

Catalyst

An evidence-based approach to learning and teaching for system and school improvement



Speaking today



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Education Lead



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CATHOLIC EDUCATION

Archdiocese of Canberra & Goulburn



56 Schools

across ACT & NSW



9

Early Learning Centres



1,700+ teachers



700+

support staff



22,500+

students



1,100+

EAL/D
students



900+

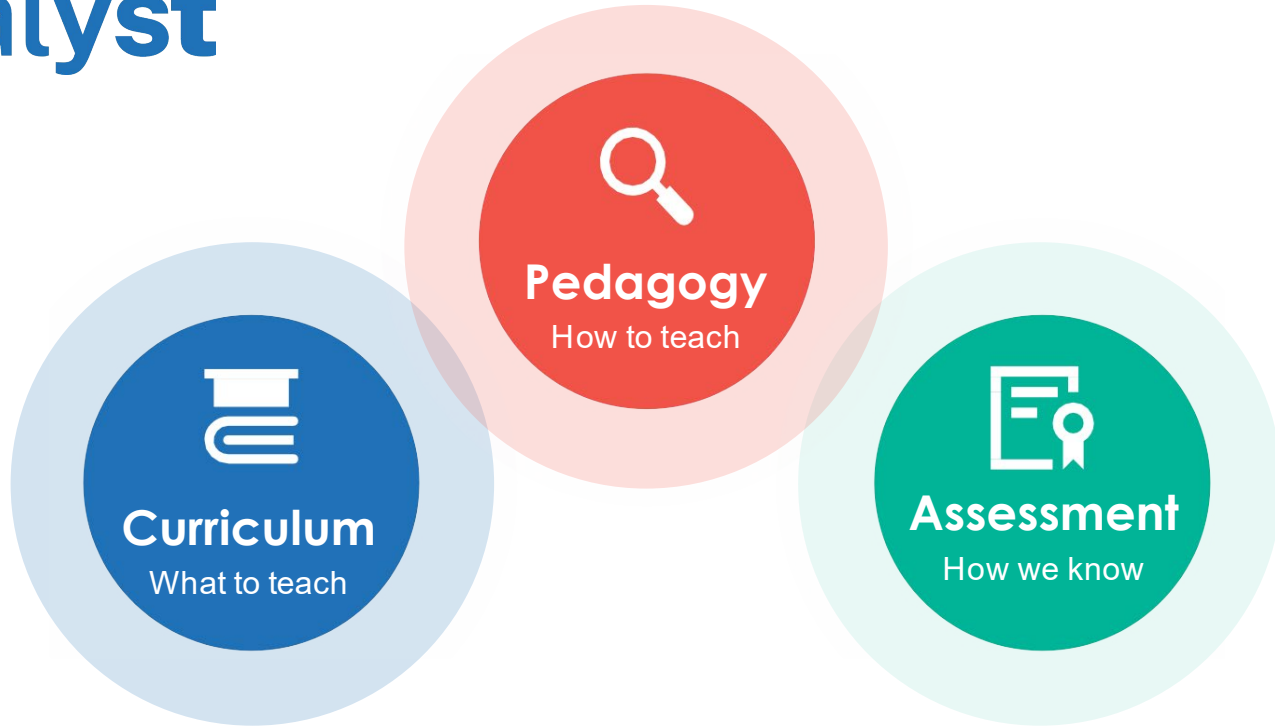
ATSI
students



5,000+

students with
disabilities

Catalyst



Informed by

Science of Learning | Science of Reading

Our Bold Goals

1 Every student is a competent reader

2 High Impact Teaching Practice is visible in every classroom

Catalyst Guiding Research



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access the
reading

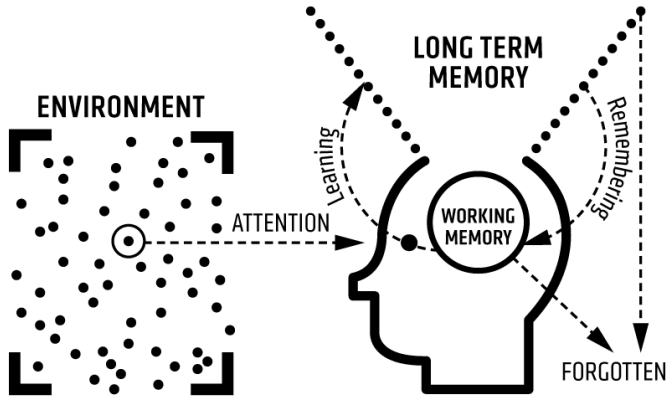


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Dylan Wiliam

Cognitive Load Theory is 'the single most important thing for teachers to know'




