# PEDAGOGICAL MODELS:
## Insights and Best Practices

## Foreword

The educational sector has undergone significant advancements in recent years, particularly in understanding the mechanisms of student learning.

*PEDAGOGICAL MODELS: Insights and Best Practices*, aims to provide important insights into the role that a well-defined pedagogical model plays in creating effective learning environments.

Australian
Education
Research
Organisation

**How students learn best**

An overview of the learning process and the most effective teaching practices

September 2023

The Australian Education Research Organisation guide *How students learn best. An overview of the learning process and the most effective teaching practices*

Although different schools may use varying terms—frameworks, teaching guides, or playbooks—the essence of a strong pedagogical model is shared understanding. It's about ensuring that all members of the school community have a common language and approach to teaching that reflects the school's values, goals, and context.

Building effective pedagogical models requires a careful integration of evidence-based practices with a deep understanding of student needs. It is not enough to simply implement teaching strategies; rather, these strategies must be underpinned by high-quality research and best practices for ensuring student learning. The models outlined in this paper highlight how schools can develop practices that not only enhance academic outcomes but also promote a culture of collaboration, ongoing professional growth, and continuous learning.

This article illustrates the practical implementation of research-based pedagogical models and underscores the transformative potential of well-structured teaching frameworks. The emphasis on continuous professional development within these case studies highlights the importance of sustained efforts in achieving educational excellence.

At Independent Schools Queensland (ISQ), we are committed to supporting our member schools in delivering high-quality education that empowers students to thrive. By supporting the development of robust pedagogical models, we ensure that teaching and learning are continually evolving and improving. We invite you to reflect on how the insights presented can be integrated into your school's strategies, fostering a more effective and enriching educational experience for all students.

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## PEDAGOGICAL MODELS:
### Insights and Best Practices

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## What is a pedagogical model?

Teaching and Learning Frameworks, Pedagogical Models, Instructional Guidelines and Playbooks – there's a lot happening in education and until the Australian Education Research Organisation's (AERO) recent resources were released, there has been little clarity around what these things are and what schools should be doing. The variety of terminology being used contributes to the confusion. Independent Schools Queensland (ISQ) interprets these things as follows.

### Teaching and Learning Framework

Also called: *Educational Program, Whole School Planning*

This document encompasses everything related to teaching and learning within the school, including administrative and operational components, ethos, evidence base to inform all aspects of the school.

It may include: school vision, underpinning evidence and research base for schooling in your context, whole school planning, year level/band planning, unit planning, pedagogical model, classroom management plans, pastoral care plans, co-curricular opportunities, policies and processes for classrooms, literacy / numeracy guidance or frameworks, professional learning plans, coaching / observation / professional learning community plans, staff cyclical review programs, data plans.

Ideally, the school vision and ethos together with the school evidence base underpins and informs multiple aspects included in the teaching and learning framework.

### Pedagogical Model

Also called: *Instructional Guide, Instructional Framework, Instructional Model, Playbook, Instructional Playbook, Signature Pedagogy, Teacher Toolkit*

This document details the underpinning evidence and research base of learning that the school values and follows, the teaching principles that the school focuses on based on that evidence base and exemplars of teaching techniques which align with the evidence base and are a school priority.

Schools are, of course, free to select their own titles and meanings but most important is that schools have a common language for their context that all teachers know and understand.

## Why should schools develop a pedagogical model?

Legislation (Education (Accreditation of Non-State Schools) Regulation 2017 (s.9)) refers to a school's Educational Program and the Non-State Schools

Accreditation Board (NSSAB) Educational Guide (NSSAB n.d.) refines this and explains that schools need whole-school, year level and unit planning. There is then minimal guidance on the contents of these documents, and they are naturally subject to endless variety. Of course, legal requirements are a minimum standard, and high-quality schools go further than this.

