



Catholic
Education
Tasmania

Student Focused
Christ Centred
Learning for Life

The following resource has been
created for attendees of the
Teaching Matters Summit.

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We know what works. So why aren't we doing it?

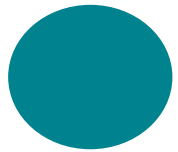
Teaching Matters Science of Learning National Summit

Dr Jenny Donovan

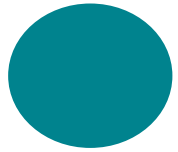
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Not me teaching in the 80s

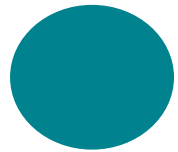




Effective learning and teaching



Prevalence of effective teaching



Implementation challenges



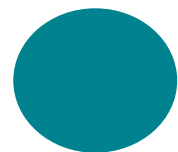
For the teacher



For the school



For the system



AERO can help

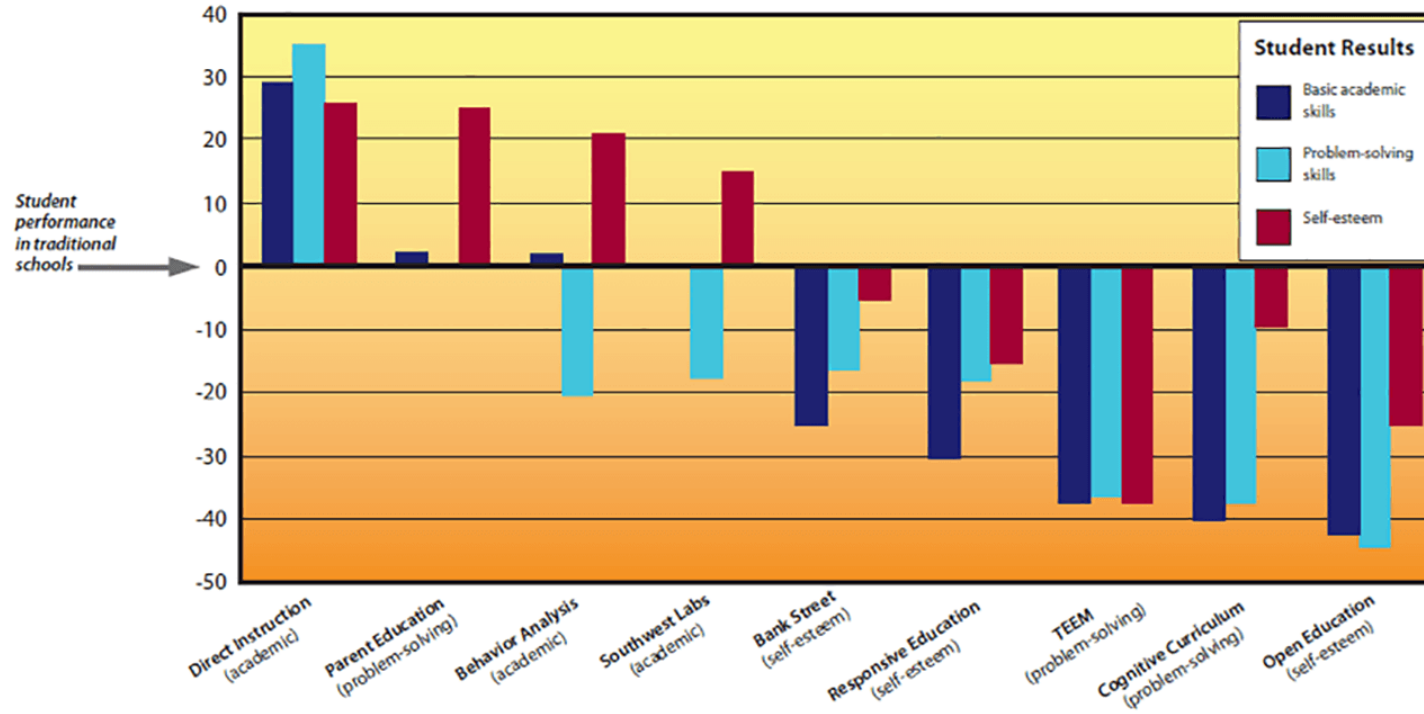


But first, a mystery...