GUIDING RESEARCH

NSW SEPTEMBER 2017

Cognitive load theory: Research that teachers really need to understand

Centre for Education Statistics and Evaluation




Scan to access the report

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



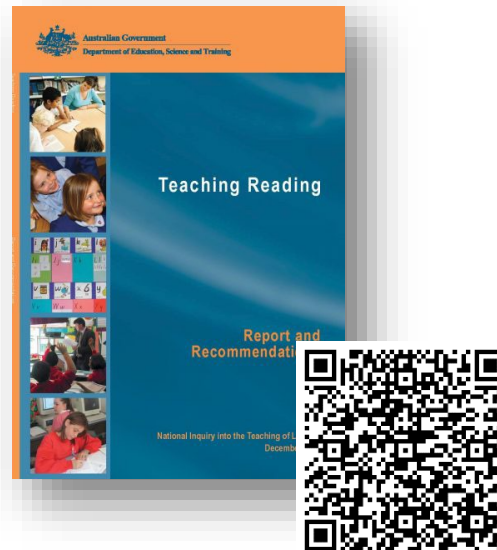
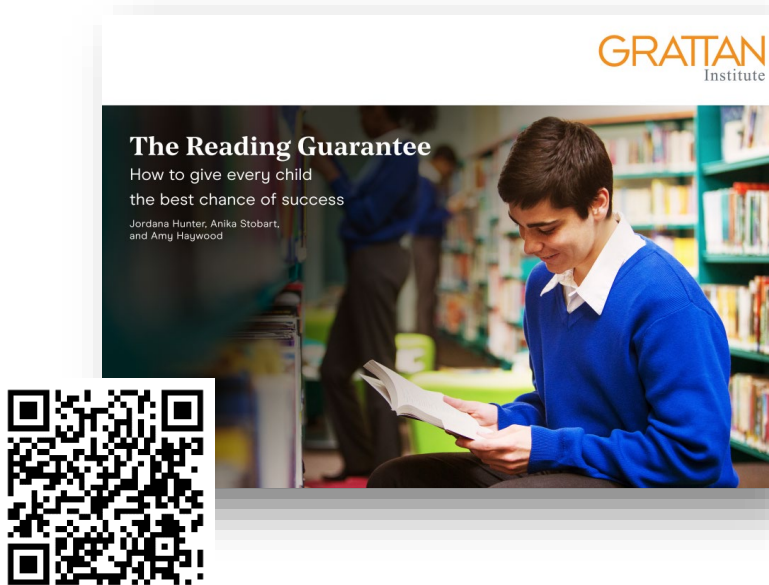
Teaching practices that align with how students learn are the most effective in improving education outcomes for all. There is strong evidence about the processes that occur during learning. These processes explain why some learning practices are more effective than others. AERO has developed a model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

| How students learn | Teaching that aligns with how students learn |
|--|--|
| <p>Attention and focus Students are actively engaged when learning</p> <ul style="list-style-type: none"> • Searching, thinking and memory • Readiness for learning • Self-regulation • Safety and belonging | <p>Enabling Foster the conditions of a learning-focused environment</p> <ul style="list-style-type: none"> • Rules and routines • Respectful interactions • Self-regulated learning • Cultural safety • Family engagement |
| <p>Knowledge and memory Learning is a change in long-term memory</p> <ul style="list-style-type: none"> • Novice learners • The developing brain • Working and long-term memory • Consolidation | <p>Planning Develop a teaching and learning plan for the knowledge students will acquire</p> <ul style="list-style-type: none"> • Define knowledge • Chunk content • Sequence instruction • Plan to assess |
| <p>Retention and recall Students process limited amounts of new information</p> <ul style="list-style-type: none"> • Cognitive load • Recall and retention • Additional learning needs | <p>Instruction Manage the cognitive load of learning tasks</p> <ul style="list-style-type: none"> • Explain learning objectives • Teach explicitly • Scaffold practice • Monitor progress • Support relevant interventions |
| <p>Mastery and application Students develop and demonstrate mastery of their learning</p> <ul style="list-style-type: none"> • Application of knowledge • Mental models • Problem-solving, critical and creative thinking • Generative learning | <p>Gradual release Maximise retention, consolidation and application of learning</p> <ul style="list-style-type: none"> • Revisit and review • Vary practice • Organise knowledge • Extend and challenge |