In late 2022, the Grattan Institute released a frank report titled *Ending the lesson lottery* (Hunter et al., 2022). The report notes, "Schools... need an... evidence-based instructional model which gives teachers a shared understanding of what great teaching looks like." The Australian Council for Educational Research (ACER) School Improvement Tool also suggests outstanding schools need to have "a coherent and comprehensive plan for implementing the prescribed curriculum that reflects the school's vision" (ACER, 2020). This is in line with the Strong Beginnings Report of the Teacher Education Expert Panel (Australian Government, 2023) which notes a deep understanding of the brain and learning, effective pedagogical practices, classroom management and responsive teaching is needed to best support students. There has also been an explosion of educational texts and resources developed around teaching principles and techniques, some that you might recognise include:

- 2012: Rosenshine's *Principles of instruction: Research-based strategies that all teachers should know*
- 2014: Brown, Roediger & McDaniel's *Make it stick: The science of successful learning*
- 2015: Deans for Impact's *The science of learning*
- 2015: Wiliam & Leahy's *Embedding Formative Assessment: Practical Techniques for K–12 Classrooms*
- 2017: Centre for Education Statistics and Evaluation's *Cognitive load theory: Research that teachers really need to understand*
- 2020: Kirschner & Hendrick's *How learning happens: Seminal works in educational psychology and what they mean in practice.*
- 2020: Sherrington and Caviglioli's *Teaching walkthrus. Five step guides to instructional coaching*
- 2021: Lemov's *Teach Like a Champion 3.0: 63 Techniques that Put Students on the Path to College*
- 2021: Willingham's *Why don't students like school? A cognitive scientist answers questions about how the mind works and what it means for the classroom.*

With guidance in various directions from various sources, schools are left wondering what might be the best way forward.

## Australian Guidance

AERO has reviewed and distilled the research base to support schools. Their guides on *How students learn best. An overview of the learning process and the most effective teaching practices* (AERO, 2023a) together with *Teaching for how students learn: A model of learning and teaching* (AERO, 2023b) provides a solid foundation for schools to work from.

There is again a terminology crisis. For the sake of simplicity, this paper uses the following terminology:

### Underpinning Evidence and Research Base

Also called: *Research base, Uniting Theory, Evidence Base, Mechanisms of learning, How students learn, Student learning process, Principles of Learning*

This is the educational evidence and research base for learning that the school values and follows for all aspects of the Teaching and Learning Framework. It should be grounded in high-quality research and be easily accessible for teachers to understand.

### Principles

Also called: *Practices, Big Ideas, Signature Pedagogy, Guiding Principles, Pedagogical Practices, Teaching Implications*

Principles are the link between the research and teaching practices. A principle might follow the format 'we will do this in the classroom because humans learn like this', for example 'At our school we ensure full participation in lessons because students need to pay attention in order to learn'.

### Techniques

Also called: *Strategies, Teaching Practices, Teacher Toolkit, High-Impact Teaching Strategies (HITS), Instructional Practices, Pedagogy*

Techniques are the specific actions a teacher might use in the classroom in order to enact a principle. For example, mini-whiteboards can be used to ensure full participation in lessons. Techniques can be used across multiple principles.

> *"Schools... need an... evidence-based instructional model which gives teachers a shared understanding of what great teaching looks like."*
>
> GRATTAN INSTITUTE'S ENDING THE LESSON LOTTERY (2022)

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The underpinning theory that AERO (2023a) highlights "…has been distilled with insights from cognitive science, neuroscience and education psychology, with a focus on sources with practical relevance to classroom teachers in schools.". Their underpinning theory is defined in four key areas:

"**1.** Learning is a change in long-term memory

**2.** Students process limited amounts of new information

**3.** Students develop and demonstrate mastery

**4.** Students are actively engaged when learning."

They then have principles and AERO (2023a) identifies their principles as follows:

"**1.** To align with the evidence that learning is a change in long-term memory, teachers develop a teaching and learning plan for the knowledge students will acquire.

**2.** To align with the evidence that students process limited amounts of new information, teachers manage the cognitive load of learning tasks.