Project Follow Through, 1967 - 1977

Nine models of teaching K-3 compared in history's largest educational experiment



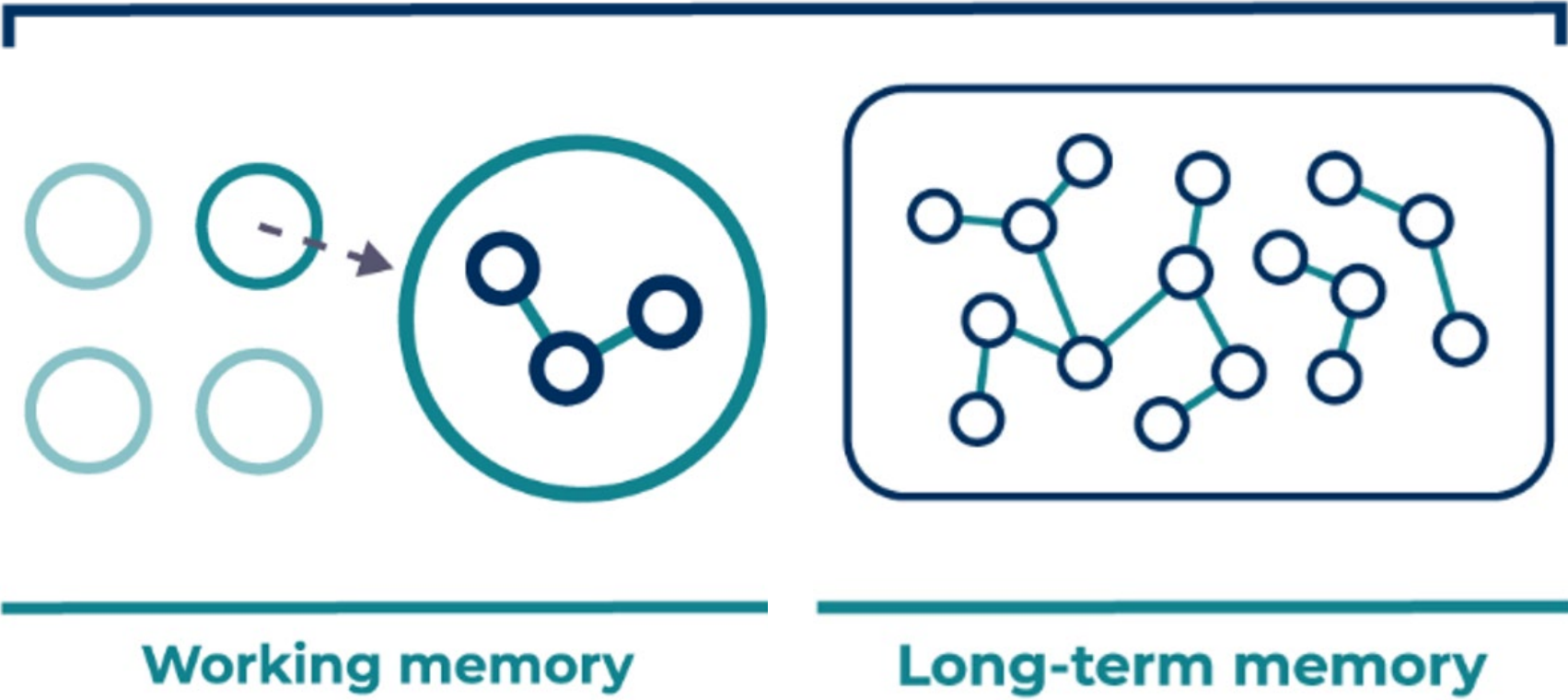
Findings:

- Nine models grouped into 3 broad teaching approaches: Academic focus, problem solving focus, or self-esteem focus.
- Three categories of results were measured: Basic academic skills, problem-solving skills, and changes in self-esteem.
- Direct Instruction produced the best results in all areas: Basic skills, problem solving, & self-esteem.
- Most other models were less effective than traditional schooling, yet many remain in use today!



