

MELT

*Models of Engaged Learning & Teaching:
MELT and crystallise your students'
Approaches to Learning*



Association of Australasian IB Schools
AGM, 1 September, 2017

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MELT 10am-11am

- Why MELT?
- What are the MELT?
- How are MELT used in:
 - IB MYP?
 - Middle School STEM?
 - PD for Primary School teachers?
 - Early Childhood and Primary?
- Q&A
- You brainstorm MELTing possibilities
- ... and introducing
 - Quentin Maire
 - Lyn Torres



Models of Engaged Learning and Teaching: Why?





Observation



Your NameDate.....

Have you heard the expression 'I couldn't believe my eyes'? Many explorers roaming across the deserts of Australia saw water in the distance. But when they rushed up to have a drink, they
5 swallowed a mouthful of sand. It was not water they saw, but a mirage.

These explorers soon learned not to trust their sense of sight only - they realized they needed to use other **senses** too. Our senses are sight,
10 hearing, touch, taste and smell, and these are our main ways of finding out about the world. We should use as many senses as possible in science. In this way we may not be so easily
35 tricked by mirages.

Experiment : Pop the corn

Equipment: Small tin can, with 20 kernels of corn

Bunsen Burner matches

Tripod bench protector

Gauze mat safety glasses

Method: The method tells you the steps to follow.

1. Make as many observations about the unpopped corn as possible. Record these.

2. Place the tin can with the corn kernels on the gauze mat. Light the Bunsen burner, and begin heating on a blue flame.

3. Use every sense, except taste, to make observations from the time you start to heat.

4. Clean up thoroughly.





Part 1. Purpose of the text

Find the key ideas from the text, and their meaning in the context of the experiment. **Organise** below.

a. Title (purpose)

Key
word(s)

Line no.s

Meaning in

context

•

•

•

Part 2. Infer

Analyse the text again, then answer these questions by **synthesising** some new ideas:

a. Why can't you use your sense of taste in this experiment?

b. Why must you use a blue flame to heat the tin can?

Design your own seed experiment



Your Name Date.....

What are they waiting for? You planted those pea seeds a month ago and they still haven't come up. Sure, the pack said 'sow in spring' and you planted them in July, but so what? They had lots and lots and lots of rain, so it couldn't be anything to do with water, could it? Now, the soil was kind of sandy, but the grass grows fine on that, it seems, so that shouldn't affect anything.

Your saucepan is ready to cook fresh, green, delicious home-grown peas, but the peas haven't even shown a little leaf. Maybe it's time to investigate what things affect seeds sprouting. Otherwise, you may never get those home-grown peas you want.

You need to think about a **hypothesis**, which will give you a direction to research. A hypothesis is a 'mini theory'. To come up with one, ask yourselves 'what things might cause seeds to sprout?' Your hypothesis will be about the effect of one of these things. It is a good hypothesis if it helps you

Next you must decide the one manipulated variable. This is the variable you decide to change. This is related to your hypothesis. In the example above, you would manipulate the amount of time seeds have been in the packet, by using packets with different use-by dates.

Then you must identify all the **controlled variables**. Remember, these could vary, but you must control them so they don't. Controlled variables would include things like:

- amount of water
- temperature
- soil type
- light conditions
- humidity
- seed type
- amount of air available

If they vary, it will not be a fair test.

You must also state your **dependent variable**. This is the thing you are going to measure. For example, is it the number of seeds that sprout



Part 1. **Purpose** of the text

Find the key ideas from the text, and their meaning in the context of the experiment. **Organise** below.

a. Title (purpose)

Key word(s)

Meaning in context

Part 2. Summary paragraph.

a. **Organise** the structured overview above into a summary paragraph that contains all the key ideas.

b. **Analyse** the text again, and communicate what you think is the key theme of the passage.

Part 3. **Synthesise** inferences in response to these questions:

a. Why must all the 'controlled variables' be kept the same through your experiment?

b. What would happen if you had two 'manipulated variables' at once?

Embark and Clarify

Find and Generate

Evaluate and Reflect

Organise and Manage

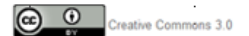
Analyse and Synthesise

Communicate and Apply

Facets are based on:

- Information literacy standards
- Blooms taxonomy
- Good practice
- Much piloting and redrafting over
13 years

Research Skill Development Framework



For educators to facilitate the explicit, coherent, incremental and cyclic development of the skills associated with researching, problem solving, critical thinking and clinical reasoning.

Students' Autonomy when Researching

Prescribed Researching	Bounded Researching	Scaffolded Researching	Open-ended Researching	Unbounded Researching
Highly structured directions and modelling from educator prompt researching, in which...	Boundaries set by and limited directions from educator channel researching, in which...	Scaffolds placed by educator shape independent researching, in which...	Students initiate research and this is guided by the educator...	Students determined guidelines for researching that are in accord with discipline or context...

Extent of Autonomy based on

- Vygotsky's Zone of Proximal Development
- Close to open inquiry
- Model, scaffold, withdraw
- SOLO taxonomy
- Designed for ECE to PhD

Research Skill Development for Curriculum Design and Assessment



THE UNIVERSITY of ADELAIDE

RSD

Small Groups

Masters

Schooling

MELT

I-MELT

[RSD Homepage](#)

RSD Homepage

[Framework](#)

[Evidence of Effectiveness](#)

[Examples](#)

[Get Involved](#)

[FAQ](#)

[Weblinks](#)

[Contacts](#)

Research Skill Development

Research Skill Development (RSD) is home to a community of academics, tutors, librarians, student support staff and, of course, students, that uses the RSD framework to create discipline-based and interdisciplinary approaches and resources.

This use of the RSD enables the explicit, incremental and coherent development of students' and academics' research skills. Watch our introductory [video](#) to RSD.

RSD Frameworks

Evidence of Effectiveness



Discipline Examples



Get Involved



New Material

I-MELT
11-13 December 2017
National Wine Centre
Adelaide, South Australia

[I-MELT](#)



[Autonomy Articles](#)

RSD News

[More](#)

16

AUG

I-MELT call for posters with 200 word abstracts

15

AUG

Eols for Special Issue on RSD due 24 August

25

Extension for I-MELT short papers-14 August

Research Skill Development in Schools



RSD

Small Groups

Masters

Schooling

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RSD in Schools

RSD in Schools

Early Childhood

Primary

Secondary

Frameworks

Research Skill Development in Schools

Research Skill Development (RSD) in Schools resources are in development, so we are interested in how you might use them or adapt them. Watch our introductory [video](#) to RSD in Schools.

Contact [John Willison](#) if you are interested in piloting RSD resources in a school context.

Early Childhood



Primary



Secondary



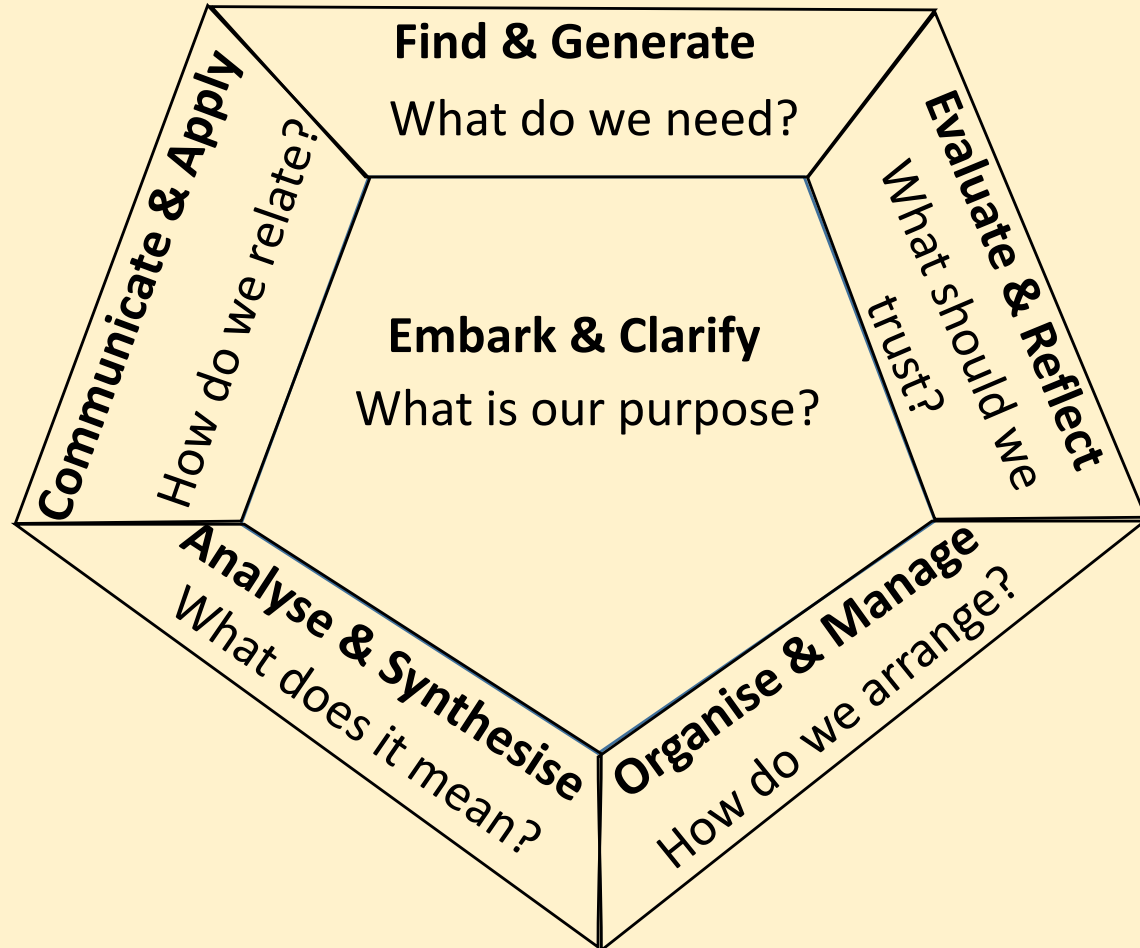
All material on the RSD site is under the creative commons licence, to be used freely and shared back in free open access.

