LA TROBE UNIVERSITY

Metacognition and EAL teaching

Dr. Lilly Yazdanpanah

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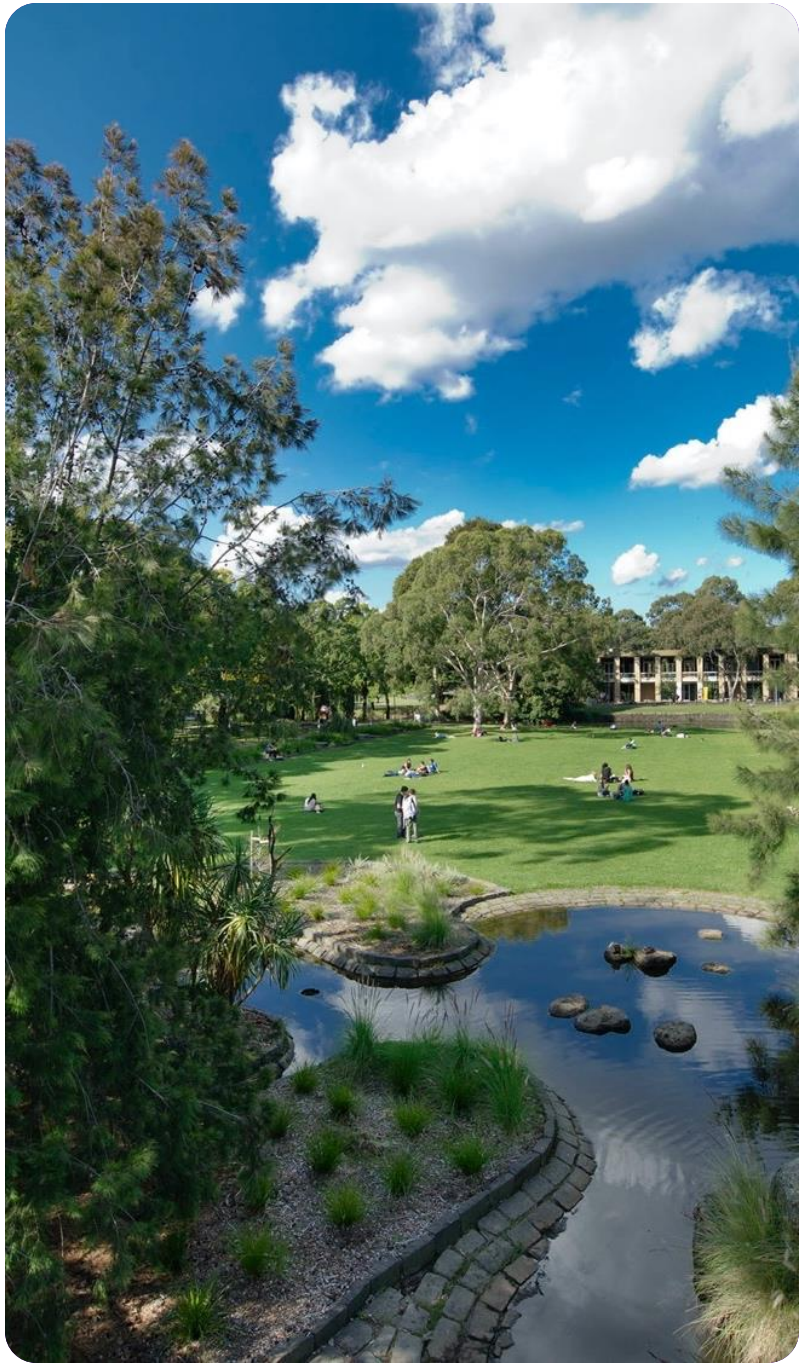


ACKNOWLEDGEMENT OF COUNTRY

La Trobe University acknowledges our campuses are located on the lands of many Traditional Custodians in Victoria and New South Wales. We recognise their ongoing connection to the land and value their unique contribution to the University and wider Australian society.

