



Building a Thinking Classroom

Our story so far...

- 32 years of teaching and
- 8 years developing Philosophy classes in Years 7-10
- San Sisto College joined UQ Critical Thinking Project
- School trained in Teaching 4 Thinking with UQ
- Brisbane Catholic Education: Project Officer: Critical and Creative Thinking
- Innovative Schools for Impact Program



Teaching for Thinking Project Innovative Schools for Impact Project



UQ Critical Thinking Project

- Peter Ellerton's Pedagogical Schema



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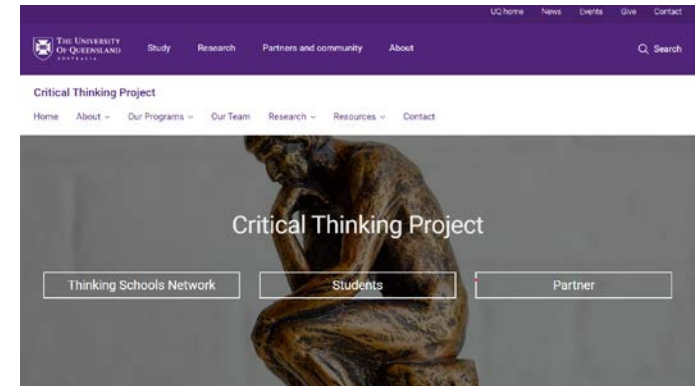
Adam Kuss

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UQ Critical Thinking Project



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Research Associate
UQ Critical Thinking Project



Graduate	<ul style="list-style-type: none"> • Express interest in student's thoughts and opinions
Proficient 1	<ul style="list-style-type: none"> • The teacher establishes learning routines with students that are linked to learning expectations
Proficient 2	<ul style="list-style-type: none"> • The teacher explains their own thinking while modelling specific strategies for thinking and learning in order to develop student's metacognitive skills
Highly Accomplished	<ul style="list-style-type: none"> • They use conversation topics that generate thinking and that encourage students to justify and provide reasons for their responses... build on peer's understanding by teaching...reflective listening, paraphrasing and questioning
Highly Accomplished/Lead	<ul style="list-style-type: none"> • The teacher asks students to support contributions with evidence, pressing them for accuracy and reasoning...time to grapple independently with the demanding aspects of open-ended task...ask clarifying questions to enable student talk to predominate over teacher talk
Lead	<ul style="list-style-type: none"> • Teacher develops procedures for students to individually evaluate and adjust their thinking about learning...reflect critically on the strategies they have used... explain the taxonomy used to structure the learning activity...so that students understand the intellectual demands of the task.

**WHAT DOES
*TEACHING FOR
THINKING*
LOOK LIKE?**

CURIOUS
CLASSROOMS

STUDENTS ARE
GIVEN TIME TO
THINK

QUESTIONS
THAT ELICIT
THINKING

COLLABORATION –
VARIED
GROUPING

PRODUCTIVE
DIALOGUE

COGNITIVE
STRUGGLE

METACOGNITION

Building classrooms that allow students to progress learning.