Support for this project has been provided by the Australian Government Office for Learning and Teaching. The views in this project do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



MELT pentagon

When in doubt, go to the centre...

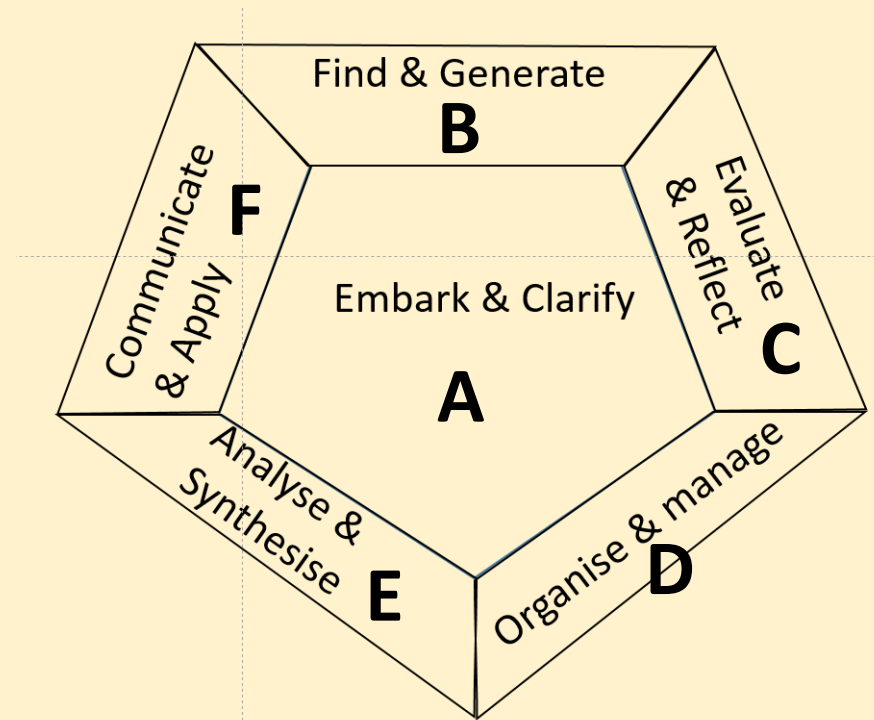





Students Engaging with IB Inquiry

In threes and fours:

- Discuss the **most** problematic MELT facet for students when they engage in more open-ended investigations/problems/projects
- You have **five** minutes to decide which facet and hold up your group's answer simultaneously
- Be ready to explain your answer



- Who hopes to get  Plates this year?
- How many driving hours' do you need in your driving log book before you can get your Ps?
- Have you heard that SA has been discussing an increase from 75 hours to 120 hours?

<http://www.adelaidenow.com.au/news/huge-overhaul-for-young-drivers/story-e6frea6u-1226166616038>

NEWS

Tough licencing overhaul for South Australia's young drivers

POLITICAL REPORTER DANIEL WILLS ADELAIDENOW OCTOBER 14, 2011 11:00PM

SHARE



SAVE THIS STORY



Strathalbyn teen Matt Jellicoe with his dad Michael. Matt bought a car expecting to get his L-plates. Picture: Morne De Klerk



Living in NSW, Stephanie completed over 120 supervised driving hours on Ls, and has been on Ps for 3 months. She said:

“ 75 hours is enough to easily pass your licence, but 120 hours gives you more different experiences in a range of different environments for driving.”



Task 1 (cont'): List the advantages and disadvantages of increasing the logged driving time on L plates to 120 hours

- Form into 3s or 4s
- 2 minutes
- The group of three with the largest number of advantages/disadvantages reads them out
- That group has the easiest task

Advantages	Disadvantages
.	



Advantages

- A. Less accidents
- B. More time to save up for a car
- C. Higher levels of judgement
- D. Spend more time with their family
- E. Experiencing different conditions
- F. Becoming a better driver
- G. Less stress
- H. More knowledge of road safety
- I. Improves self-confidence
- J. Gaining wisdom
- K. Driving for longer periods
- L. Maturity

Disadvantages

- A. Suffering fatigue
- B. Losing interest
- C. Too long
- D. Taking time away from school/day
- E. Lying about amount of hours
- F. Rushing (not practising)
- G. More time until you get your license
- H. Harder to convince people to help you
- I. More P-platers on the road
- J. Stressful on the driver and instructor/s
- K. May cost more (fuel)
- L. Parents may be too busy



What skills did you use to do that?

MELT Facets	Your Analysis
Embark and clarify	Brain-storming, open minded
Find and generate	Bringing ideas together (from the brain), own opinion
Evaluate and reflect	Reflecting on ideas, look at both sides
Organise and manage	Collaboration (working as a team – building on others' ideas) Social Skills, Organising ideas as a table (categorising/illustrating)
Analyse and synthesise	Critical Thinking/Analysing
Communicate and applying	Communication (listening – eye contact and not talking at the same time, verbally speaking, building upon others' arguments), responding, Writing reading



MELT pentagon

When in doubt, go to the centre...