La Trobe University is committed to providing opportunities for Aboriginal and Torres Strait Islander people, both as individuals and communities, through teaching, learning, research and partnerships across all our campuses.

Introduction

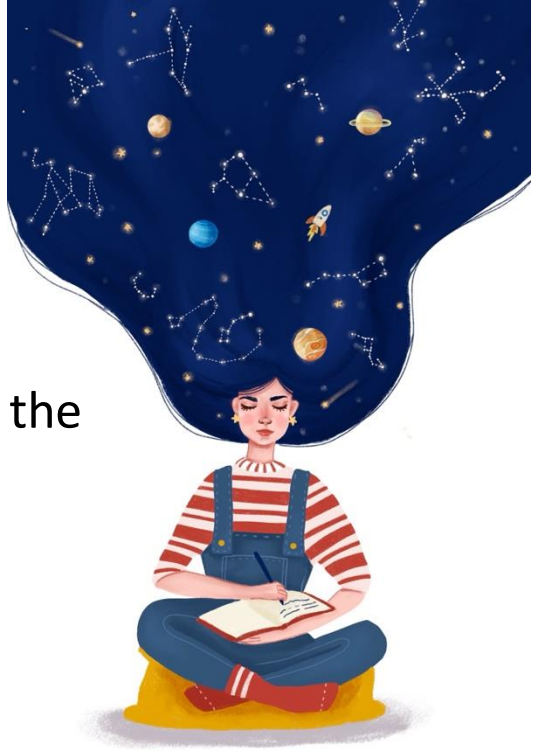
Teaching is immensely complex and cannot be oversimplified with a set of strategies or teaching methods.

There needs to be clarity and consistency between what teachers intend to teach and what they practice.

What is cognition?

- The mental lives of language teachers: What teachers know, believe and think (Borg, 1998; Clark & Peterson, 1986)
- Personal practical knowledge (Connelly & Clandinin, 1990)
- Teacher beliefs, assumptions and knowledge (Woods, 1996)
- The process of learning to teach through which teachers re-conceptualise and reconstruct their knowledge, experience, and beliefs (Freeman & Richards, 1996)
- Teacher cognition and learning are “socially negotiated and contingent on knowledge of self, student, subject matter, curricula and setting” (Johnson, 2006, p. 239)
- Teacher cognition is shaped across time, encompassing the past, present, and future. It draws from a wide range of experiences in which each teacher assumes different roles, including learner, teacher, administrator, and their personal identity (Kiss, 2012).
- Cognition is intertwined with emotions; both are activated as teachers interact with others in the process of learning to teach (Golombek, 2015).
- Teacher “attitudes, identity, and emotions … are all aspects of the unobservable dimension of teaching” (Borg, 2011, p. 11).

What is metacognition?



Thinking about one's thinking (Desautel, 2009)

It involves our ability to evaluate our thinking. Metacognitive thinking allows us to identify the strengths and limitations in our thinking (Flavell, 1976).

It enables teachers to plan, sequence and monitor their teaching (Kallio et al., 2017).

It involves: (1) Knowledge and awareness of one's cognition and cognitive processes, (2) Monitoring those processes, and (3) Control of cognition (Hiver et al., 2021).

Teacher metacognition involves more than basic mental functions like perception, memory, or reasoning. It refers to teachers' deliberate higher-level cognitive processes that help guide and adjust their thinking and actions. Metacognitive teachers apply these skills in real time by being aware of their performance, evaluating classroom outcomes, and strategically applying or adjusting teaching methods. (Hiver et al., 2021).

Do all teachers engage in metacognitive thinking?

Metacognitive thinking is a part of all teaching.

All teachers engage in metacognitive thinking.

Different teachers have different capacities for metacognitive thinking.

What are the benefits of metacognitive thinking?

