating solutions</b>	focus statements	Use open-ended	Generate imaginative	Generate multiple	Take calculated

	suggest appropriate learning experiences from which teachers can plan relevant teaching and learning activities	questioning and integrate available information to explore ideas, experimenting with a range of creative solutions.	solutions when solving problems by working with both concrete and abstract idea, (their own and those of others).	options, problem definitions and solutions.	risks when defining tasks and generating solutions to increasingly complex tasks.
<b>Testing and exploring ideas</b>	support students to develop the concepts and skills.	Test the possibilities of ideas they generate.	Test the possibilities of concrete and abstract ideas (or processes) generated by themselves and others including the unfamiliar.	Demonstrate creativity in the ways they engage with and explore ideas.	Apply selectively a range of creative thinking strategies to broaden their knowledge and engage with contentious, ambiguous, novel and complex ideas.

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### ***Reflection, evaluation and metacognition chart***

This chart identifies and, in some cases, elaborates the key concepts and skills incorporated in the standards.

<b>Key concepts and skills</b>	<b>Levels 1 and 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
<b>Using the language of thinking</b>	Standards do not apply at Levels 1	Use appropriate language to explain their thinking.	Articulate their thinking processes, by using appropriate language.	Use specific language to describe their thinking.	Use specific terms to discuss their thinking.

<p><b>Evaluating effectiveness</b></p>	<p>and 2. The <a href="#">Level 1</a> and <a href="#">Level 2</a> learning focus statements provide advice about learning experiences from which teachers can draw to develop relevant teaching and learning activities</p>	<p>Identify strategies to organise their ideas.  Identify and provide reasons for their point of view.</p>	<p>Use a broad range of thinking processes and tools and reflect and evaluate their effectiveness.</p>	<p>Explain the purpose of a range of thinking tools and use them in appropriate contexts. Modify and evaluate their thinking strategies.</p>	<p>Explain the different methodologies used by different disciplines to create and verify knowledge. Select and use thinking processes and tools appropriate to particular tasks and evaluate effectiveness for particular tasks.</p>
<p><b>Examining change</b></p>	<p>and describe how students can develop their knowledge, skills and behaviours in this domain.</p>	<p>Justify changes in their thinking.</p>	<p>Document changes in their ideas and beliefs over time, demonstrating understanding.</p>	<p>Describe and explain changes that may occur in their ideas and beliefs over time. Use specific language to reflect on the thinking processes used during their investigations.</p>	<p>Explain conscious changes that may occur in their own and others' thinking when reviewing information and refining ideas and beliefs. Analyse alternative perspectives and perceptions.</p>