I. Communication Skills

II. Collaboration Skills

III. Organization

IV. Affective

V. Reflection

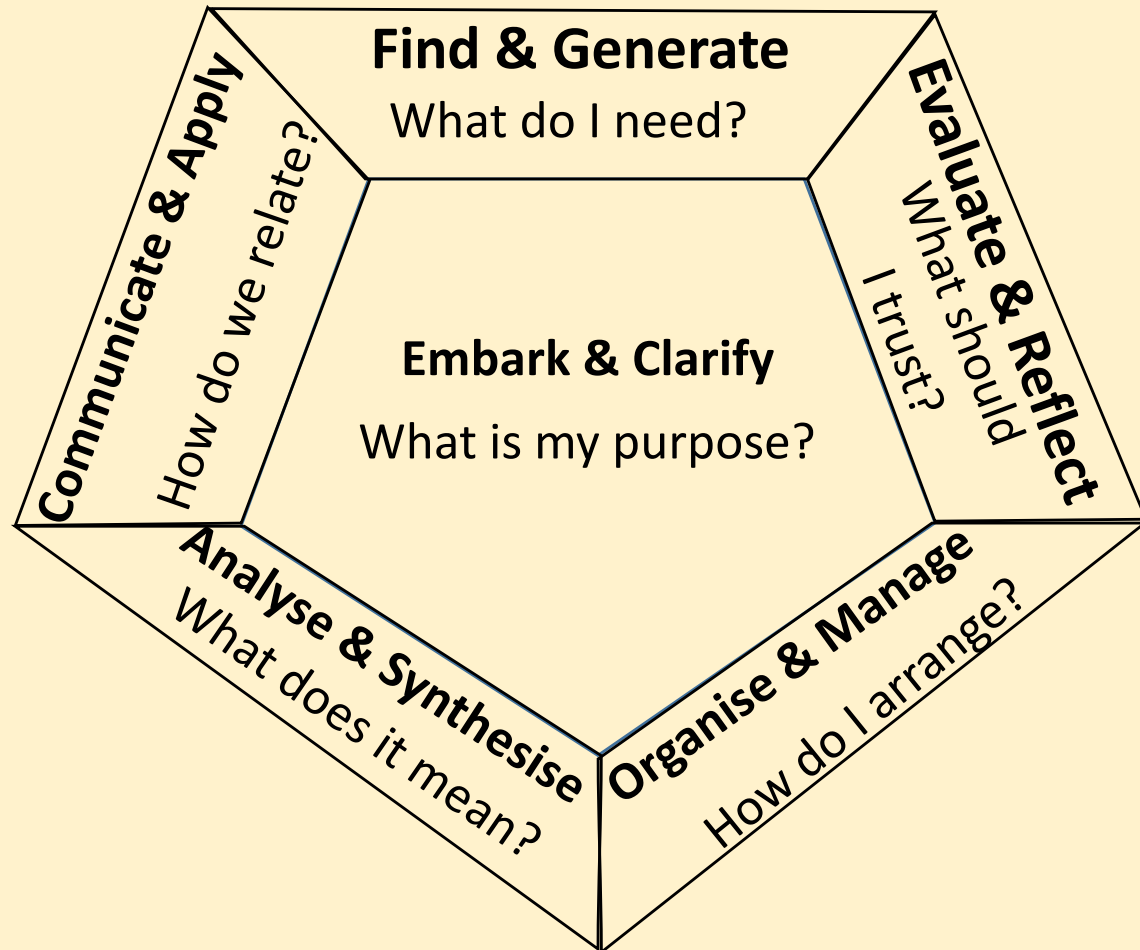
VI. Information literacy

VII. Media literacy

VIII. Critical thinking

IX. Creative thinking

X. Transfer





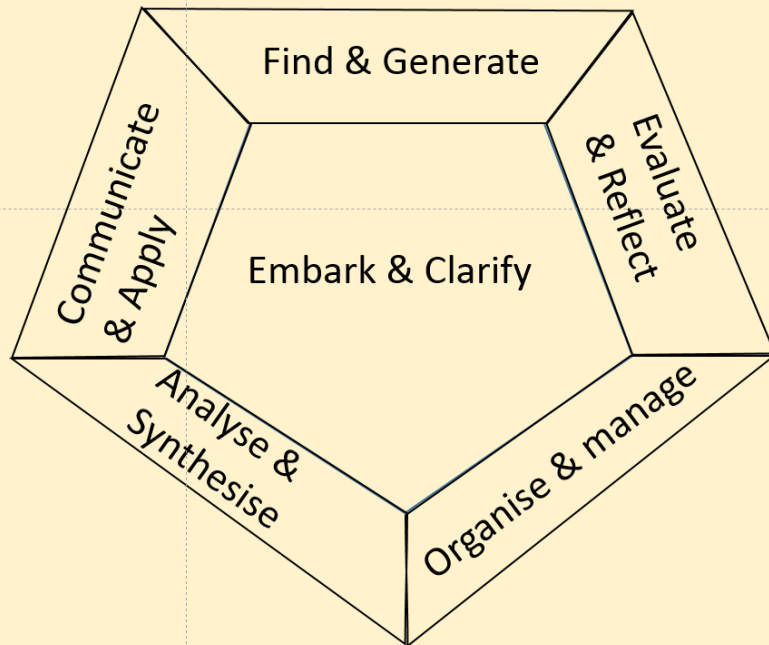
Your Process Journal

An extract may include:

- visual thinking diagrams ←
- bulleted lists ←
- charts
- short paragraphs
- notes ←
- timelines, action plans ←
- annotated illustrations
- annotated research



Task 2: 'L Plater' as a worked example of the PP





Choosing Global Context for 'L Plater'

Which Global Context may be most appropriate?

A. Personal identity and relationships

B. Orientation in space and time

C. Personal and cultural expression

D. Scientific and Technical innovation

E. Globalisation and sustainability

F. Fairness and Development



Task 3: Your Personal Project

...lets get moving

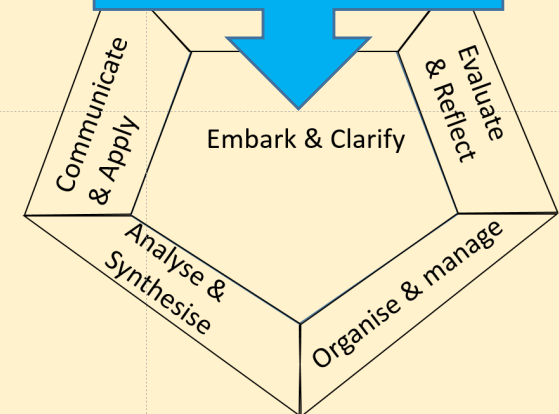
Embark and Clarify

Write in your:

- topic
- goal
- (research question?)
- a possible global context

W h e n i n d o u b t

EMBARK &
CLARIFY





Models of Engaged Learning and Teaching

MELT



Research Skill Development Framework

	Prescribed Research	Guided Research	Guided Research	Open-ended Research	Unbounded Research
Researcher Skills	Highly structured questions and procedures for structured research in school.	Structured by and within teachers for structured research in school.	Structured by and within teachers for structured research in school.	Students choose research and tasks to guide for the research.	Students determine questions for research and tasks to guide for the research.
Work Skills	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
Clinical Reflection	Students reflect on their research process and the results of their research.	Students reflect on their research process and the results of their research.	Students reflect on their research process and the results of their research.	Students reflect on their research process and the results of their research.	Students reflect on their research process and the results of their research.

Researcher Skills

Table 1. Researcher Skills Development Framework

Researcher Skill	Prescribed Research	Guided Research	Guided Research	Open-ended Research	Unbounded Research
1. Formulate a research question	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
2. Design a research plan	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
3. Collect and analyze data	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
4. Communicate findings	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.

Work Skills

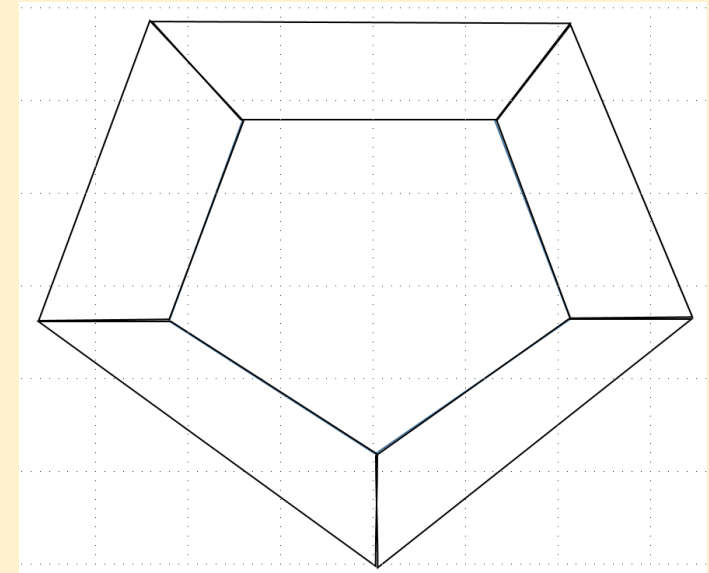
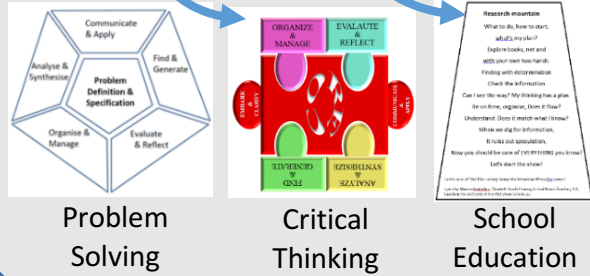
Table 2. Work Skills Development Framework

Work Skill	Prescribed Research	Guided Research	Guided Research	Open-ended Research	Unbounded Research
1. Organize and manage	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
2. Evaluate and reflect	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
3. Communicate and apply	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.

Clinical Reflection

Table 3. Clinical Reflection Development Framework

Clinical Reflection Skill	Prescribed Research	Guided Research	Guided Research	Open-ended Research	Unbounded Research
1. Research questions	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
2. Explore, look, and see	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
3. Check the information	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
4. Can I see the way? My thinking has a plan	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
5. Understand. Does it make sense to me?	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
6. Make and speculate	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
7. Make your own use of what you know	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.
8. Let's start the show!	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students respond to questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.	Students generate questions and complete tasks using a set of procedures and protocols.



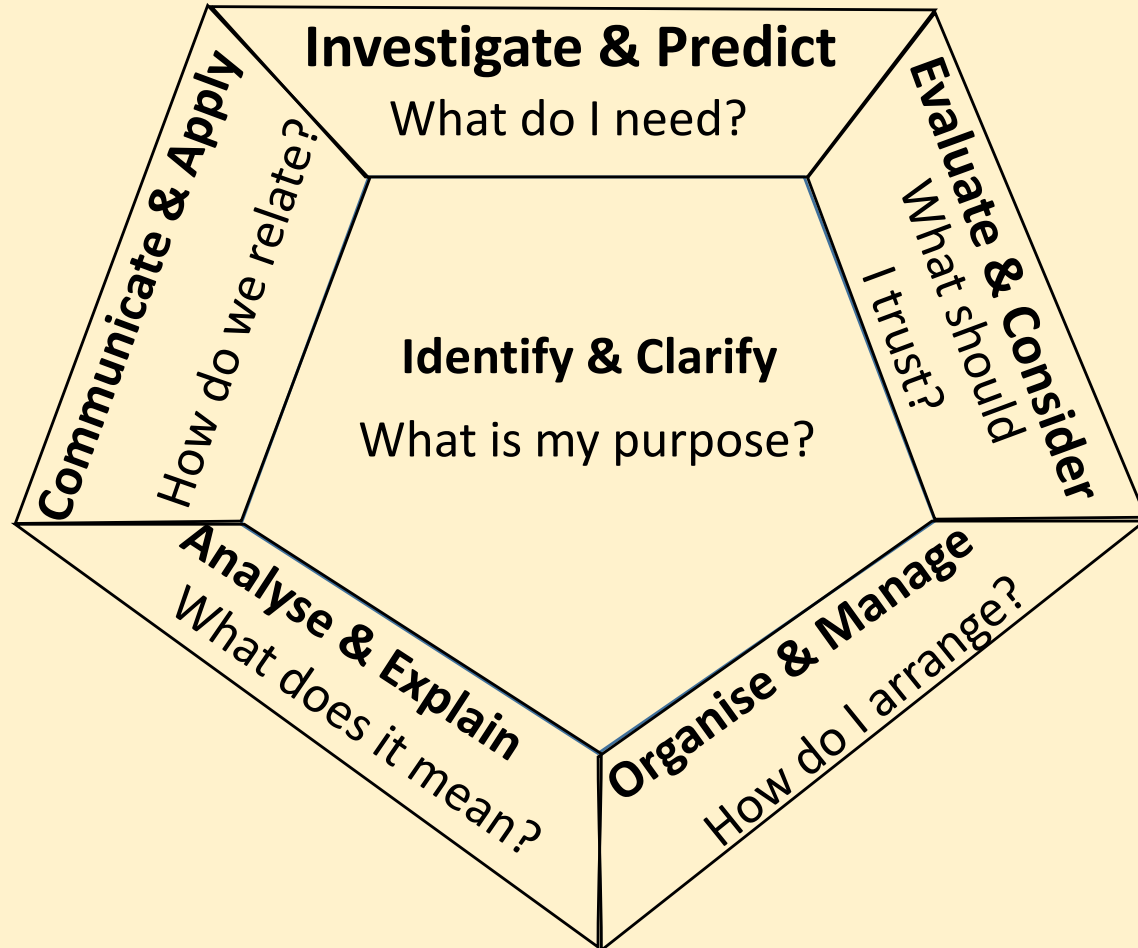
Your Context

The different adaptations of the RSD that comprise the MELT



Project-Based Learning pentagon

When in doubt, go to the centre...