- Metacognitive thinking allows one to take ownership of their learning and thinking, better understand how they think and learn, and contributes to successful teaching (Shelley, 2019).
- Metacognitive thinking positively impacts problem-solving skills, self-regulation, self-confidence, and reflective thinking (Memnun & Akkaya, 2009).
- Metacognitive thinking makes it possible for teachers to give meaning to their classroom experiences (Iacolino et al, 2023).
- Teacher metacognition is connected to how teachers regulate emotions in their practice, construct an understanding of self, pursue goals and strategic action, and maintain a sense of professional well-being. It enables them to agentically shape their own responsiveness to the teaching environment (Hiver et al., 2021).

Why teacher metacognition?

Hiver et al. (2021):

Teachers aim for instructional effectiveness.

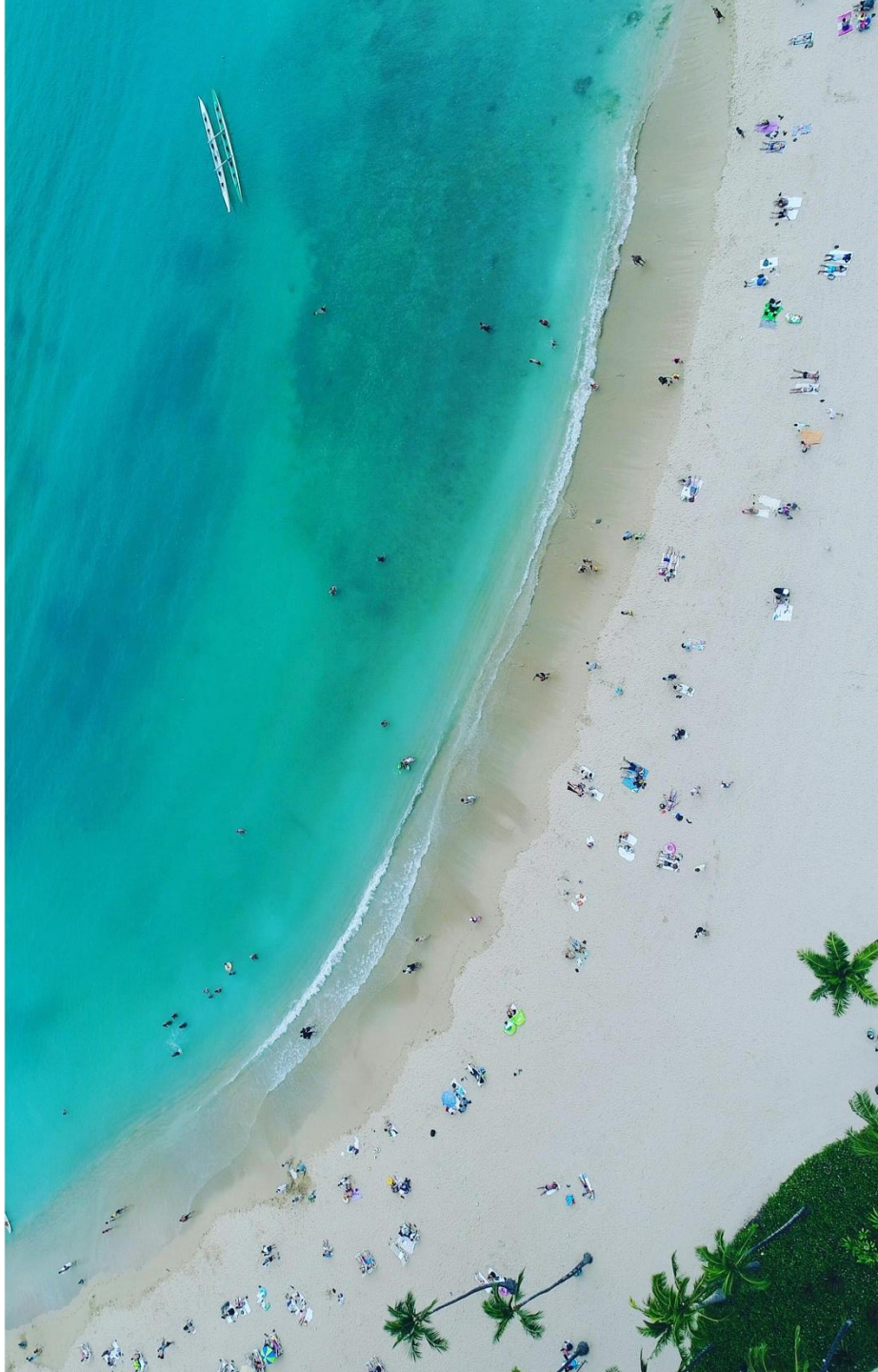
Although the idea of "effectiveness" in teaching can vary depending on the context and situation (since every classroom and instructional setting is unique), teachers' ability to think about their own thinking and learning processes (i.e., their metacognitive capacity) is a key factor in delivering effective and influential teaching.