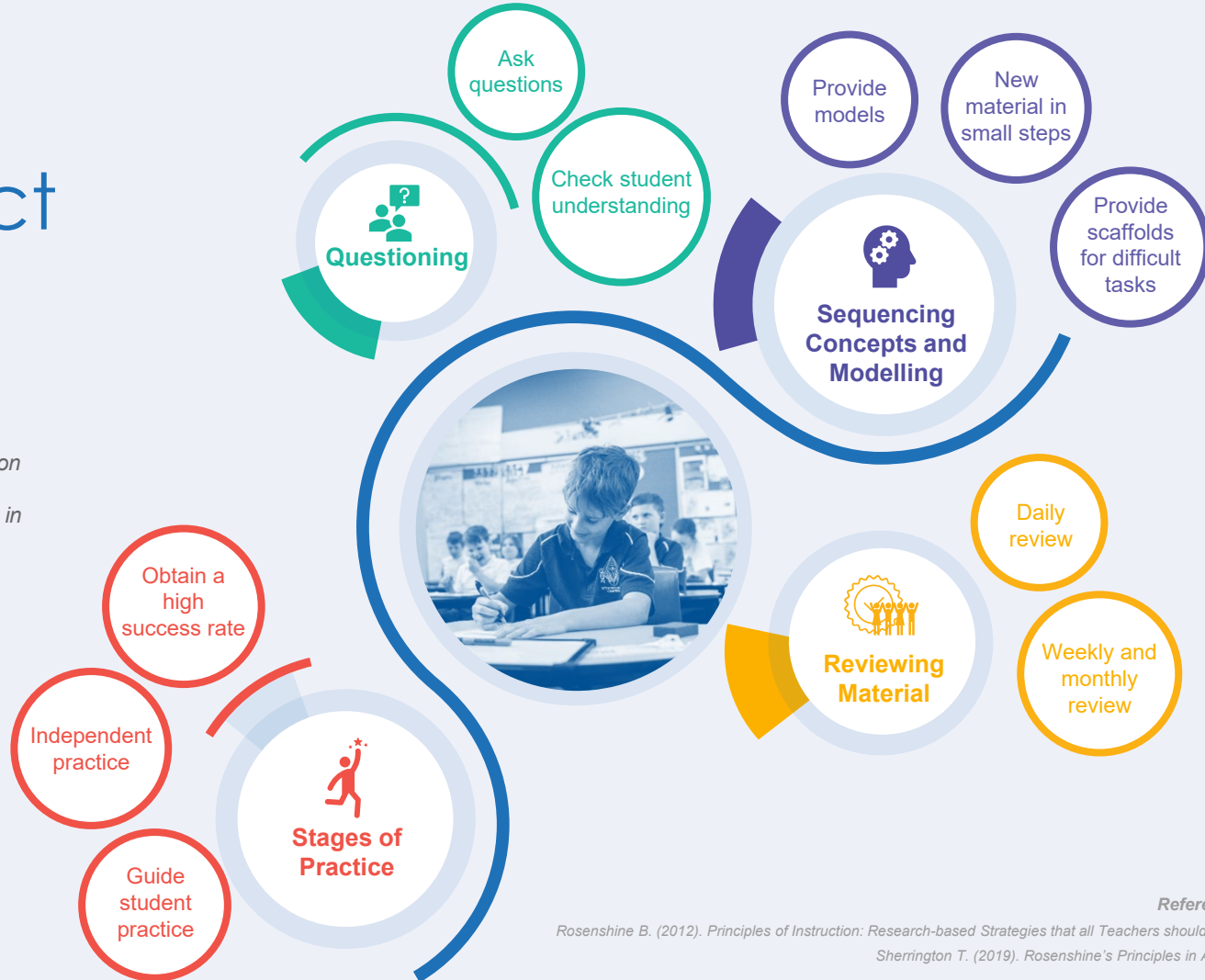
Scan to access the reading

Research-informed approach to ensuring every student is a competent reader



High Impact Teaching Practice

Transformational teaching practice, based on Rosenshine's Principles of Instruction, to maximise learning impact for every student in every classroom.



The 8 Big Ideas



School is where we learn **biologically secondary** information



The most efficient way to teach knowledge is to **teach explicitly**



Learning is a **change in long-term memory**



High quality whole class instruction will **help all students learn**



Teaching is a profession that should be **informed by the evidence**



Reading is essential for students to acquire knowledge



Knowledge matters, it's what we think with



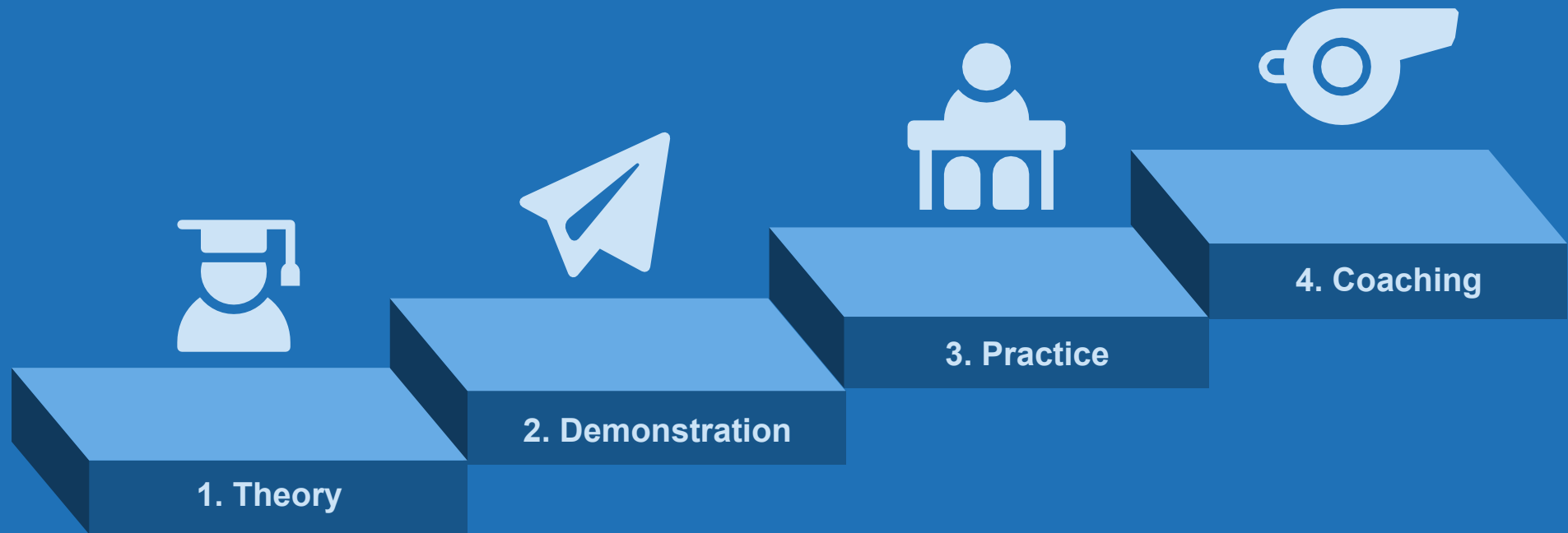
Curriculum should be ambitious, coherent, sequential and cumulative