Banksia Park International High School, SA



BPIHS Year 8 Science, Maths and Technology Contamination Project: Challenge

Dr John Willison, University of Adelaide



SNAKE-BIT MAN REACHING FOR RATTLES AGAIN

<https://www.washingtonpost.com/news/wonk/wp/2015/07/20/this-153000-rattlesnake-bite-is-everything-wrong-with-american-health-care>



What skills will you need as a team to:

- Work out the lowest % of alcohol needed
- Devise a Brand Name
- Pitch your product to BTG

PBL Facets	Your Analysis
Identify and clarify	Think ahead- have goals. Aim.
Investigate and predict	Knowing the equipment and products.
Evaluate and consider	Adaptation- if something goes wrong.
Organise and manage	Resilience- cooperation, everyone inputs. Plan
Analyse and explain	Mathematical skills eg. Calculate correct amount. Problem solving, working together as a team.
Communicate and apply	Communication- working together as a team, presenting- demonstrating, communicate with whole group, hand spreadsheet. Listening, negotiating.



Research Skills in STEM R-7

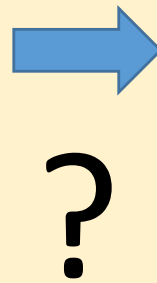
Aldgate Primary School, 15 August, 2017

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Flinders University
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An Activity to Discern Research Skills





At your table, come up with several **possible** reasons to explain what happens to make corn

- Heat expansion build up of internal pressure outer cover compresses contents then explosion
- Special man inside kernal that makes it pop when it gets hot
- Amount of liquid within corn kernal – something inside kernal that activates with heat (starch?)
- Permeable membrane - fresh corn more permeable moisture passes through soft skin, when dry corn less permeable so pressure builds up
- When seed dries on cob looks different than corn kernal purchased in bag?
- Would packaged kernals grow?
- Are there different kinds of corn for different purposes?
- Would packaged kernals grow if you planted them?



What skills did you use to complete that activity?

RSD Facets	Audience's Analysis
Embark & Clarify	Reread the question, clarified understanding of question Thinking time Pondered question
Find & generate	Activate Prior knowledge
Evaluate & Reflect	Challenged peoples ideas, contemplating ideas-do I agree,
Organise & Manage	Group setup, body language to initiate group formation, inviting members to join group Consensus for writing
Analyse & Synthesise	Synthesised ideas – Started talking on an idea then idea built from each group member, the idea then consolidated for group response; - Reasoning skills
Communicate & apply	Conversing Talking and listening, gesturing, encouraging Writing



Essential Pedagogy

STUDENTS ACTIONS	TEACHERS ACTIONS (to enable student actions)
Work collaboratively	Plan and deliver collaboratively
Identify and solve problems	Provoke
Investigate solutions	Engage student in their learning
Think critically	Co-constructing learning
Solve real-world problems	Connect learning to student context
Develop problem solving strategies	Allow productive struggle
Develop inquiry skills	Develop skills and dispositions
Think creatively and innovatively	Model being a learner
Become self directed learning	Plan intentionally
Communicate their learning	Encourage future thinking

1,2, what do I do?

How can I start?
What knowledge do I need?
How will I develop understanding?

3,4, find and explore

Where will I find information that I need?
Will I talk to someone, find information from a book,
do an experiment or go online?
Are there other places where I could look?

5,6, judge the bits

Have I picked out the information that I need?
Have I identified information that helps me answer
the question?
Is my information appropriate?
What information can I trust?

7,8, lay them straight

Have I organised my information
so that I can make sense of it?
Have I organized myself or my team?
Am I on time? What is my plan?

9, 10, see the trend

Have I put the information together in a way that
makes sense?
Can I see any patterns in the information?

11, 12, tell and delve

Have I completed cycles of D&D to test my own
answers?
How will I communicate my digging and delving to
an audience so that they understand them?
Have I thought about not hurting others when I
dig and delve?

Research Mountain

What to do, how to start,
what's my plan?

Explore books, net and
with you own two hands.

Finding with determination

Check the information

Can I see the way? My thinking has a plan.

Be on time, organise, does it flow?

Understand. Does it match what I know?

When we dig for information,

It rules out speculation,

Now you should be sure of EVERYTHING you know!

Let's start the show!

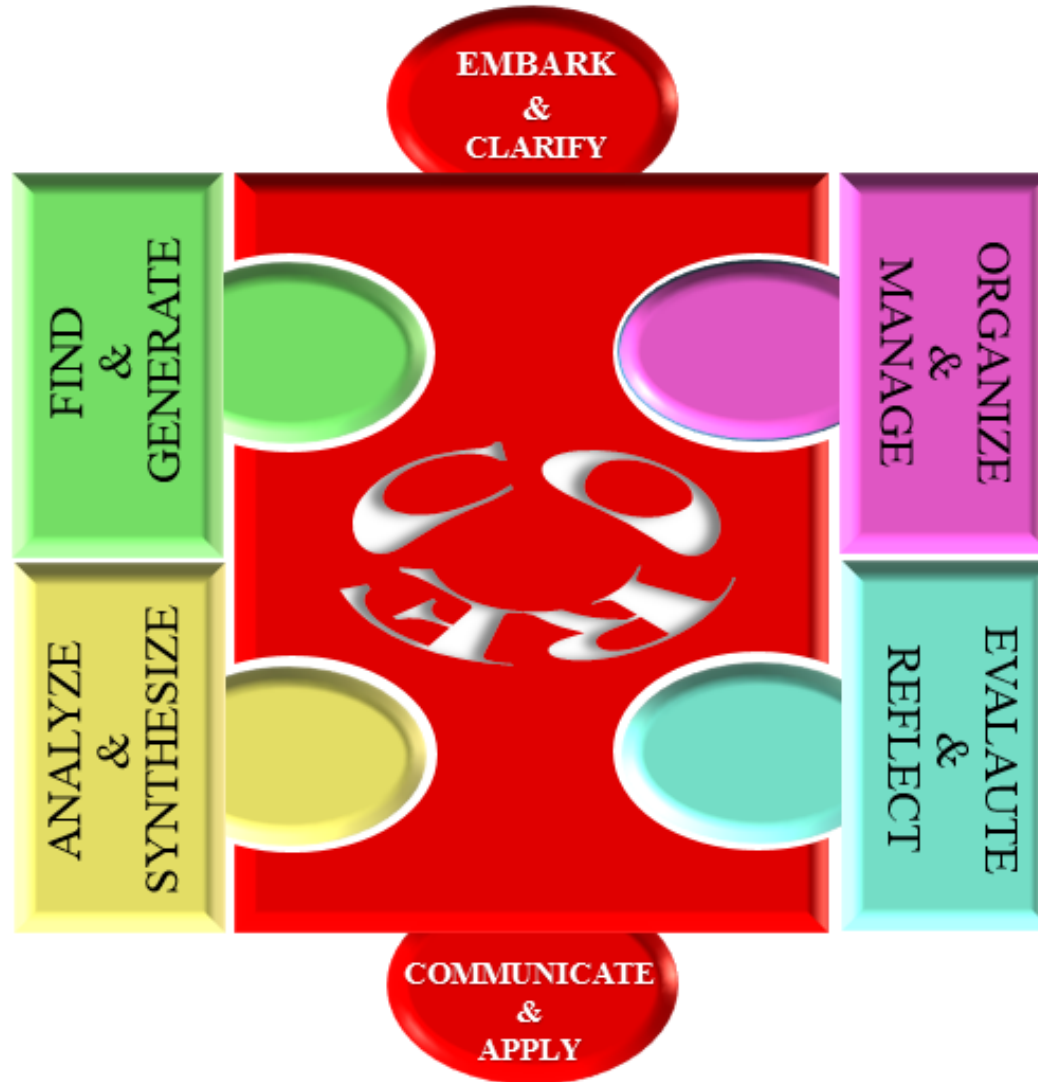
To the tune of "She'll be Coming 'Round the Mountain when She comes."