**3.** To align with the evidence on how students develop and demonstrate mastery, teachers maximise retention, consolidation and application of learning.

**4.** To align with the evidence that students are actively engaged when learning, teachers create a learning-focused environment."

For each principle, AERO then provides techniques for teachers to use, for example, *mini-white boards*, *turn & talk*, *pacing*, and *worked examples* (AERO 2024a, AERO 2024b). These techniques are numerous and come under some organising headings, for example, 'Teach explicitly', 'Vary practice', 'Monitor progress'. AERO (2023a) suggests school leaders "…use this paper to develop a common language and shared understanding…".

## Developing your own pedagogical model

When schools are considering developing a pedagogical model, deep understanding of the school's underpinning evidence base and its interaction with the school ethos are most important.

Schools might use AERO's (2023a) underpinning evidence base, anecdotally we are seeing some schools in our sector using Daniel Willingham's (2021) simple model of the mind or Tom Sherrington's (2020) interpretation of it. This becomes the basis for everything else in the pedagogical model.

Schools may then use the AERO (2023a) principles or develop their own principles to meet the needs of their context such as:
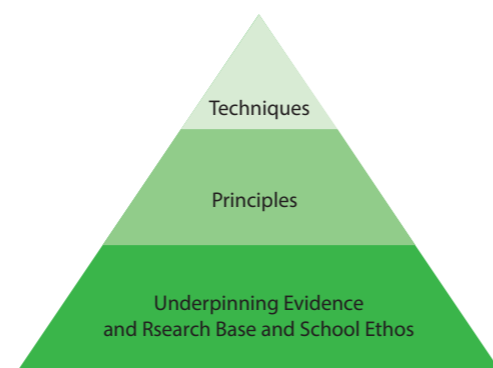
- We ensure full student engagement in lessons as students cannot learn if they are not paying attention.
- We use regular checks for understanding in lessons to ensure students have understood what we have taught and encode the correct knowledge and skills in long-term memory.

- We identify core learning in each unit so that everyone knows the knowledge and skills students need to encode in long-term memory.

Many resources do not explicitly link the principle and the underpinning theory which leaves the possibility of teachers not fully understanding the 'why' behind what they are doing.

The techniques then fall from the principles. Many resources provide information about effective teaching techniques and Bron Ryrie-Jones (Lee, 2024) explains that when the focus is on the techniques then they become almost like a bag of tricks where any technique can be implemented at any time. However, when we focus on the underpinning evidence base and the principles then there is clear reasoning for using a certain technique at a certain time.

We can think of the emphasis like the diagram below:

```
        /\
       /  \
      / Techniques \
     /────────────\
    /  Principles  \
   /────────────────\
  / Underpinning Evidence \
 / and Rsearch Base and School Ethos \
/────────────────────────────────────\
```

Leaders need to be clear about their underpinning evidence and research base and the principles that they are focusing on, and teachers also need to have a deep understanding so that techniques are used deliberately for a specific purpose.

There are hundreds of techniques that schools may choose, for example: think pair share; mini-whiteboards, cold call, seating plans, flash cards, everyone writes, exit tickets, all hands up, choral response. Schools may identify some key techniques which the school plans to focus on. These are likely to

**Universal**
General practices that have been shown to be the most effective regardless of stage or subject.

1. Most effective pedagogical practices

2. Effective practices in subject areas

**Specific application**
There is a strong evidence base that the application of these practices to literacy, numeracy and other subject areas is highly effective for student learning.

initially include some that the school is already using in order to bridge the gap between where the teachers are now and where leadership is directing them. The techniques can be added to over time but there is a danger of schools initially including too many, and overwhelming teachers.

Although the underpinning theory and principles can apply to all content and all subjects, Individual techniques can rarely do this. AERO (2023c) explains that there are evidence-based practices which work in many cases across various contexts but there is also "…extensive and rigorous research on approaches to teaching subject-specific content… that can complement generic evidence-based pedagogical approaches." An adaptation of their model (2023) develops this idea further (Figure 1).