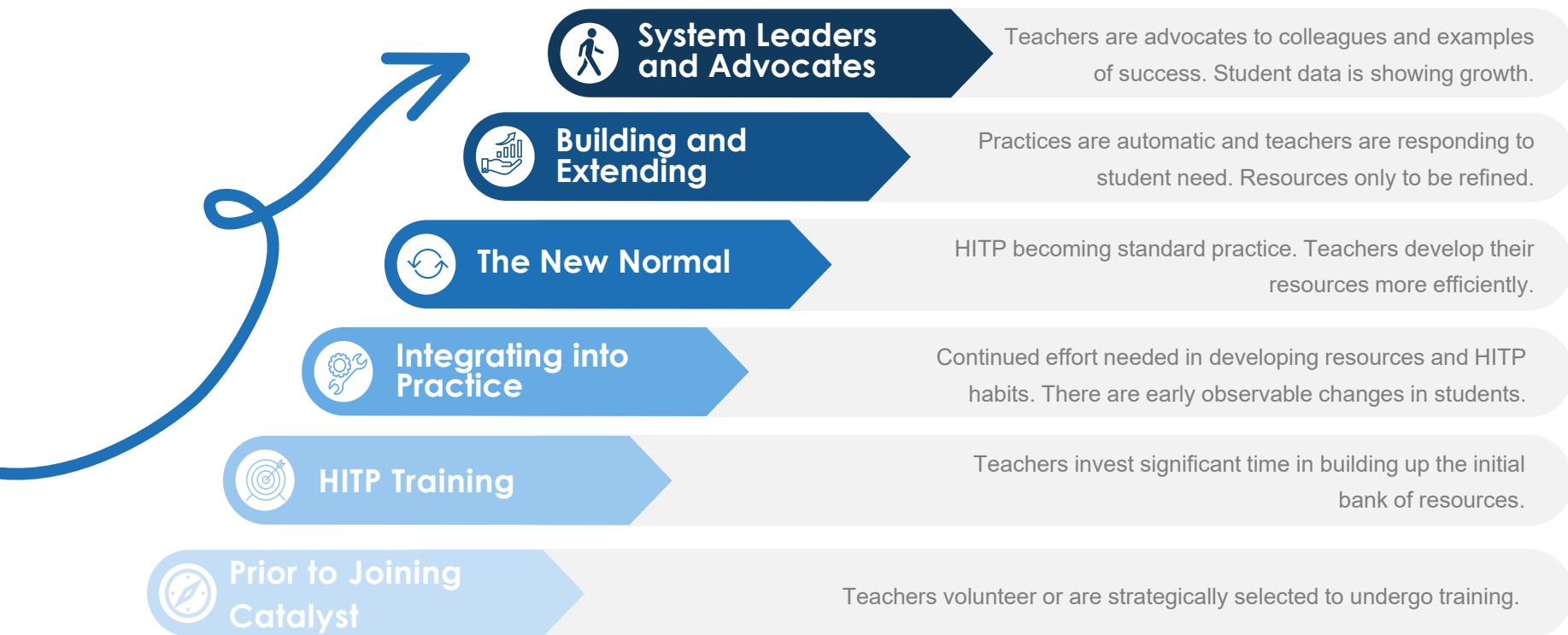
CATHOLIC EDUCATION
Archdiocese of Canberra & Goulburn

The **teacher** is the most important learner in the system

Our Approach to Professional Learning



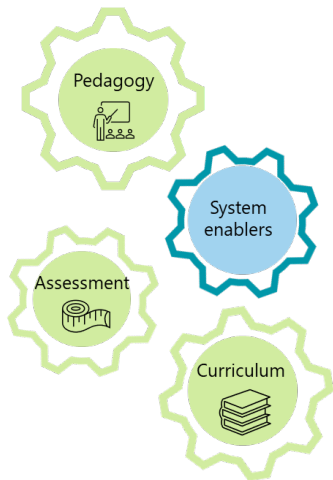
The Catalyst Journey



Visual representation of the Catalyst Theory of Change

INPUT: CATALYST

Evidence base &
Science of Learning



IMPLEMENTATION

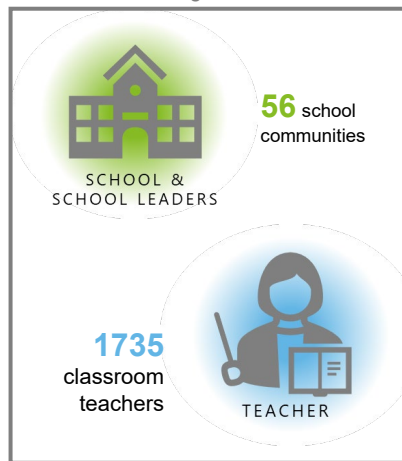
Coaching, change management, case management, school improvement journey support