Lyrics by Marsha Seebohm, Elizabeth North Primary School music teacher, K-7, based
on the six facets of the RSD: www.rsd.edu.au



Appendix 2

RESEARCH SKILL DEVELOPMENT FRAMEWORK

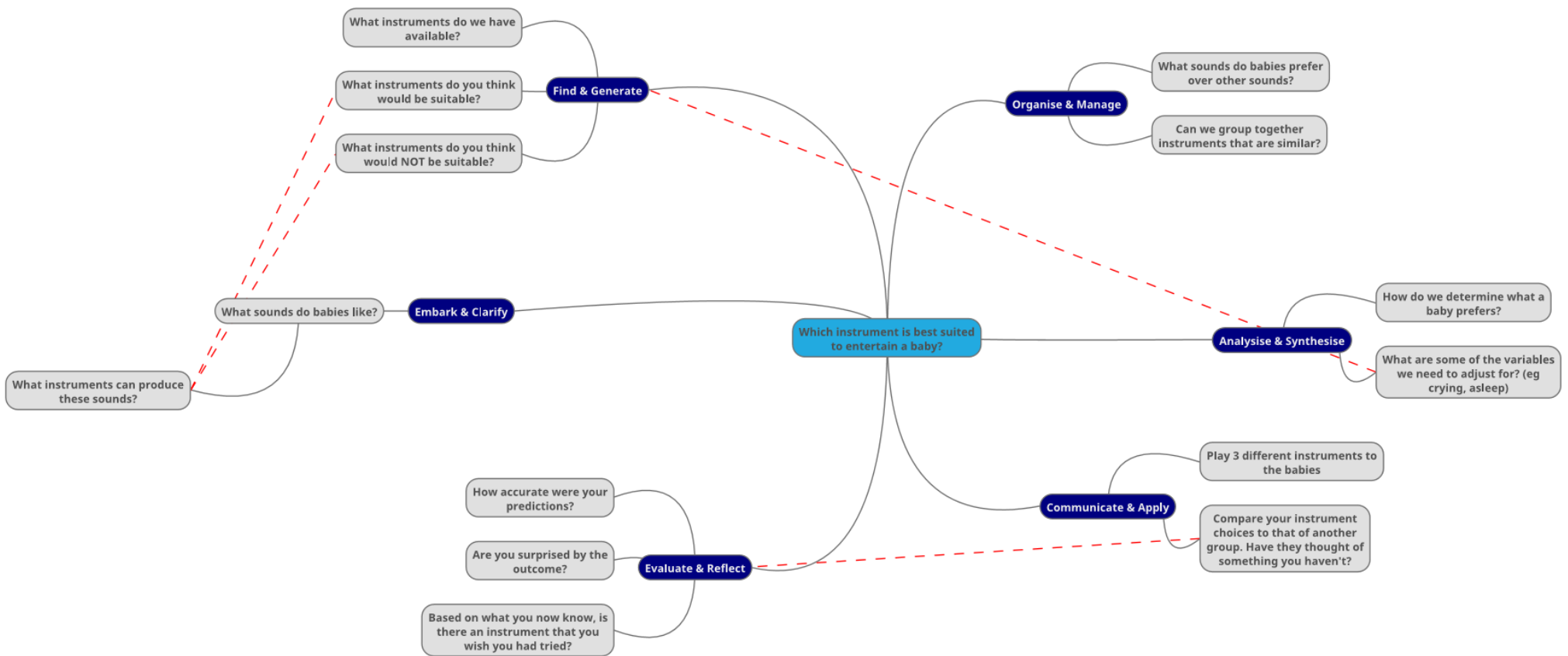




Application of Models of Engaging Learning & Teaching in the Primary music classroom



Step 1: Mind Map

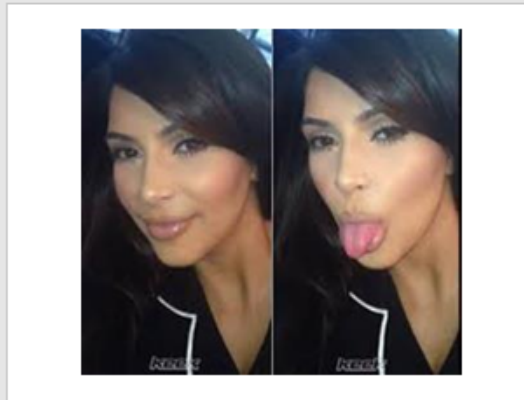




Baby faces slideshow



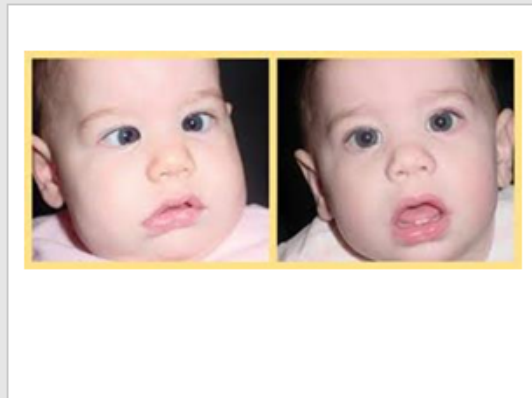
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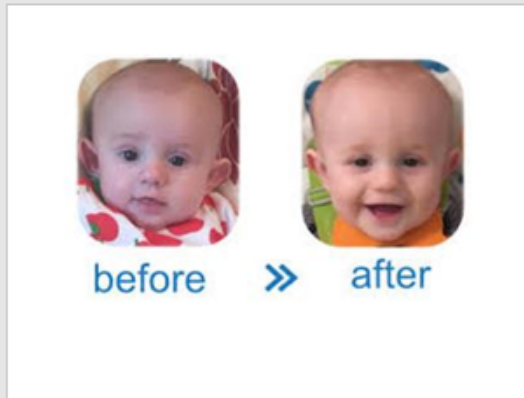
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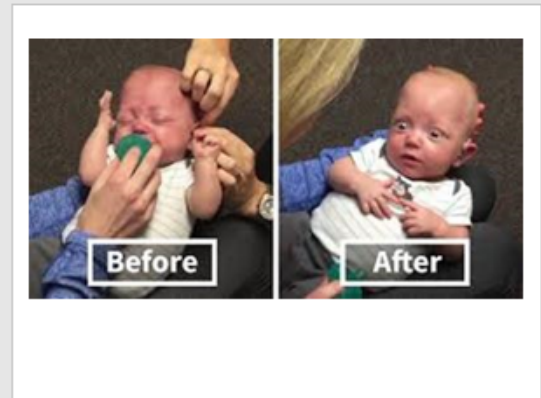
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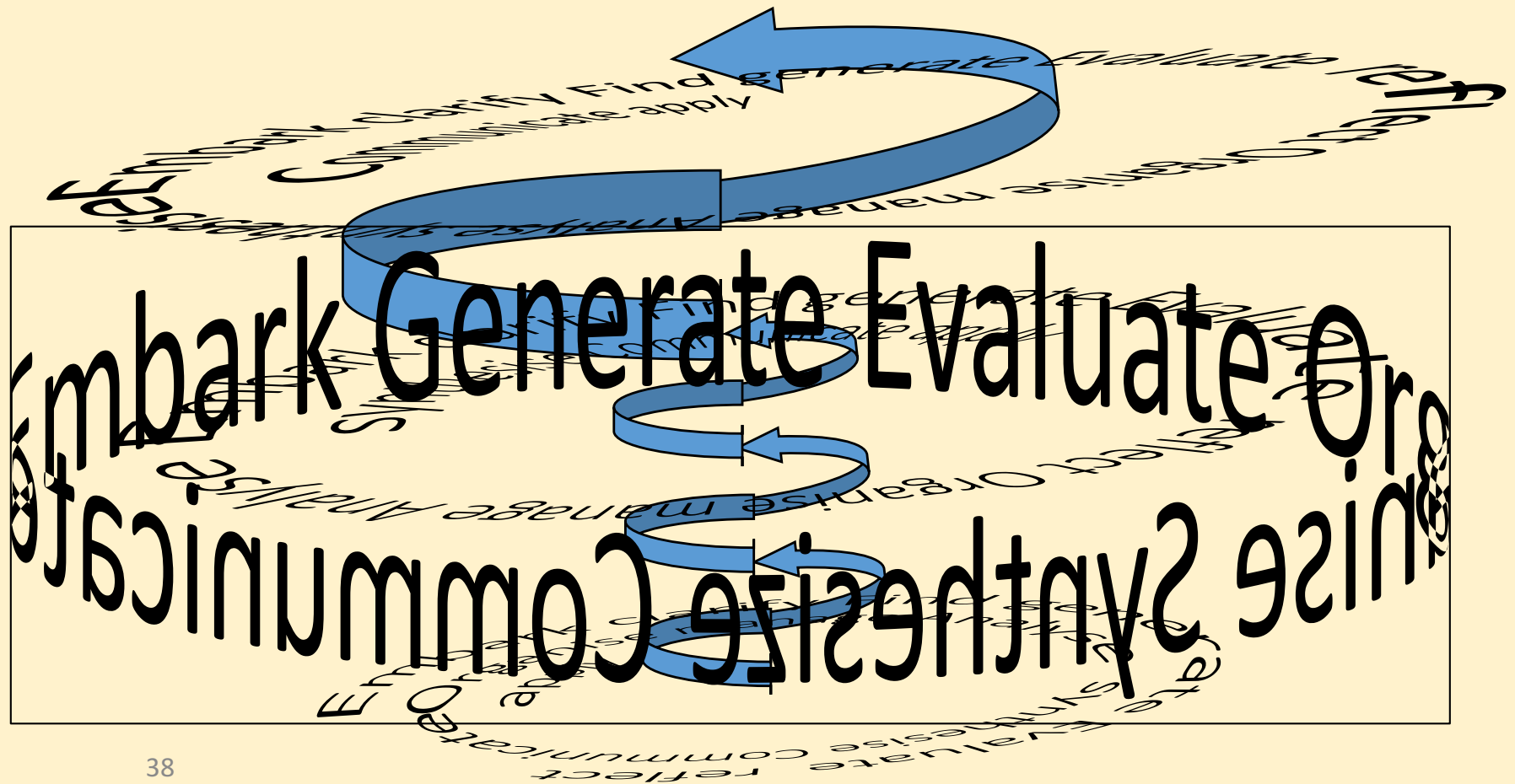
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Facets of research (cont)