Teaching is inherently complex as there is so much that teacher do not know and they cannot anticipate everything.

Teaching is a metacognitive process because it involves viewing situations from multiple perspectives at the same time, such as seeing things from both a personal (first-person) and an outside (third-person) viewpoint. Additionally, it involves understanding and tracking how others are making sense of the information, emphasizing that teaching has relational goals, where teachers actively engage with and support the learning process of others.

Relying on best practices and evidence-based teaching alone would reduce teachers to technicians.

What teachers actually do in the classroom is implementing best practices while managing the unpredictability of the teaching context.



Metacognition and teaching

Duckworth (2006):

- Teaching involves getting students to **think and wonder**. **Planning** for teaching and teaching itself should involve thinking and wondering.
- Teaching involves getting students to **articulate** what they are thinking and wondering. Teachers should be able to do the same.

Metacognition and teaching

Harskamp and Henry (2009):

- Teaching students to think metacognitively helps them become **self-regulated learners** who can manage their own learning processes.
- However, for **teachers to effectively teach metacognition**, they must possess strong metacognitive skills themselves and recognize when metacognitive thinking is happening in their students.
- Since teachers can't teach what they don't understand, developing teacher metacognition (and **teacher metacognitive awareness**) is important.

Metacognition and teaching

Spalding and Wilson (2002)

- There are direct links **between identifying, analysing and solving classroom-based teaching issues** and metacognitive thinking.
- When engaged in metacognitive thinking, the **teacher** uses **a systematic process** to understand how their students learn best.

Metacognition and teaching

(Iacolino et al, 2019)

- Teaching is a **high-risk profession** due to the challenges associated with it putting teachers at the risk of burnout.
- High levels of metacognitive thinking **reduce burnout and job dissatisfaction**.
- Individuals with high levels of stress cannot **clearly see the connections between behaviour and goals** that can lead to optimal results. These directly impact teachers' ability to understand and plan for teaching.

Metacognition and teaching

(Iacolino et al, 2023)

- During **lockdown remote teaching**, teachers with higher metacognitive skills experienced **lower levels of stress and burnout**.
- They found it easier to **adapt to new teaching conditions** (i.e., remote teaching and working with technology).
- Teachers who used more metacognitive strategies felt more in control as they could see connections between their emotional states and their awareness of their thinking.

Metacognition and teaching

(Hiver et al., 2021)

- Metacognitive teachers provided both academic and personal support to students and created a **challenging learning environment**. In dynamic and unpredictable learning situations, where student engagement and success are the main goals, their mindful teaching **broke away from simply following routines or rigid procedures**.

- They are more able to **see through the complexities** of language teaching and use effective teaching strategies as they create a balance for managing both routine tasks and creative methods in their instruction. They effectively combine high quality teaching with the right pacing in the complex context of teaching.

- Language teacher metacognition is a critical layer of **professional expertise** and that metacognitive capacity is what enables teachers to combine “attention to technical skill with attention to professional judgment and improvisational capability”.

What are the components of metacognitive thinking?