A targeted and multidirectional implementation strategy

Evidence used to refine and target inputs and implementation

THE CHANGE JOURNEY

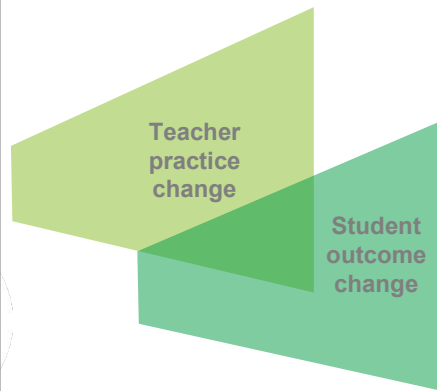
Embedded in the CECG social architecture, individual context and responsibilities of each change agent.



Awareness . Desire .
Knowledge . Ability .
Reinforcement

DRIVERS OF SUSTAINED OUTCOMES

A whole-school approach including proactive school leadership and peer coaching of HTP



OUTCOMES

Bold Goal 2:
High impact teaching practice visible in every classroom

Bold Goal 1:
Every student is a competent reader

System Outcomes:
Improved student outcomes

Improved student wellbeing

Improved professional satisfaction for teachers

Improved student attraction & retention

Improved staff attraction & retention

Change Management Approach

Awareness

Desire

Knowledge

Ability

Reinforcement

School leader

aware of the effectiveness of HITP and Catalyst

want to create the conditions for Catalyst to thrive

understand how to make time for PD, coaching, planning and analysing data

have the skills and resources to implement Catalyst and make amendments based on data

imbue HITP and Catalyst principles in all staff and structures in their schools

Teacher

aware of the need for HITP to improve student outcomes

believe in the benefits of Catalyst and want to change their practice

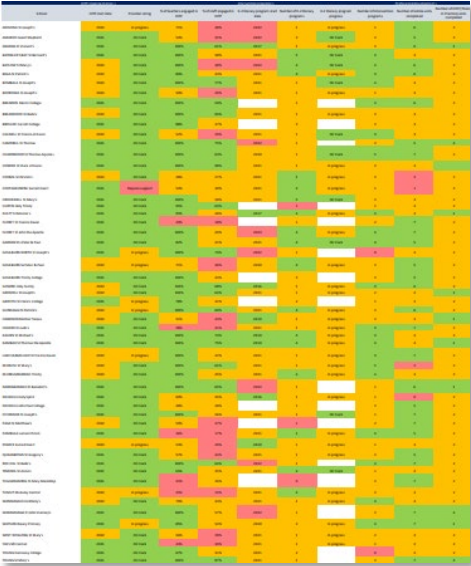
understand the Catalyst approach to reading (as a component of the approach to T&L)

equipped as explicit, high impact teachers who implement an evidence-based approach in every lesson

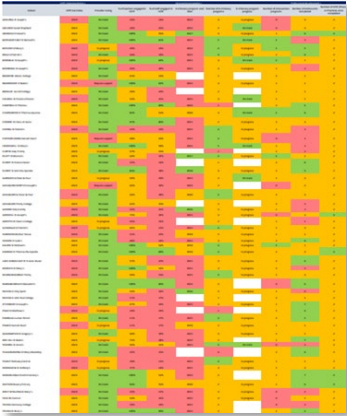
build fidelity of practice over time by increasing precision, more often in more lessons