Progressive revisiting the same skills:

- in varying contexts
- with increasing degrees of rigour, conceptual demand





Thinking Routines (Ritchhart, 2013)

Initially thinking routines often start off as activities, but in order to work over time they have to be seen as integrated and purposeful by the students.

Thinking routines become routines only once the edges are softened and both teachers and students can work flexibly with the routine.



Q&A



Possibilities

- At your table, brainstorm possibilities for MELT in your school
- Be ready to call out ideas in 5 minutes



Quentin Maire

Completed PhD at University of Adelaide on IB
Diploma Program Extended Essays

Now at Victoria University

Lyn Torres

Information Research Skills Officer at Monash
University

Runs workshops on MELT for schools



MELT Ideas

Student and Staff sessions on MELT

MELT for specific initiatives eg PP or a specific Inquiry

MELT for a term- scaffolding students' skills

MELT across the terms or years

MELT between ECE primary, middle, senior secondary

MELT transitions to work

MELT transitions to TAFE

MELT transitions to university

I-MELT

International conference on the
Models of Engaged Learning and Teaching



11-13 December 2017
National Wine Centre,
Adelaide
www.i-melt.edu.au

Fluid Thinking

I-MELT

International conference on
Models of Engaged Learning & Teaching

11-13 December 2017, National Wine Centre, Adelaide

www.i-melt.edu.au

This international conference will use the Models of Engaged Learning and Teaching as conceptual centrepieces, so all presentations will use, adapt, connect or critique one or more of this family of frameworks:

- Research Skill Development (RSD and RSD7) frameworks
- Work Skill Development (WSD) framework
- Clinical Reflection Skills (CRS) framework
- Critical Thinking (CT) pentagon
- Optimising Problem Solving (OPS) pentagon
- Research Mountain (for children)

Keynote Speakers:

Emeritus Professor Mick Healey (Higher Education Consultant and Researcher, UK)

Associate Professor Jito Vanualailai, (The University of the South Pacific, Fiji)

Associate Professor Sylvia Tiala (University of Wisconsin Stout, USA)

Professor Phil Levy (University of Adelaide, Australia)

Information

query@i-melt.edu.au

#i-melt

<https://reskidev.wordpress.com>

Conference Committee: John Willison & Said Al-Sarawi
The University of Adelaide; Nayana Parange, University of South Australia; & Lyn Torres, Monash University.
I-MELT is a culmination of Willison's National Senior Teaching Fellowship, supported by the Australian Government, Department of Education and Training.