Today's workshop

- Think collaboratively
- Think cognitively
- Think with curiosity



Cognitive Warm Up

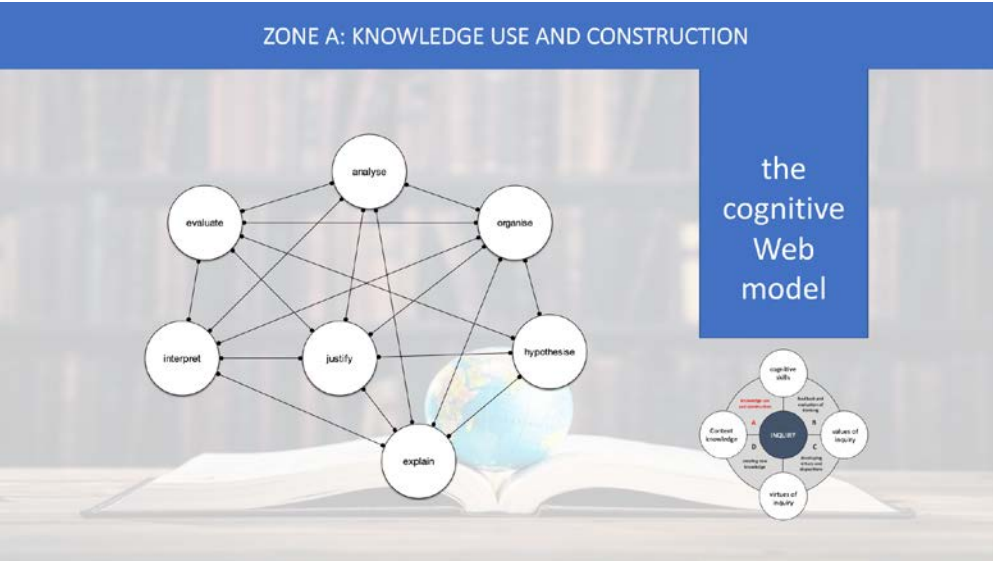
Describe	Justify
Explain	Symbolise
Recount	Identify
Recall	Infer
Compare	Analyse
Demonstrate	Evaluate