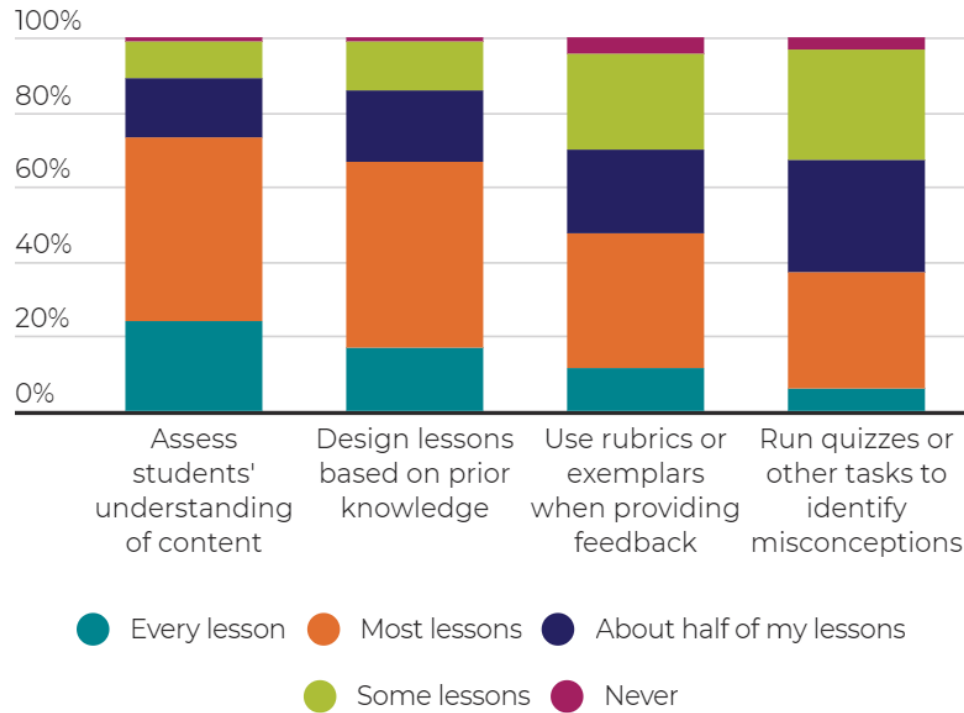
Effective learning and teaching

Memory

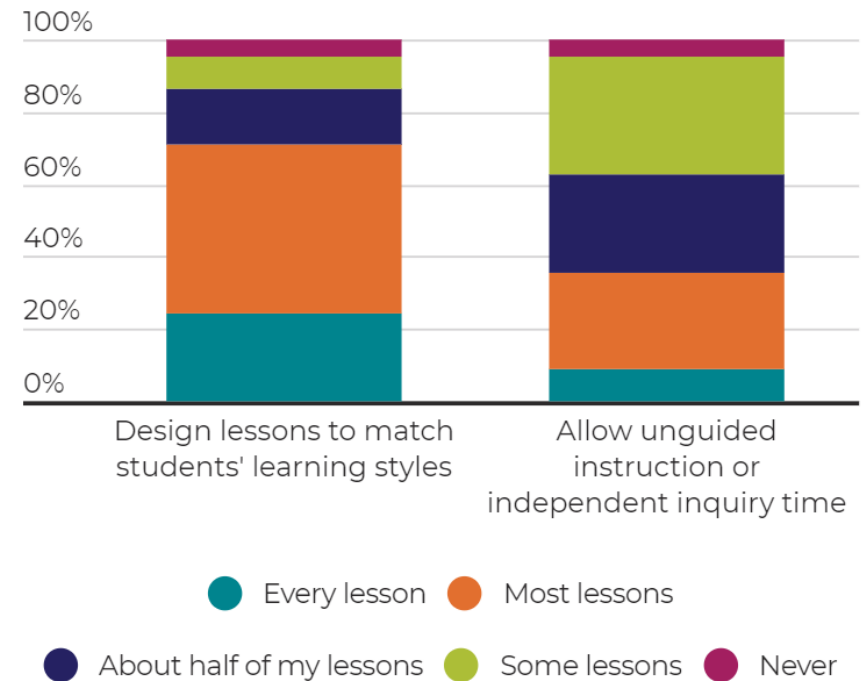


Prevalence of effective teaching practice

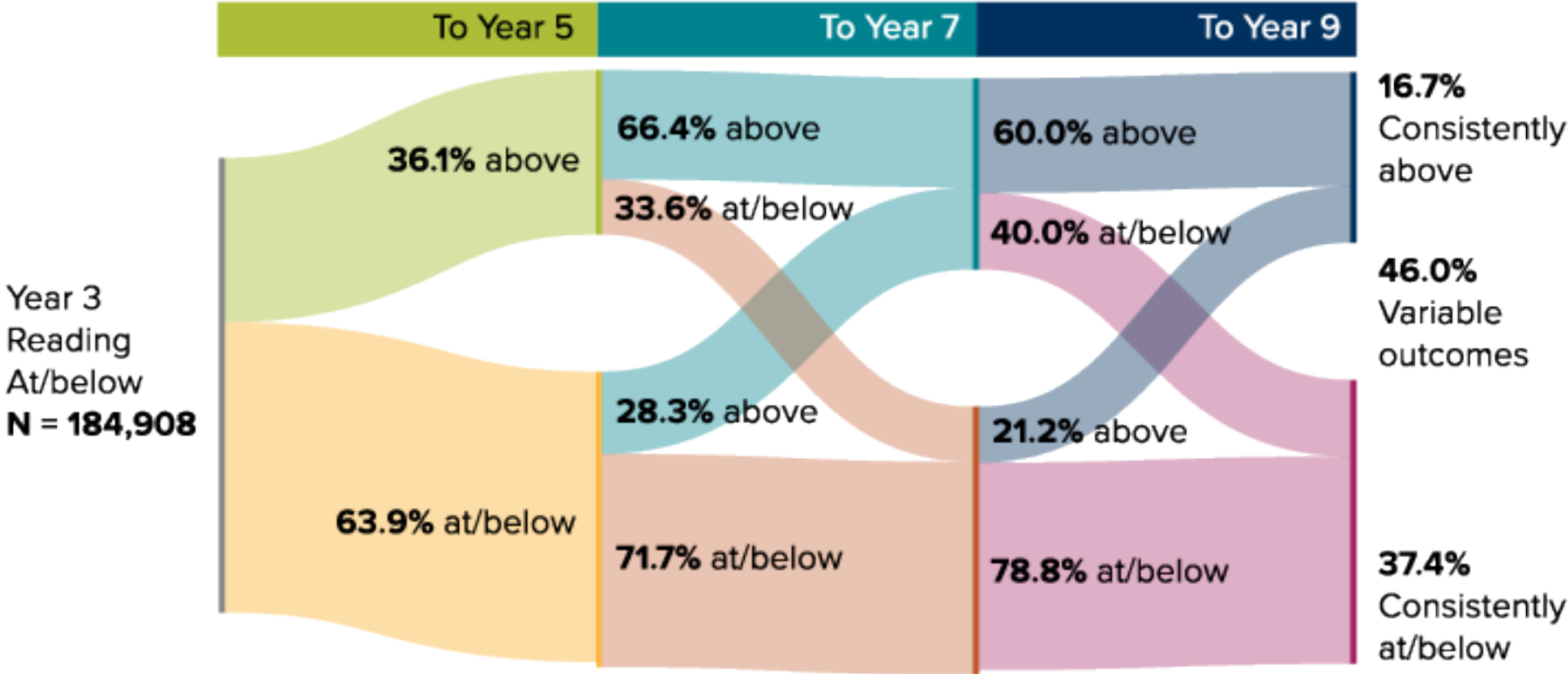
Graph 2: Teachers self-report on how often they use formative assessment strategies



Graph 4: Teachers self-report on how often they use other strategies



Cumulative impact of ineffective teaching



What **isn't** 'explicit instruction'



“But that would never work here” – does context matter more than evidence?

Nobody knows more about students' learning needs than their teachers. So how should teachers respond to research evidence about effective practice that is broad and does not appear to take account of contextual factors?

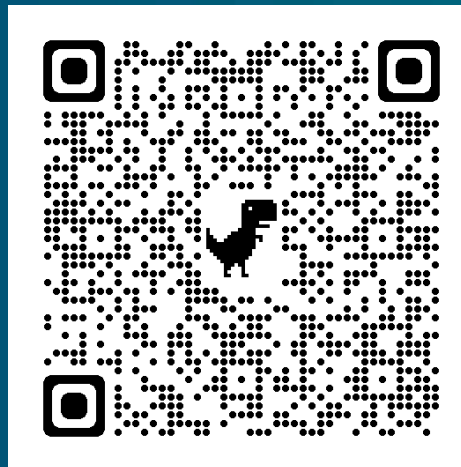
27 September 2022

- It is not 'chalk and talk'
- It is not 'drill and kill'
- It is not asking teachers to use scripts
- It is not teachers as facilitators or 'the guide on the side'
- It is not stopping students from engaging in creative or imaginative tasks, but rather giving them the knowledge required to do so.