Schools across the system are increasingly progressing in their Catalyst journey

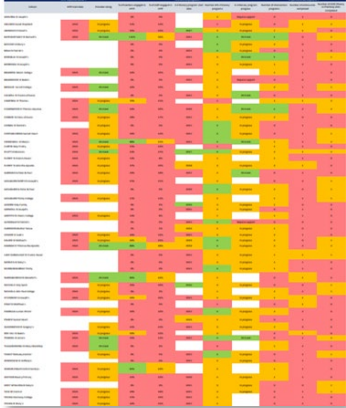
Oct 2023



Sep 2022

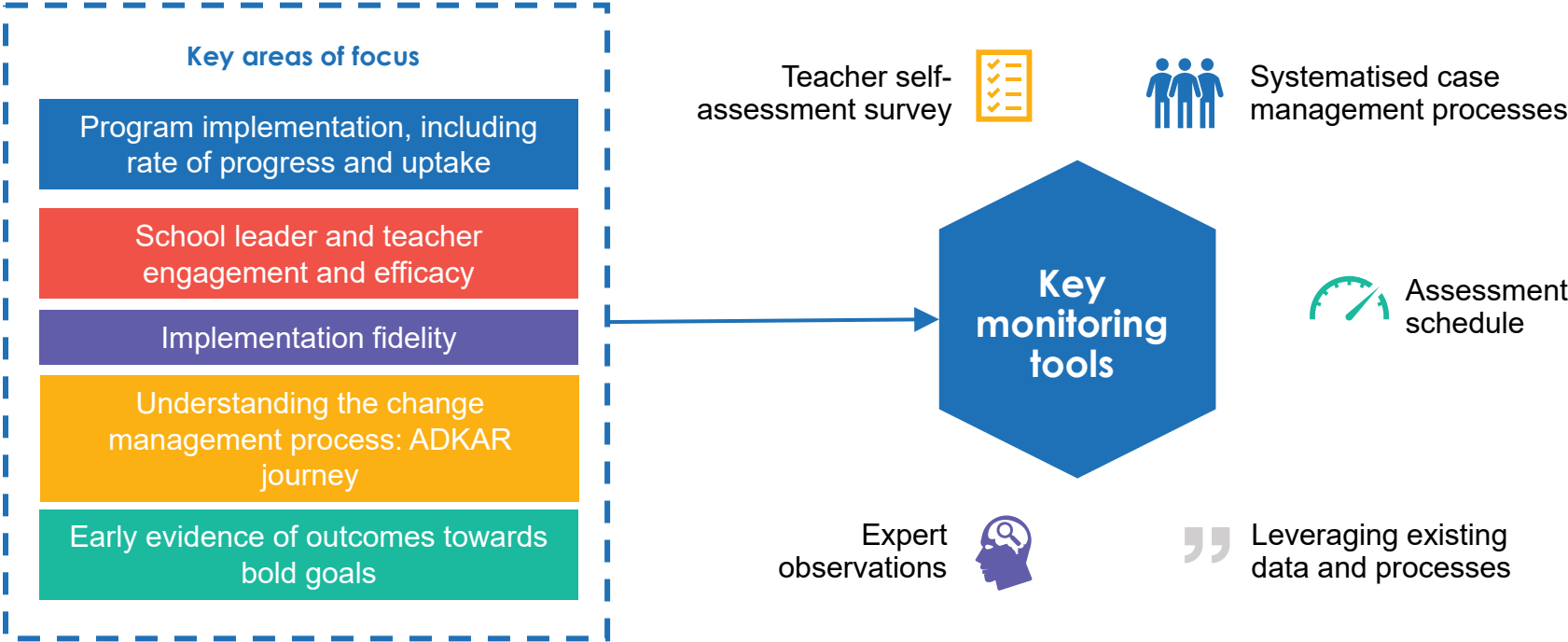


Nov 2021

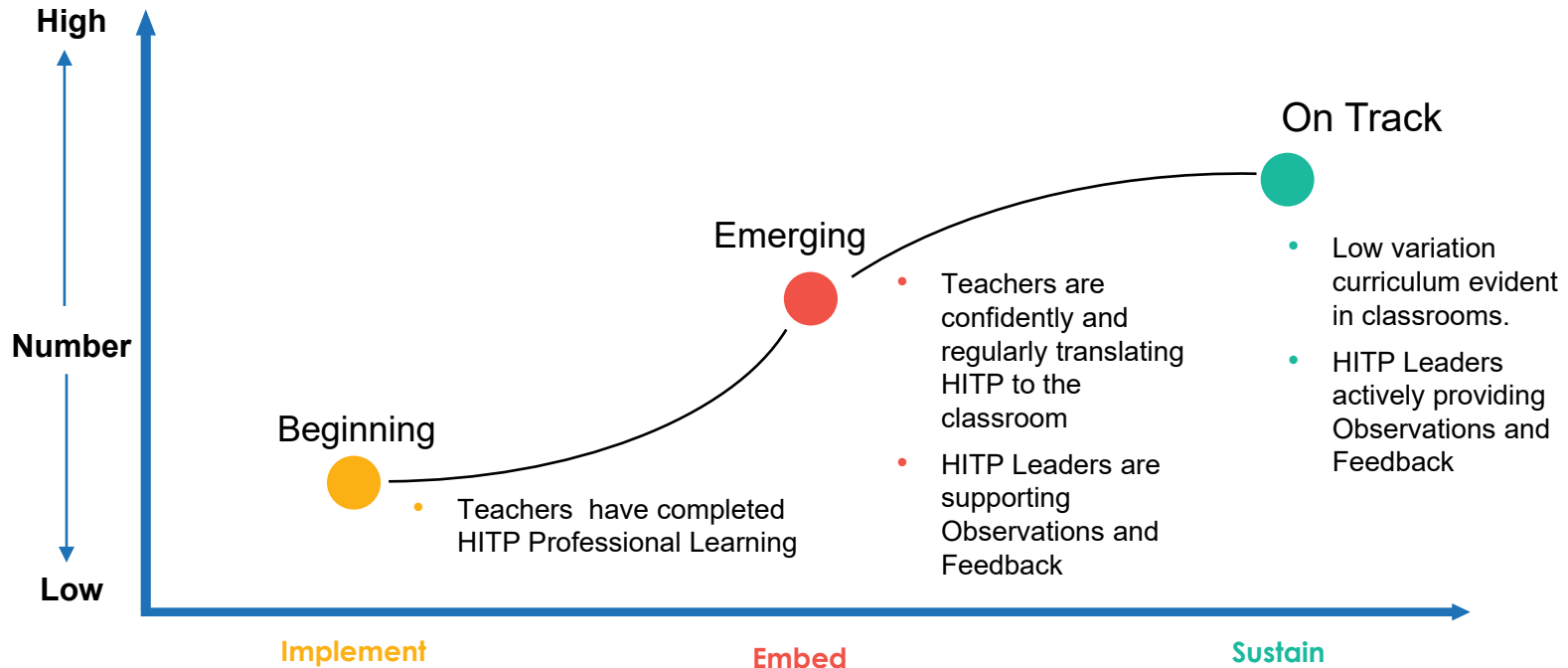


Overall system improvement and individual school progress – implementation heat maps (DAE Phase 3 Report)