Explaining techniques and technique sequences for subject-specific content is visible in some of the examples available.

Ryrie-Jones (Lee, 2024) explains that the process of considering the principles and techniques in their own setting is a vital task for leaders and teachers alike as they begin to more deeply understand all aspects of their pedagogical model.

Although they do not follow the guidelines from AERO exactly, it is helpful to see completed examples and there are a few schools in Australia that publicly share their pedagogical models:

- Serpentine Primary School (2024)
- Ellenbrook Primary School (2023).

As would be expected, these schools refine and update their work each year as they learn, grow and continue to support the ever-changing student needs at their school. Independent Schools Queensland this year launched a Multi-School Organisation project which included a Pedagogical Model which serves as an example. To support this paper and the research another ISQ Pedagogical Model example has been developed and is available on the ISQ Member Hub, Cognitive Science and Pedagogical Model page (ISQ Member Hub, 2025).

## Implementation of a pedagogical model

Developing a pedagogical model is the first step but implementation of the model is the bigger challenge. Dr Ray Boyd, the principal at Dayton Primary School, promoted their school's Instructional Playbook on LinkedIn (Boyd, 2024) and explained that they are willing to share their work with schools who ask but the playbook is just the 'tip of the iceberg'. He goes on to explain, "School leadership teams MUST identify strategies and processes that ensure that what is espoused in the playbook is not only applied consistently across the school, but that there are appropriate supports in place to enable staff to do this." AERO (2024c) notes that "(j)ust like evidence-based practices, effective implementation

draws on research" and they have developed five implementation explainers to assist schools in this process.

Katrina McLachlan and Kate Naug from Saint Stephen's College, have been on this journey since the beginning of 2023. Theirs has been a journey of learning, trialling and slowly implementing over the years that followed. Their case study shows their process of developing and implementing a set of shared pedagogical principles. It shows that the process of change is a journey over a number of years and their success in transforming and aligning expectations across the school is ongoing. Their strong leadership, willingness to learn and apply best practice in their context has been the cornerstone to their success.

Similarly, Vikki Crighton from Nambour Christian College has also been on the journey of identifying, upskilling, documenting and implementing a cohesive shared understanding of what good teaching looks like in their school. Their journey quickly became about implementation through professional development, peer observation and feedback alongside the development of their teacher toolkit. Vikki has successfully led this journey with the strong support of the Principal Geoff van der Vliet who actively participates in the learning journey with his staff.

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**SAINT STEPHEN'S COLLEGE**



**NAMBOUR CHRISTIAN COLLEGE**



### Support for the journey

For support in this area ISQ hosts a page on the ISQ Members Hub with the most current research, professional learning opportunities and resources.

In 2025, ISQ is offering a two-day workshop with professional learning in cognitive science and guidance for developing a pedagogical model to suit a school's context together with a bespoke implementation plan. ISQ offers events such as a Cognitive Science and Effective Teaching Practices Masterclass. There are a range professional learning opportunities in specific curriculum areas, including the Maths Masterclass and Science of Reading sessions at the Term 2, 2025 Curriculum leaders forums, held in Brisbane, Rockhampton, Hervey Bay and Cairns. Additionally, ISQ offers bespoke consultancy to assist schools in areas including developing staff understanding of cognitive science, pedagogical model development and implementation.

### Case Study – Saint Stephen's College

**Member School Case Study: Saint Stephen's College – Implementing a Research-Based Pedagogical Model**

Saint Stephen's College, a P–12 co-educational school located on the Gold Coast, embarked on a strategic initiative to implement a research-based teaching and learning framework across The College. The journey began with their participation in the 2023 Independent Schools Queensland (ISQ) 'Teacher Growth and Development' Program, involving training in cognitive science aligned with research from the Australian Education Research Organisation (AERO).