Metacognitive knowledge

Declarative knowledge: knowing about things (facts, opinions, theories, hypotheses, attitudes about oneself)

Procedural knowledge: knowing how to do things (how to perform cognitive activities)

Conditional knowledge: knowing why and when to do things (awareness of the most appropriate times to implement specific strategies)

Metacognitive regulation

Planning: before teaching, a course, or an assignment (orienting, predicting, setting goals)

Monitoring: during teaching, a task, a course (testing, revising, checking, self-monitor performance)

Evaluating: at the end of teaching or a task (reflecting, judging, attributing causes, comparing current performance with past performance/ a standard, monitoring progress)

How can we engage in metacognitive thinking? (Metacognitive knowledge)

Declarative knowledge:

- What are the key facts I need to know for this task or topic?
- How does this information relate to what I already know?
- What is the purpose of this task/activity/assignment?
- What does … look, sound, and feel like?

Procedural Knowledge:

- How do I engage my students?
- How do my students learn?
- How do I scaffold their thinking/learning?
- How do I get my students to articulate their thoughts?
- How do I get my students to demonstrate ….?

Conditional knowledge:

- When is it most appropriate to use a specific teaching strategy
- What cues from students help me decide when to give additional support or enrichment?
- When is formative assessment most effective during a lesson?
- How do I decide when to incorporate technology, collaborative work, or hands-on activities to enhance learning?

How can we engage in metacognitive thinking? (Metacognitive regulation)

Planning:

- What are the learning objectives for this lesson?
- What materials are relevant for my students' learning objectives?
- What prior knowledge do my students need to engage successfully with this material?
- What are the likely difficulties?
- How do I manage my time?
- What are the most relevant methods of assessing student learning?

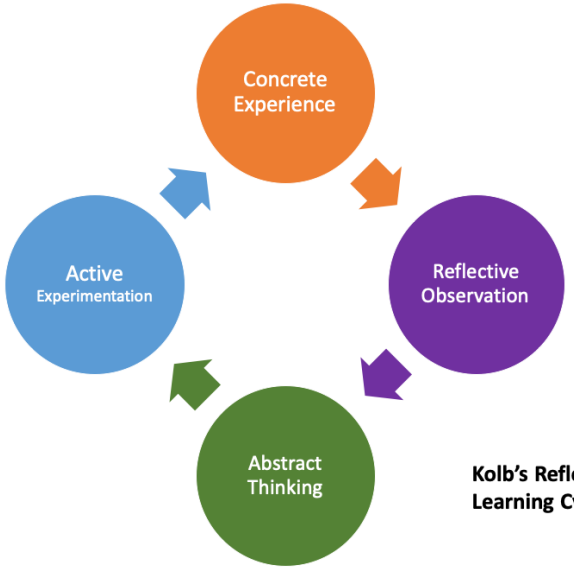
Monitoring:

- Are my students on track?
- Should I stick to my plan, or do I need to adjust based on student responses?
- Are my students showing signs of confusion? How can I address it immediately?
- Are there alternative examples or explanations I should provide to clarify key points?
- Am I meeting my teaching goals?

Evaluating:

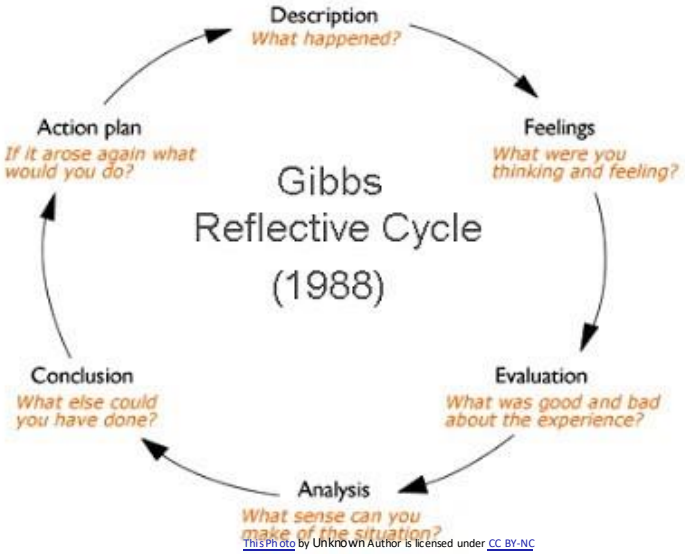
- Did I meet the learning objectives I set out for this lesson?
- What went well? What areas could I improve for future lessons?
- How engaged were the students, and what can I do to sustain or increase that engagement next time?
- How effective were my teaching strategies? How do I know?
- Why did the students struggle? What factors were involved? re there specific students or groups of students who need further support or challenge?