Monitoring efforts are targeted towards addressing gaps and gathering insights



While all schools have commenced the Catalyst journey, schools are at different points



Catalyst

Report Card

PEDAGOGY



Over 1,200 teachers
trained in High Impact Teaching Practice



400+ teachers
trained in evidence-based, whole class literacy instruction



90%+ schools
using evidence-based literacy intervention across K-12

CURRICULUM



Full scope
and sequences for K-6 English and Mathematics developed



75%+ schools
implementing Spelling Mastery



200+ teachers
trained in The Writing Revolution

ASSESSMENT



Assessment schedule
across all participating schools to inform approach



Evidence-based assessments
e.g. DIBELS, Phonics Screening Check

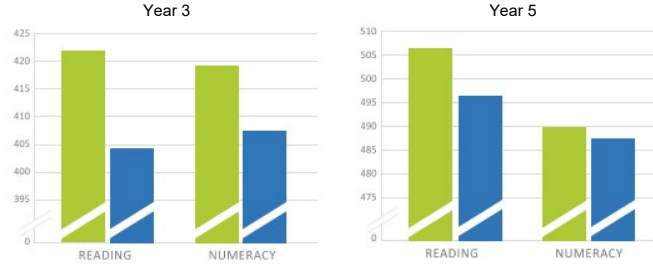
SYSTEM ENABLERS



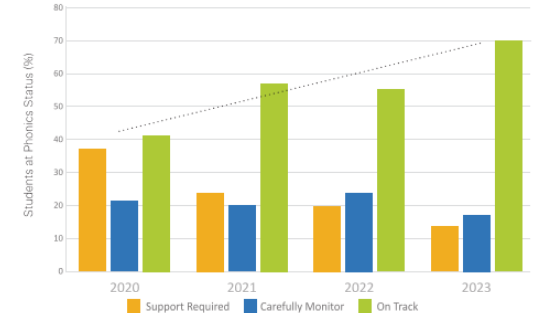
100%
schools engaged in Leadership Sessions and Annual Improvement Planning Meetings

Strong evidence emerging on student achievement

NAPLAN Comparative Performance 2023
(CECG aside National Average)



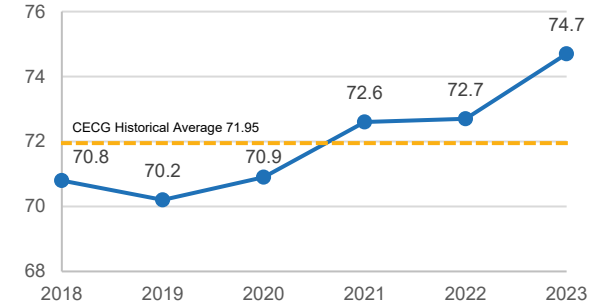
Phonics Screening Check Results
2020 to 2023



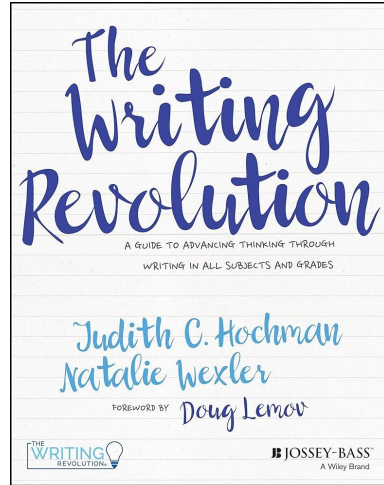
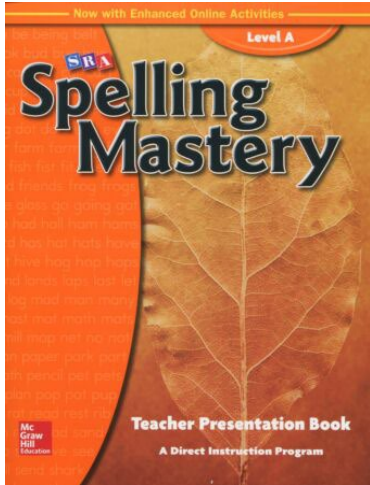
Dynamic Indicators of Basic Early Literacy Skills (DIBELS)



Average ATAR, Aggregate of All 9 ACT and NSW Colleges



Make the switch to effective teaching practices grounded in research



Implementing & embedding HITP– an iterative approach

Providing support to staff instructional coaching sessions with targeted feedback & observation