The implementation challenge: for the school



A model of learning and teaching



Teaching for how students learn: A model of learning and teaching

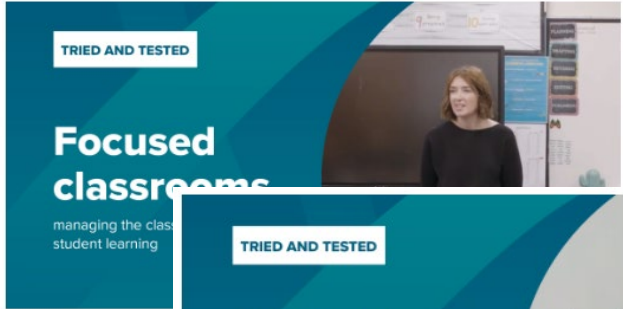
Learning practices that are aligned with how students learn are the most effective in improving educational outcomes for all. There is strong evidence about the processes that occur during learning. These processes explain why some teaching practices are more effective than others. AERO has developed a model that identifies the most effective and efficient teaching practices aligned with how students learn.



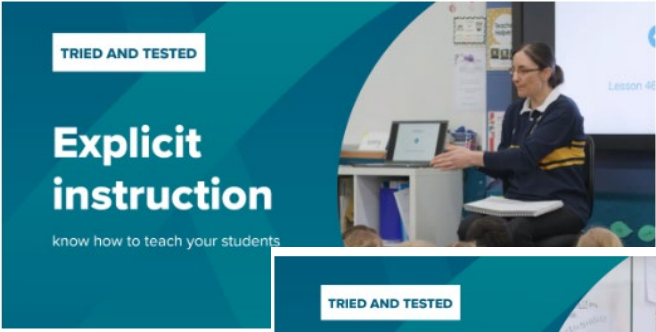
This model is underpinned by evidence on how students learn to support the best practice of Secondary Professional Standards for Teachers. It contains links to related tools. For more information, including the evidence underpinning the model, visit www.aero.gov.au. For background information on the model, visit <https://www.aero.gov.au/australian-teaching-practice>.

Version 2021-11 | Australian Education Research Organisation | 2021 | 12 of 22





Focused classrooms
See how the Year 1 teacher create a focused classroom



Explicit instruction at L
See how the Year 1 teacher use explicit instruction in their classroom



Mastery learning at Trinity College
See how Mastery Learning is implemented in different classrooms at Trinity College.



Mastery learning
Know how to make sure your students learn
Australian Professional Standards for Teachers | Focus Area 3.2: Plan, structure and sequence learning programs



Spacing and retrieval practice
Improve students' long-term retention of learning
Australian Professional Standards for Teachers | Focus Area 1.2 Understand how students learn

This guide is one in AERO's *Tried and Tested* series on evidence-informed teaching practices that make a difference. Teachers can use these guides to reflect on their classroom practice and inform their planning for future instruction.

For this guide, AERO has synthesised the most rigorous and relevant evidence-based practices from meta-analyses, systematic reviews and literature reviews. AERO has rated these sources of information against its **Standards of evidence**, focusing on evidence generated in an Australian context where possible.

Spacing and retrieval practice can improve students' long-term retention of their learning. **Spacing** is the practice of sequencing learning so that information is delivered across two or more lessons rather than just one. **Retrieval practice** is the strategy of getting students to actively recall their learning. When students are asked to bring information that they have previously learnt to the front of their mind to answer a question, rather than looking up the information in a textbook or having the teacher explain it again, it makes the information more retrievable or accessible in the future. Similarly, if a student cannot recall the information, it helps both teacher and student understand where there are learning gaps that can be addressed. **Spaced retrieval** is the active practice of recalling previous learning at a point in time after the initial lesson. Spaced retrieval practice uses the principles of cognitive science to help students consolidate their learning in long-term memory so they retain the information for longer and are better able to apply their learning in the future.

Evidence-based practices for applying spacing and retrieval practice in the classroom are listed below. Note that some of the examples offered may not apply in all contexts, may be more suitable for primary students than secondary students (and vice versa), and/or may look different in different content areas. Reasonable adjustments must be made where necessary to ensure full access and participation for students with disability.