Short Papers

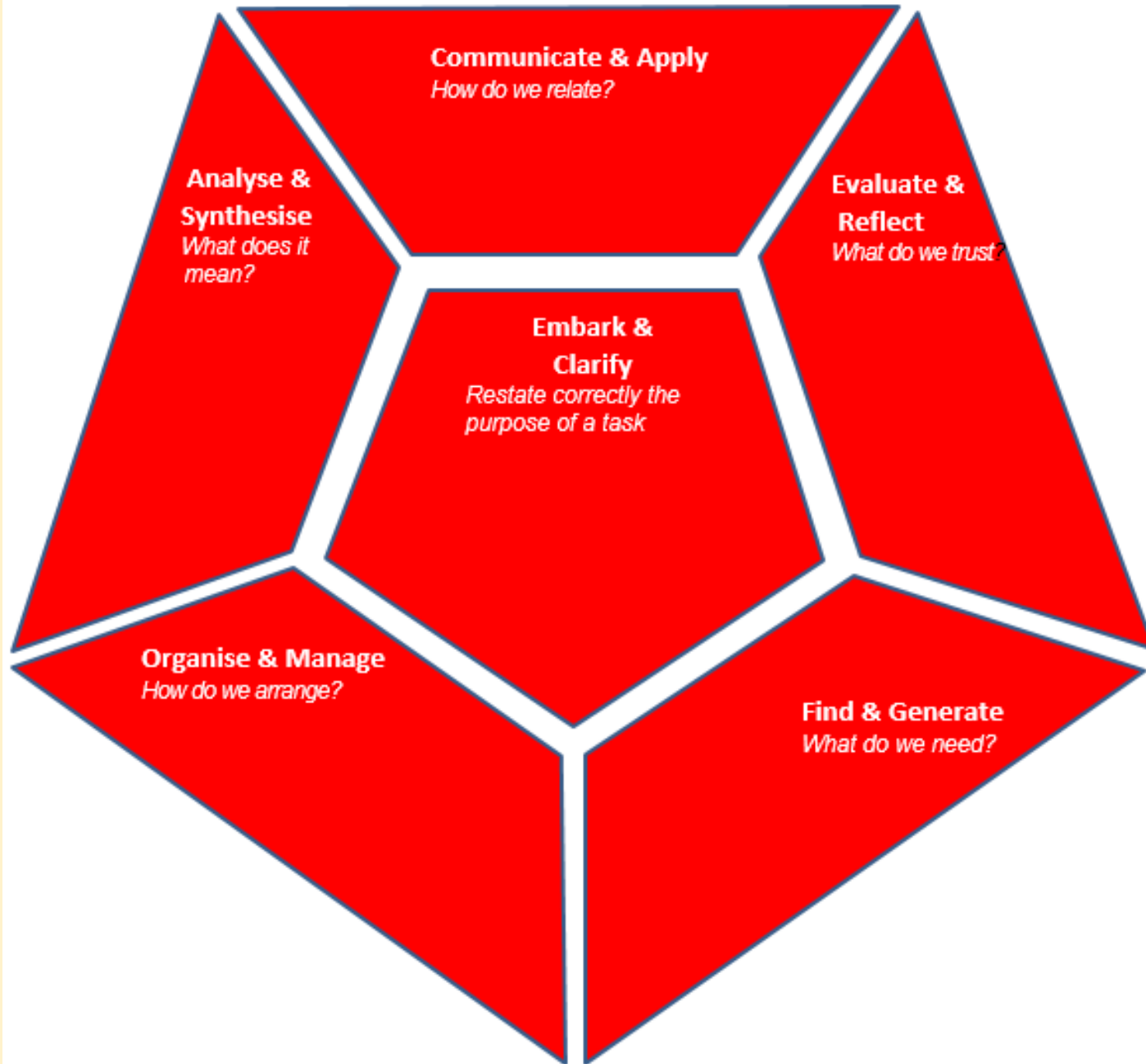
 1500 to 2000 words

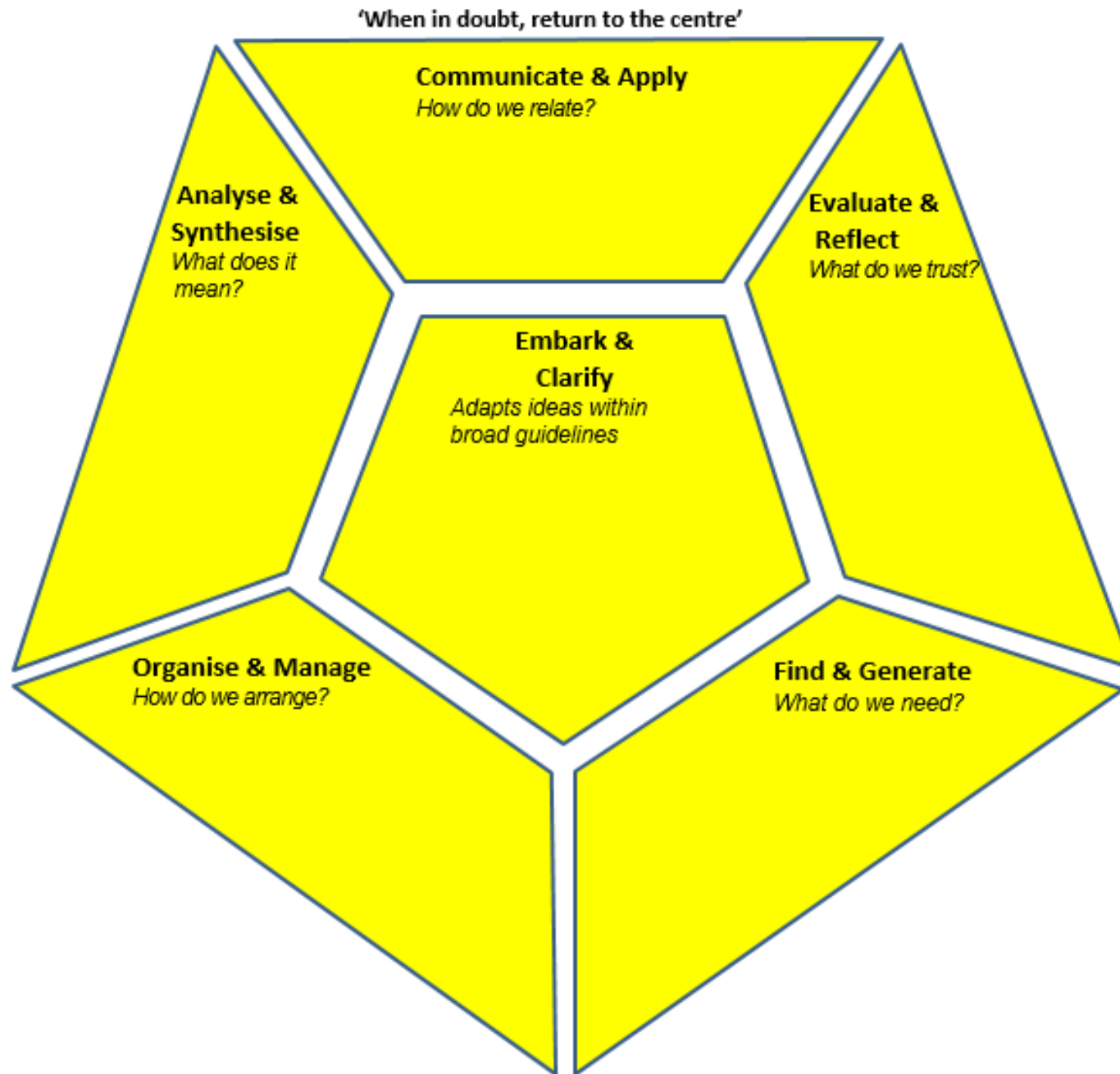
- submissions from 1 May to 1 July, 2017
- draw on one or more of the MELT
- address one or more conference themes:
 - Engaging Students and Enhancing Teaching • WIL
 - Curriculum and Assessment Design across programs
 - Research-based learning • Implementation models
 - Transitions across formal education • Researcher Education





'When in doubt, return to the centre'



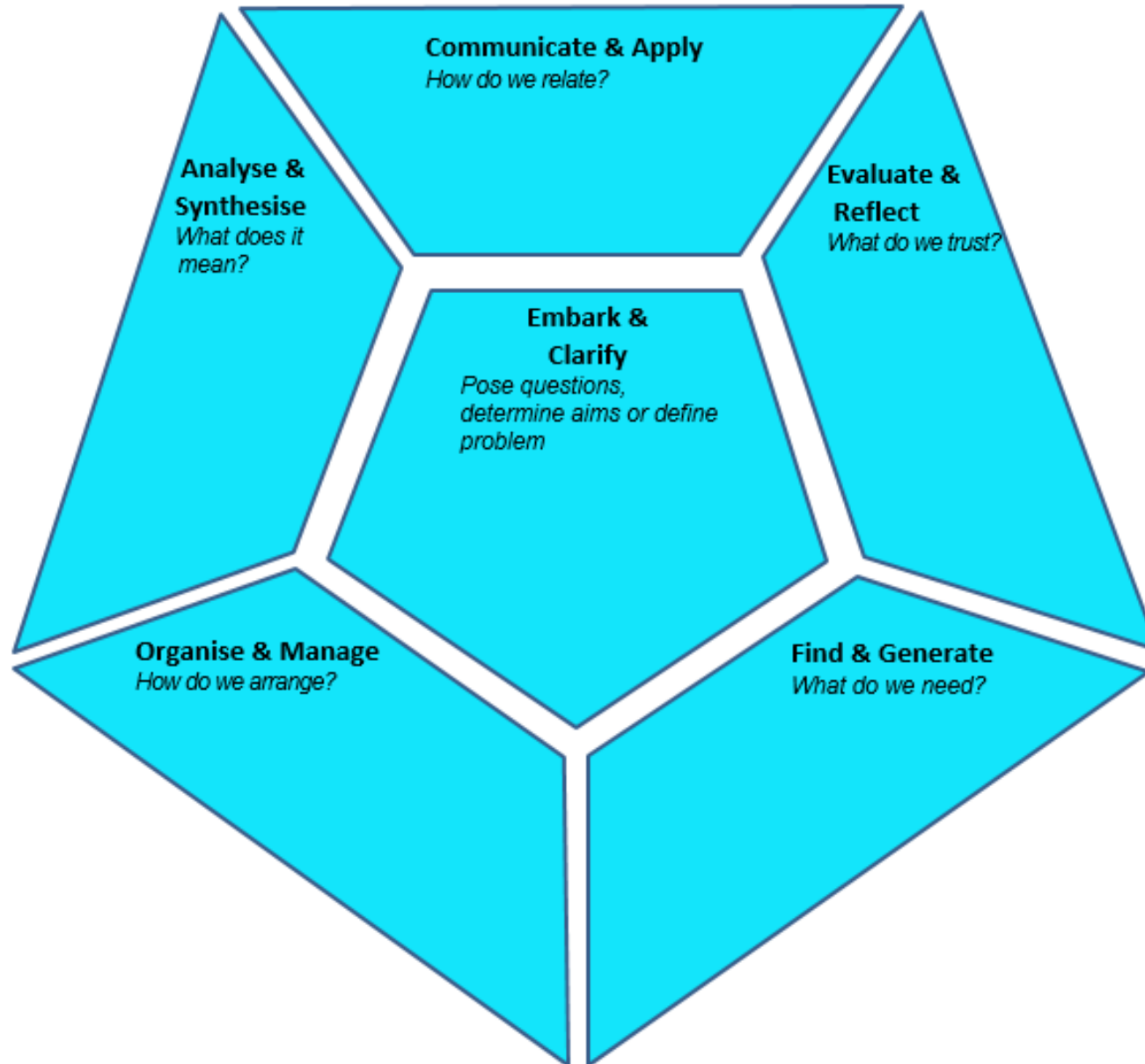




MELT *initiate*

teachers open boundaries, students initiate

'When in doubt, return to the centre'





Models of Engaged Learning and Teaching (MELT)

For educators to facilitate the explicit, coherent, incremental and cyclic development of the skills associated with ... [researching, problem solving, critical thinking, clinical reasoning...]



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Student Autonomy

Facets of Research

		Follow	Improvise	Initiate
Students develop an inquiring mindset through engagement with content and increasing awareness of ethical, cultural, social and team (ECST) aspects, when they...		Highly structured directions and modelling from educator prompt students	Scaffolds placed by educator shape independent student work	Students determined guidelines that are in accord with subject, discipline or context...
Facets of Research	Embark & Clarify <i>What is our purpose?</i> Students respond to or initiate research & clarify what knowledge is required, considering ECST issues.			
	Find & Generate <i>What do we need?</i> Students find & generate needed information/data using appropriate methodology.			
	Evaluate & Reflect <i>What do we trust?</i> Students determine the credibility of sources, information & data, & make own research processes visible.			
	Organise & Manage <i>How do we arrange?</i> Students organise information & data to reveal patterns/themes, managing teams & processes.			
	Analyse & Synthesise <i>What does it mean?</i> Students analyse information/ data critically & synthesise new knowledge to produce coherent individual/team understandings.			
	Communicate & Apply <i>How will we relate?</i> Students discuss, listen, write, respond to feedback & perform the processes, understandings & applications of their study heeding ECST issues and needs of audiences.			

The MELT mentality is adaptation to fit your students' learning needs and your context. If you do adapt terminology or shape, but keep the ideas underlying the six facets, then please use the logo and provide a statement like this: (your model's name) is a MELT by [your name], [date]. See www.melt.edu.au & contact [your email address.] And let me know john.willison@adelaide.edu.au



Parameters

- What is our purpose?
- What do we need?
- What do we trust
- How do we arrange?
- What does it mean?
- How do we relate?