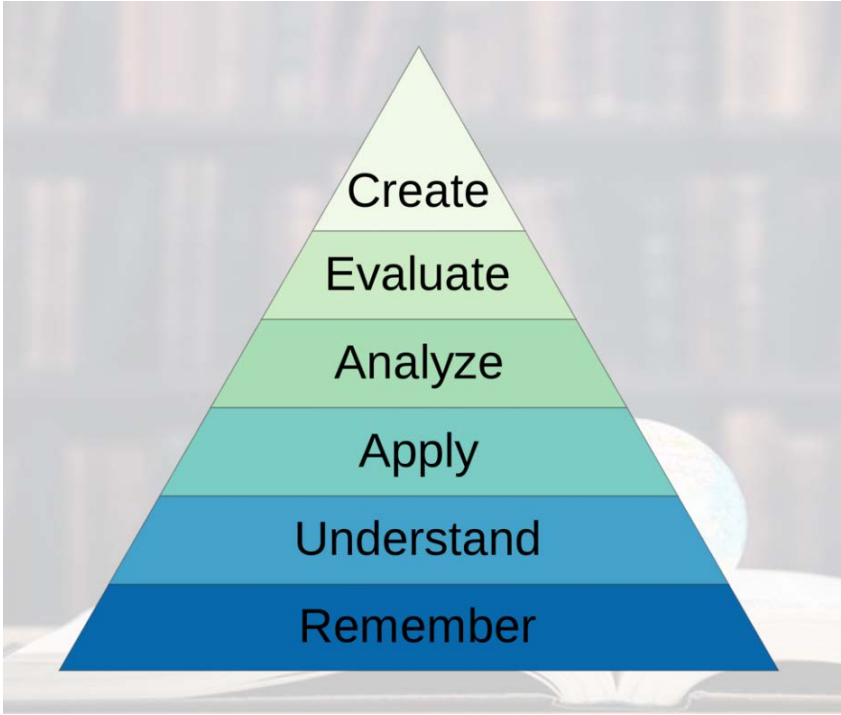


Cognitive Map

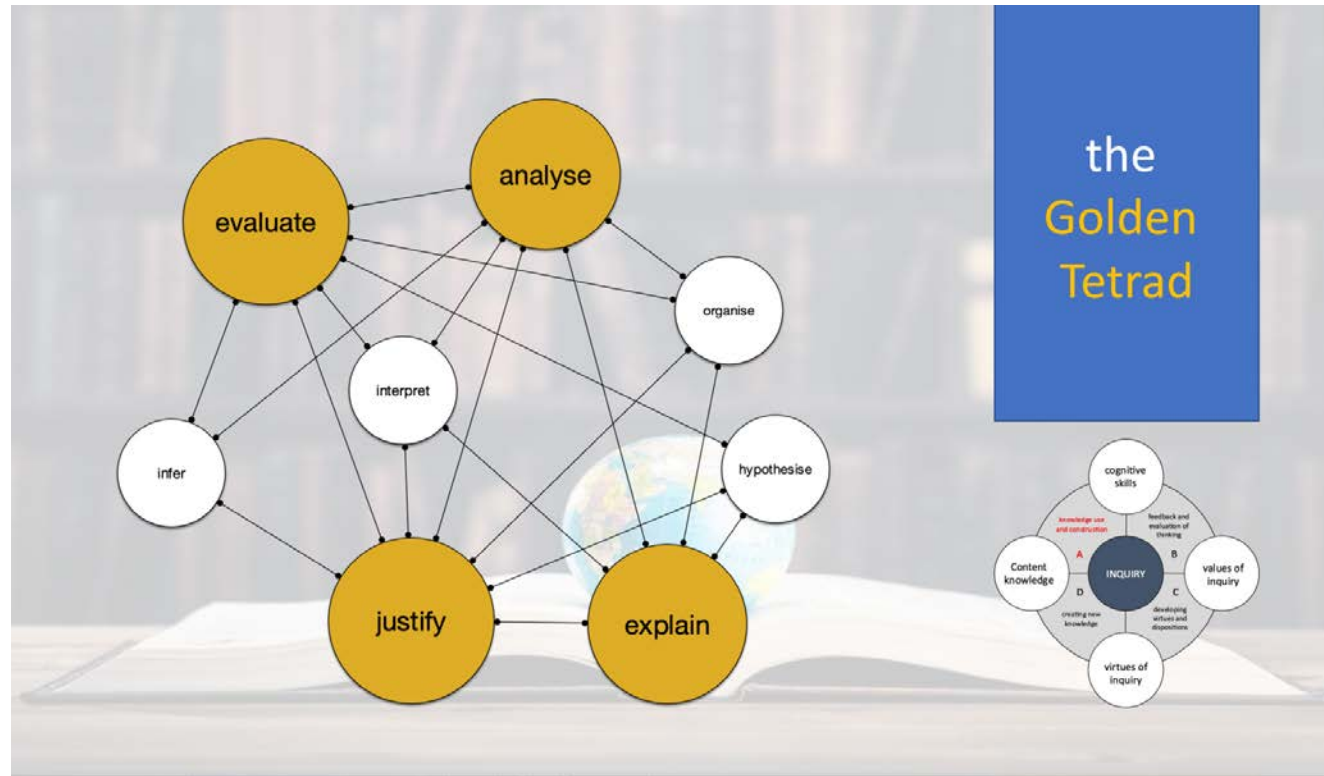
PETER ELLERTON'S COGNITIVE WEB



BLOOM'S TAXONOMY



The Golden Tetrad



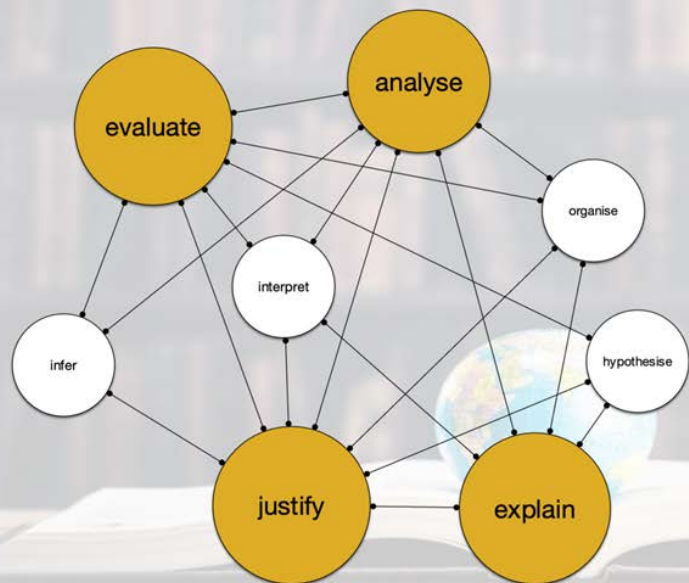
Categories of common cognitive verbs

Australian Curriculum Version 9.0: Prep to Year 10

The table below shows common cognitive verbs across the Australian Curriculum learning areas. The cognitive verbs are categorised using Marzano and Kendall's (2007) four elements of the cognitive system: retrieval, comprehension, analysis and knowledge utilisation.