Key practices

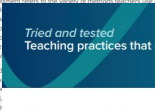
- 1. Make sure learning retention is maximised by spacing learning across lessons.** Spacing learning allows students to remember more in the long term than if they learnt everything at once.
 - Space the learning of a particular concept or skill across two or more lessons rather than concentrating all learning into one lesson! For instance, in a language class, you may space the learning of new vocabulary over a series of lessons so that students learn the basics one lesson, modifies the next and then in a subsequent lesson they engage in conversation practice where they apply their previous learning.
 - The specific length of the time between the initial lesson and asking your students to retrieve information (for instance, one day or one week) is not as important as ensuring that you use spacing in the first place!

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Formative assessment
Know where your students are in their learning
Australian Professional Standards for Teachers | Focus Area 5.1 Assess student learning



Focused classrooms
Managing the classroom to maximise learning
Australian Professional Standards for Teachers | Focus Area 4.2 Manage classroom activities

This guide is one in AERO's *Tried and Tested* series on evidence-informed teaching practices that make a difference. Teachers can use these guides to reflect on their classroom practice and inform their planning for future instruction.

For this guide, AERO has synthesised the most rigorous and relevant evidence-based practices from meta-analyses, systematic reviews and literature reviews. AERO has rated these sources of information against its **Standards of evidence**, focusing on evidence generated in an Australian context where possible.

Focused classrooms maximise students' on-task learning time by minimising disruptive behaviour and disengagement. Research shows that students cannot learn as well in classrooms that lack consistency, have too many potential distractions or do not offer ample opportunities to engage. Teachers can create focused classrooms by implementing clear structures and routines, modelling appropriate behaviours, and actively engaging students in their learning.

Evidence-based practices that create focused classrooms are listed below. Note that some of the examples offered may not apply in all contexts, may be more suitable for primary students than secondary students (and vice versa), and/or may look different in different content areas. Reasonable adjustments must be made where necessary to ensure full access and participation for students with disability.

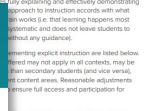
- 1. Establish a system of rules and routines from day one.** Your students should have predictability and structure that provide them with certainty about what is expected.
 - Create rules about student behaviour for learning. These rules should create a safe classroom that supports everyone to learn! They should be made with reference to whole-school policies around behaviour management. Ensure that there is a shared language and shared understanding of the rules. One way to ensure shared understanding could be to develop rules collaboratively with your students.
 - Establish routines or cues for your class. These can be for the beginning and end of lessons (for example, 'do-nows' and lesson reflections), for different types of learning activities (for example, protocols for small group discussion) and/or for transitions (for example, moving quickly from one activity to the next). Routines or cues reduce wasted learning time by creating habits of learning that get students responding quickly to your instructions!
 - Pre-plan and rehearse your responses to positive and negative behaviours. Responses should be able to be implemented on the spot and with consistency, to reinforce expectations!
- 2. Explicitly teach and model appropriate behaviour.** Your students need to know how to perform the roles expected of them.
 - Explicitly teach rules and routines to your students. Rules and routines should be clear and well-defined and can be reinforced through classroom discussion!

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Explicit instruction
Know how to teach your students
Australian Professional Standards for Teachers | Focus Area 3.3 Use teaching strategies



Formative assessment
Know where your students are in their learning
Australian Professional Standards for Teachers | Focus Area 5.1 Assess student learning

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Formative assessment is a way of designing units of work to that it is both task and process focused. It is a way of gathering information about students' learning in order to provide feedback that can be used to improve learning. It is not a one-off test or assessment. It is a continuous process that involves gathering information about students' learning in order to provide feedback that can be used to improve learning. It is not a one-off test or assessment. It is a continuous process that involves gathering information about students' learning in order to provide feedback that can be used to improve learning.

Explicitly explaining and effectively demonstrating approaches to instruction across what students do (i.e. that learning happens most reliably and does not leave students most vulnerable to not having any guidance). Implementing explicit instruction are listed below. Note that some of the examples offered may not apply in all contexts, may be more suitable for primary students than secondary students (and vice versa), and/or may look different in different content areas. Reasonable adjustments must be made where necessary to ensure full access and participation for students with disability.

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For more evidence-based
research and practical resources:
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