Task 3: Your Personal Project

...lets get moving

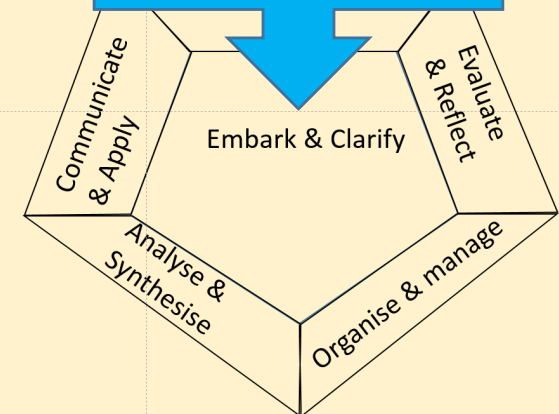
Embark and Clarify

Write in your:

- topic
- goal
- (research question?)
- a possible global context

W h e n i n d o u b t

EMBARK &
CLARIFY

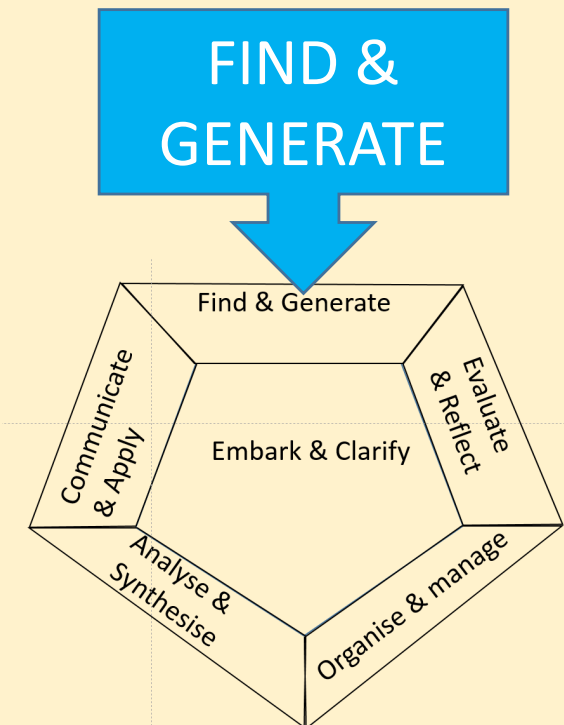




Find and generate

What information do you need?
Do you need to read around the issue? Search websites, blogs, etc?

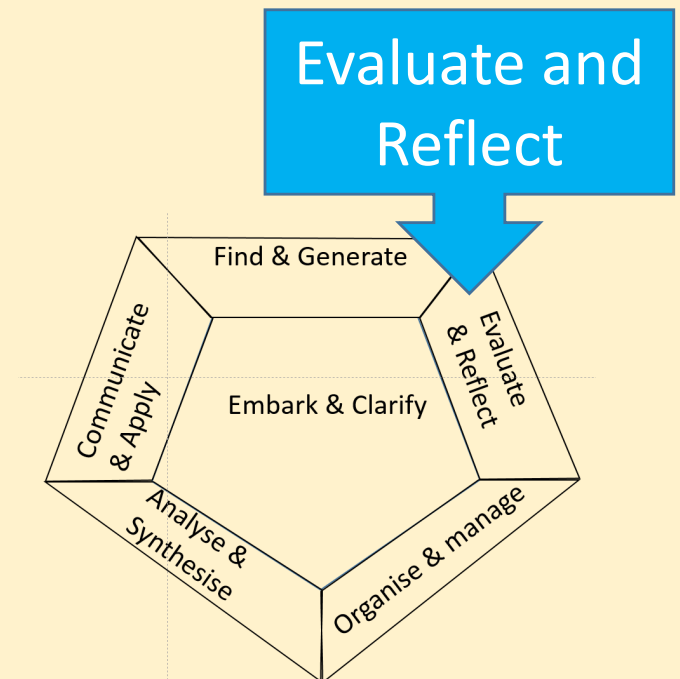
Might you need to generate data, such as interviewing drivers or observing L drivers at a local intersection?





Evaluate and Reflect

- How trustworthy is the information found?
- How trustworthy is the data you generated?
- Do you believe all information by default?
- How will you work out if information is not trustworthy?
- Can you improve your work as you go?



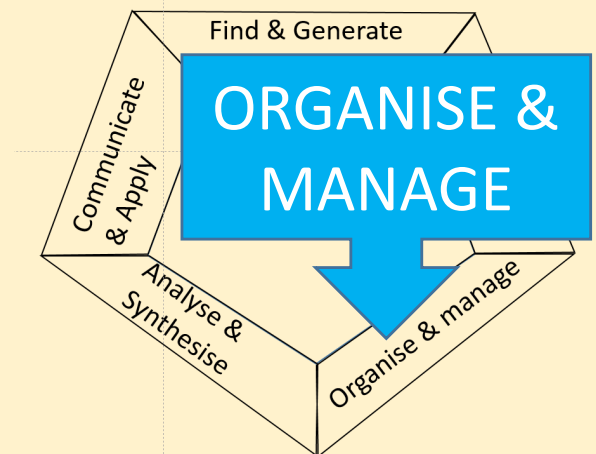


Organise and Manage

How can you arrange all the information so that you can see patterns?

How will you organise your time?

What is the most reader-friendly way of organising your report?

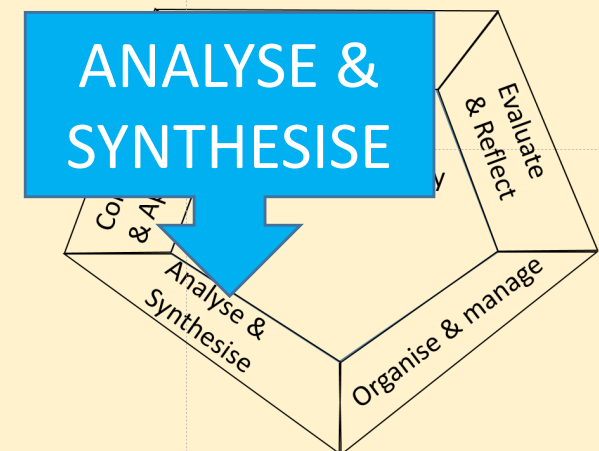




Analyse and Synthesise

What does it mean?

How can you bring all the parts together in a way that makes sense?



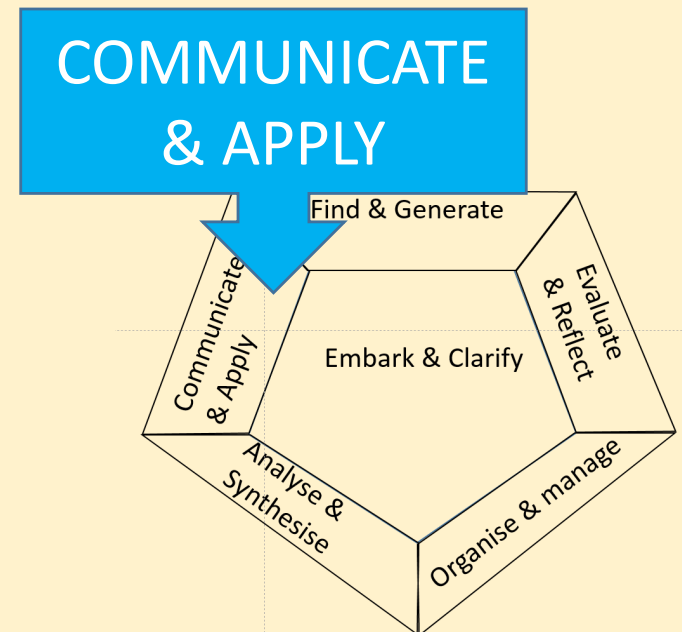


Communicate and Apply

How can you relate to other people?

How can you relate your findings to different contexts?

How can you relate what you have learned to an audience?



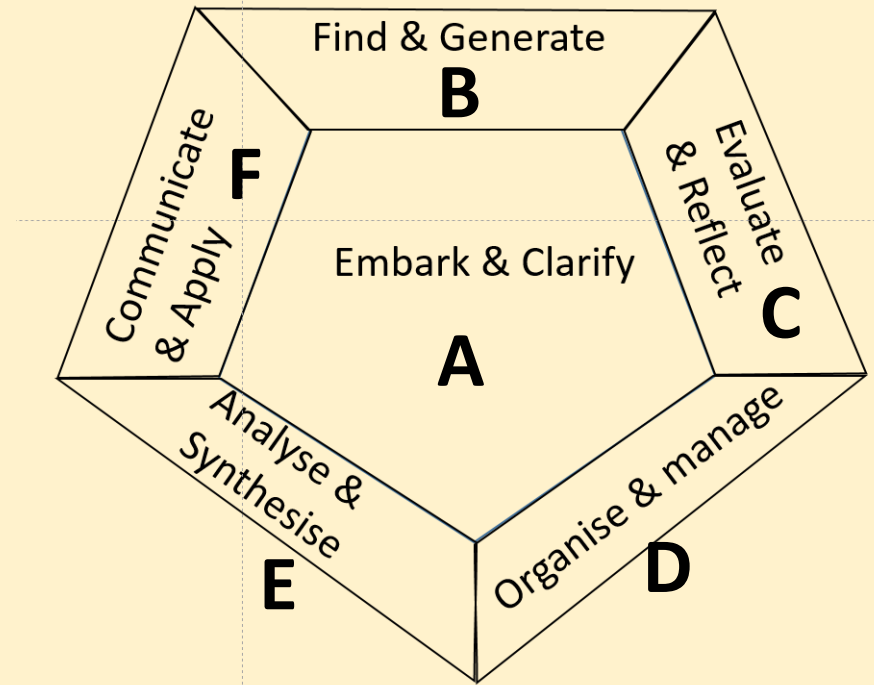


Apply MELT to the PP

- Group of 3 or 4

Which facet do you think will be the most difficult for the PP?

- Discuss as a group
- **Select one facet** that your group thinks may be most difficult.
- Be ready to vote and explain your answer





*Models of Engaged Learning & Teaching:
MELT and crystallise your school's
Approaches to Learning*

Association of Australasian IB Schools
AGM, 1 September, 2017

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<https://pixabay.com/en/photos/popcorn/>