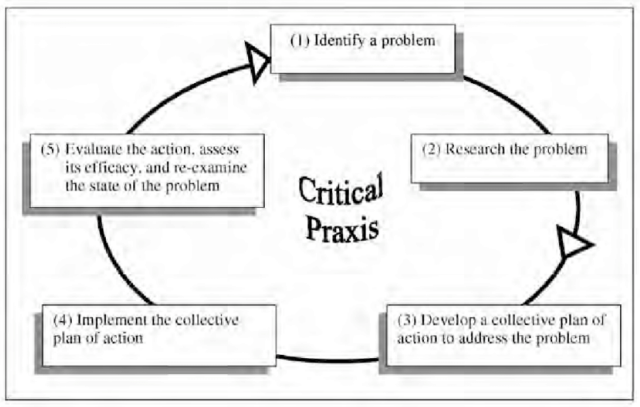
Teacher reflection



Kolb's Reflective Learning Cycle

Farrell's Reflective Practice Framework





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Reflection in action

Reflecting as something happens
- Consider the situation
- Decide how to act
- Act immediately

Reflection on action

Reflecting after something happens
- Reconsider the situation
- Think about what needs changing for the future

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What promotes metacognitive thinking?

- Investing in time: set aside some time to connect with your thinking; bridge the gaps between one's teaching intentions and actual teaching (Shelley, 2019).
- Place: an environment where one feels comfortable and secure (Prytula, 2012)
- People: engage with colleagues in metacognitive discussions—teaching buddies, professional learning community, coach
- Students: we develop our own metacognitive thinking skills as we help our students develop theirs.

How can we engage students in metacognitive thinking?

Declarative knowledge:

- What are the key facts I need to know for this task or topic?
- How does this information relate to what I already know?
- What is the purpose of this task/activity/assignment?

Procedural Knowledge:

- How do I best learn?
- How do I break down and prioritise tasks?
- How do I identify the key words?

Conditional knowledge:

- When should I push myself and when should I take breaks?
- When Should I contribute my ideas and when should I listen to and support someone else's ideas?

Planning:

- How can I prepare myself to focus on this assignment?
- What challenges will I face when completing this task?
- What goals do I want to achieve?

Monitoring:

- Am I on track?
- What do I understand? What do I not understand?
- How confident do I feel so far?

Evaluating:

- What worked well in my approach?
- Did I meet the goals I intended? How do I know?
- What helped me succeed?

How can we engage students in metacognitive thinking?

- Explicit teaching strategies
- Supporting students to plan, monitor, and evaluate their work/learning
- Developing rubrics to assist students to monitor their own learning/work and set individual earning
- Modelling thinking by verbalising the thought processes used to consider, analyse and solve problems
- Questioning

https://www.education.vic.gov.au/Documents/school/teachers/teachingresources/practice/professionalpracticenote14.pdf

- Teach MC thinking
- Get students to discuss and share their MC thinking strategies
- During the lesson, get students to pause and think
- Get student to think about how they prepare for class
- Give students time to analyse their task
- Embed metacognitive thinking questions into the lesson
- Teach students about how their brains work
- Engage students in self- and peer-assessments

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