	Retrieval	Comprehension	Analysis	Knowledge utilisation
Category description	'Activation and transfer of knowledge from permanent memory to working memory' (p. 37)	Storage of 'the critical features of information in permanent memory' (p. 40)	'Generation of new information not already possessed by the individual' (p. 44)	Use of knowledge processes 'to accomplish a specific task' (p. 51)
Related processes	<ul style="list-style-type: none"> recognising recalling 	<ul style="list-style-type: none"> integrating symbolising 	<ul style="list-style-type: none"> matching classifying analysing errors generalising specifying 	<ul style="list-style-type: none"> decision-making problem-solving experimenting investigating
Examples of common cognitive verbs	demonstrate identify recognise select use	communicate comprehend describe explain model represent understand	analyse apply classify compare connect consider examine generalise identify infer interpret reflect on	create conduct decide determine develop discuss elaborate evaluate investigate justify predict propose solve synthesise

the
Golden
Tetrad



Cognitions across the Curriculum

	Describe	Identify	Explain	Compare	Analyse	Justify	Interpret	Evaluate
English	7	7	7-10	9	9/10	9/10		10
History	7/8	7/8	7-10	8	9	9/10		10
Geography	7	7	7-10	8	8/9/10	9/10	9	9/10
Science	7/8	7/8	7-10	8	7-10			9/10
Design	Collaborate		7-10		9/10			
Vis Art	7/8				7-10			7-10
Drama			7-10		7-10			9/10
HPE	5/6		5/6		7/8			7-10
Maths		10	8		10	7	10	10
Maths	solve	apply	represent	determine	test			

Progression of thinking across the English Curriculum

Prep	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Retell Identify Use	Recount Identify Use	Inform Describe Use	Describe Sequence Use	Describe Extend Use	Describe Explain Use	Explain Compare Use

Year 7	Year 8	Year 9	Year 10	Senior
Identify Explain Use	Explain Select Use	Analyse Select Use	Analyse Evaluate Use	Create Analyse Use

A-E	Purposeful	Effective	Standard	Variable	Sporadic
ISMG	Discerning	Effective	Appropriate	Superficial	Fragmented

Placemat: Social Media

Analyse the composition of the page


Explain why the images are important


Identify the audience and justify your position

Classify the types of influencers


Evaluate who has the greatest impact on society?

Owner	Followers (millions)	Description	Brand account
Elon Musk	180	Business magnate and owner of X	
Joe Biden	131.8	44th President of the United States	
Lionel Messi	110.9	Football player	
Justin Bieber	110.9	Musician	
Ariana Grande	107.9	Musician	
Drake	106.5	Musician	
Narendra Modi	97.1	14th Prime Minister of India	
Ed Sheeran	95.2	Musician	
Donald Trump	87.3	45th President of the United States	
Rihanna	83.4	Musician and actress	

Twitter/ X 




Justin Bieber


Justin Bieber 

JUSTICE the album out now

273.8K following 110.7M followers


Justin Bieber  @justinbieber · Oct 8, 2021

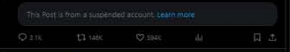
youtube.com
Justin Bieber - Ghost
Justice: The Complete Edition -
<https://justinbieber.lnk.to/JusticeTheCompleteEdition...>