In the first year of the initiative, the leadership team focused on building a strong foundation by developing their own knowledge of cognitive science, effective teaching techniques and considered these within their own school context. The Junior School moved towards developing effective teaching strategies in reading and provided all teachers with professional learning and space to try new ideas. While the Senior School identified a core group of teachers to trial key strategies in their classrooms, allowing for initial testing and refinement of approaches within a supportive environment.

In January 2024, Saint Stephen's College launched the school year with a professional development session led by ISQ staff. This session focused on cognitive science and effective teaching techniques, serving as a catalyst for deepening professional understandings of the impact teacher efficacy has on student outcomes. Through staff collaboration, a shared vision for learning and agreed principles were determined.

To begin the year in 2025, The College participated in a pre-recorded interactive PD presented by Oliver Lovell on Cognitive Load Theory: The Four Big Ideas. This session built upon the foundations of cognitive science and provided teachers with effective strategies to optimise student learning. Following this session, the Junior School teachers participated in a 'Sharing Best Practice' professional development session. This event allowed teachers to connect with peers from other schools who were on similar journeys, fostering a sense of collaboration and shared purpose. The opportunity to learn from and contribute to a broader network of educators further strengthened the implementation of the framework.

As 2025 begins, the Saint Stephen's College focus is upon classroom culture, through the building of habits and high expectations and embedding effective classroom routines. This emphasis aims to create a consistent and structured environment that supports both student engagement and teacher efficacy.

Saint Stephen's College's journey towards implementing a research-based pedagogical model demonstrates a deliberate and phased approach to whole-school improvement. Through their partnership with ISQ and a focus on cognitive science, The College has built a strong foundation for enhancing teaching practices. Their commitment to continuous professional development, collaboration, and evidence-based strategies highlights their dedication to fostering growth for both teachers and students.

### Case Study – Nambour Christian College

**Member School Case Study – Nambour Christian College: A Journey to Enhanced Teaching and Learning Practices**

Over the last five years, Nambour Christian College has embarked on a transformative journey to enhance teaching and learning practices. Before 2020, there was no targeted improvement framework, but that was about to change.

The year 2020 marked the beginning of a new era when they joined the Teacher Performance and Development Program with Independent Schools Queensland. This program was pivotal in developing their Teacher Toolkit, which included a growth cycle for continuous improvement.

Following this, in 2021 they participated in ISQ's Lesson Observation Project, piloting a Professional Growth Team (PGT) consisting of two Junior School and two Secondary School teachers. This pilot involved trialing a peer observation and feedback cycle to assess its feasibility at the school.

During this time, they laid the groundwork for a professional growth culture. Using materials from Australian Institute for Teaching and School Leadership (AITSL), they conducted regular workshops with teaching staff to develop the Nambour Christian College Teacher Toolkit and Learner Dispositions.

In 2022, they expanded the pilot Professional Growth Team to include one Junior School team and one Secondary School team. The peer observation and feedback cycle continued, while other staff members engaged in professional development on the Teacher Toolkit. This expansion allowed more teachers to experience the benefits of the PGT model and contributed to a growing culture of professional growth.

The year 2023 was a milestone as they launched the PGT model school-wide using Dylan Wiliam's two-year Embedded Formative Assessment program. Teachers who participated in the pilot led larger teams of roughly 12 teachers. These teams met twice per term, with teachers pairing up to set goals, observe each other's classrooms, and provide feedback. This collaborative approach fostered a sense of community and shared purpose among the teaching staff.

In 2024, they refined the PGT model by returning to smaller groups of four teachers and incorporating video lesson observations. Each term, one teacher would set a goal and video a lesson for feedback. The entire teaching group would meet to discuss the Embedded Formative Assessment material, plan observations, and provide feedback on the lesson videos. This refinement allowed for more focused and personalised professional growth.

As of 2025, they continue with the PGT groups of four and video lesson observations. Their focus has shifted to Explicit Instruction and Cognitive Load Theory, with the same model of goal setting, videoing lessons, peer observation and feedback. Their journey of transformation is ongoing, with a commitment to continuous improvement and a culture of professional growth.

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