KATY PERRY 


LOVE is the key that unlocks every door

242 following 106.6M followers

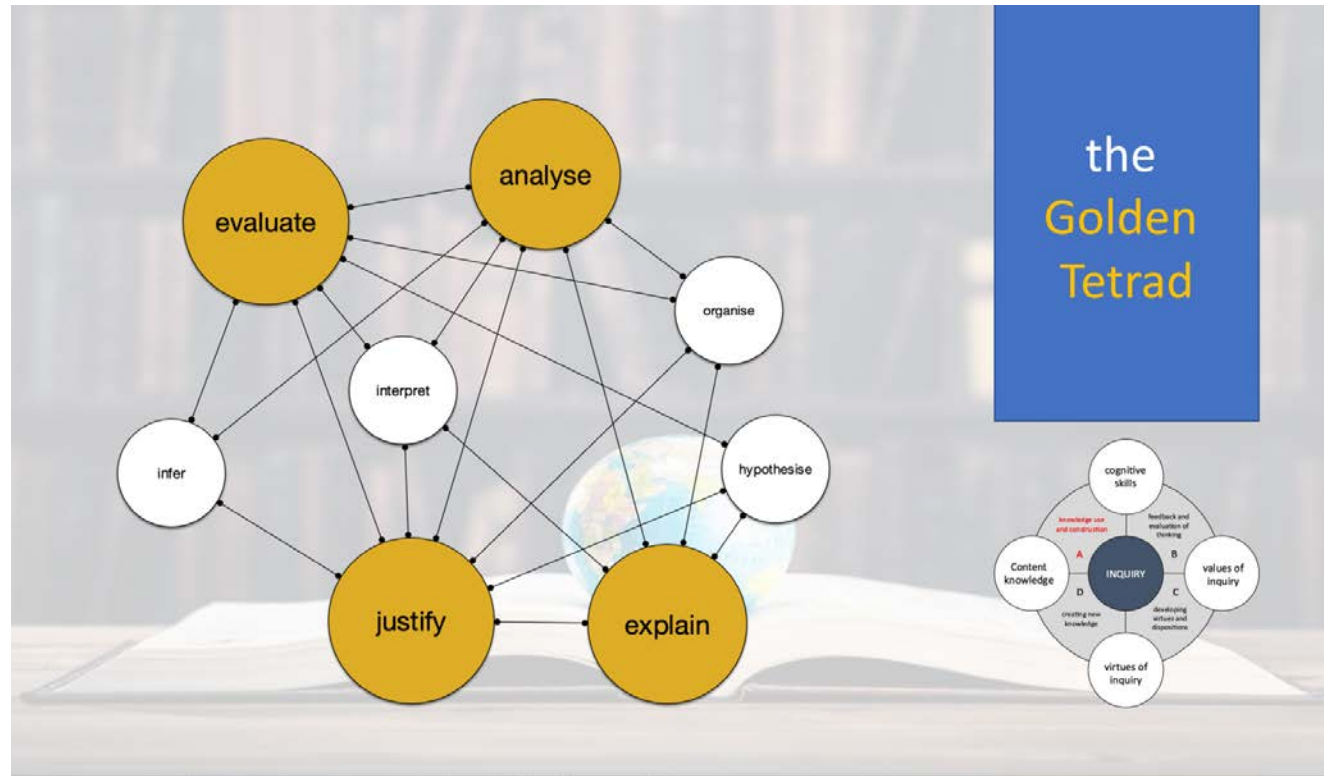
KATY PERRY  @katyperry · Mar 18, 2019

This what I meant 

KATY PERRY  @katyperry · Sep 13, 2023

IT'S TIME for fresh FRUIT! 

The Golden Tetrad



What cognitions can we use to engage with the stimulus on the placemats and how do they relate to each other?

The Cognitive Web	
Describe Identify Sequence State Define Analyse Evaluate Explain Generate Predict Interpret Infer Justify Speculate Hypothesise Calculate Solve Compare Distinguish Classify	

Building Connections between cognitions

- What cognitions did you include?
- How can the cognitions connect and build?
- How do you model the process to your students?
- Where do you need to be explicit in instruction?

Thinking Grid

Relationship between cognitions					
Analysis is a combination of cognitions					
Identify Main Elements (subject specific language)	Explain with use of an example. (evidence)	Interpret what meaning is associated. (point of view)	Justify why this is relevant or significant	What inference can be made from this association? (conclusion)	Evaluation

Values of Inquiry

- Providing feedback on the quality of thinking
- Peer and teacher feedback

VALUES OF INQUIRY



CLARITY

am I being clear?



ACCURACY

is it true?



PRECISION

am I being specific?



BREADTH

do I have a broad
range of ideas?



DEPTH

have I made connections
for a deep understanding?



RELEVANCE

am I on topic?



SIGNIFICANCE

is this information
important?



COHERANCE

are my ideas
connected?



COGENCY

have I been logical in
my conclusions?

Talk Moves

- No hands up
 - Ask a question and give time to think
 - Give students time to discuss ideas with others
 - Use paddle pop sticks or choose a group
-
- Extension:
 - Who else thought that?
 - Dire Straits, do you agree? What was your reasoning?
 - Madonna, can you repeat what Dire Straits just said?
 - Did anybody think differently?

Analogy

THINKING IS ACTION



THINKING NEEDS PRACTICE AND
FEEDBACK

What is essential to be explained before a learner gets in the car for the first time.

What can only be learned by the experience of driving?

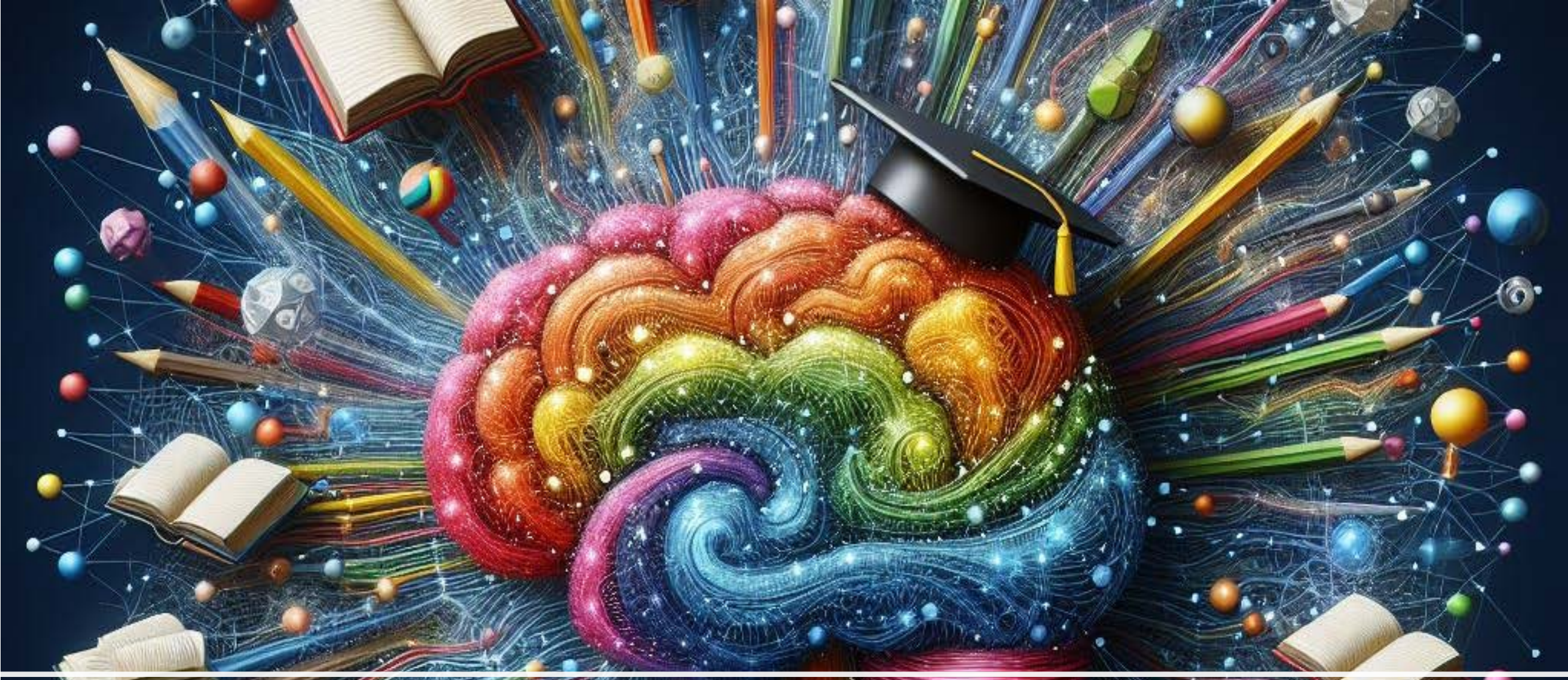
What is better taught while the learner is driving the car?

How confident would you be that a learner would pass their driving test if they have only received an explanation about driving?

In Conclusion

- Think collaboratively
- Think cognitively
- Think with curiosity





Questions