Watch the video carefully and note below:

| |
|---|
| Identify what's going well (i.e. positive, specific feedback to students and teacher) |
| <ul style="list-style-type: none"> - Setting behaviour expectations (chant) and reinforcing these expectations throughout the lesson. - Use of gestures to reinforce the concept of 'add' and a 'number line'. - Clear, concise, child-friendly definitions (add means put together) - Choral responses. - Lots of positive reinforcement. - Using 'time to shine' when you noticed students were not participating <ul style="list-style-type: none"> - Great pace for a Kindergarten EDI lesson. Students were allowed think time before responding and demonstrating the actions. - Lots of opportunities to pair-share and pick non-volunteers. |
| Describe the student performance problem |
| <ul style="list-style-type: none"> - Some students are not participating during partner talk when saying the learning intention and when sharing with a partner - Active participation - Some students are confused about who their partners are |
| Describe how student performance should look |
| <ul style="list-style-type: none"> - All students are clear about who their partner is when sharing. - All students actively engaged – you targeted students when you noticed they were not participating or showing active engagement. - Students alternate between who is talking first and second. |
| Describe the needed change in the teacher behaviour |
| <ul style="list-style-type: none"> - Set up routines for students when they pair/share using actions and/or visuals. |

Whole-school approach to codifying practice: alignment of agreed evidence-based practices guided by the Catalyst project



| Teacher | Classroom Environment and Practices | Curriculum | Resourcing |
|---|---|---|---|
| We engage in bell-to-bell teaching, limiting wasted time. | Our classrooms are set up to maximise attentional control (desk positioning, fill from the front). | Our English and Mathematics curriculum is based on the CECG Low Variation Curriculum and lessons are designed using the Hollingsworth & Ybarra model. | All new staff will be engaged in an "onboarding" process. |
| We use polite greetings, address each other by name and students transition between spaces according to clear and well-established behaviour norms. | Each class engages in at least four Daily Reviews each week, in both English and Mathematics. | Daily Reviews follow the Recite, Recall, Apply model. Duration of DR depends on grade and timetable allocation. | All staff engage in a review of purposeful practice of teaching strategies and norms at the start of each year. |
| Our teachers have well-established cues or engagement norms to | Daily Reviews and ED lessons are delivered to the whole class (Tier 1) | Each class engages in Shared Reading according to the St | Our teachers engage in regular coaching according to the St Vincent's coaching |
| start each teaching session and redirect learning. | without the use of personal devices. | Vincent's model (Yr 3-6) and InitialLit Storybooks (F-2). | model. |
| Both DR and ED lessons: <ul style="list-style-type: none"> - are based on active participation - have built in checks for understanding, - include corrective feedback and - include differentiation. | Each class engages in Explicit Direct Instruction lessons in English and Maths each week, according to the LVC. | F - 1 engage in a Direct Instruction Phonemic Awareness program four times per week. | Progress Monitoring in DIBELS and Spelling Mastery assessment results are recorded and monitored closely. |
| Teachers follow the TAPPLE acronym as a guide for CFU. | Each class engages in Fluency Reading daily. | Our teachers use St Vincent's programming and planning templates for programming in all subject areas. | Classroom assessment data is administered and recorded according to the St Vincent's assessment schedule. |

Positive Impact of Intervention

| Measure | Period | | |
|-------------------|--------|-----|------|
| | Begin | Mid | End |
| NWF-CLS | 64 | 63 | 119 |
| NWF-WRC | 16 | 20 | 35 |
| WRF | 36 | 47 | 62 |
| ORF-Words Correct | 62 | 64 | 113 |
| ORF-Errors | 25 | 4 | 2 |
| ORF-Accuracy | 71% | 94% | 98% |
| Maze-Correct | 6 | 10 | 24 |
| Maze-Incorrect | 4 | 2 | 1 |
| Maze-Adjusted | 4 | 9 | 23.5 |
| Composite | 322 | 365 | 448 |

DIBELS results for Tom (Yr 3).

Dictation pre and post intervention.

Pip
Pip grabs the chest. Tes yank the ferr
Pip grabs Toss yanks chest.

05/11/23
tell ✓ fizz all bell ✓
call ✓ yell hill ✓ the ✓
The ball is red. The mall is big.
Do not fuss
Do not fuss. ✓
Did it go fizz? ball
Did you toss the ball at me? ✓

Bring the SWAT team

- Tiers 1, 2 & 3 : codifying practices and alignment between the tiers
- Early identification and timely intervention
- Adjustment when progress is not met
 - Frequency
 - Intensity
 - Duration

Reading Intervention Procedures

Purpose:

To determine the effectiveness of the Reading Program and make any necessary adjustments or additions to Tier One instruction.

To define the procedures governing Tier 2 and Tier 3 intervention.

Essential Mindsets:

- Promote equitable outcomes
- Focus on what we can control within our school
- Stay engaged
- All voices are heard
- Celebrate success and growth
- Teacher collective efficacy.

School Wide Assessment Team (SWAT):

- SWAT meets regularly across the year.
- SWAT is made up of Principal, Assistant Principal, Assessment Lead, Literacy Lead, Classroom Support Teacher, and any teachers who volunteer to be a part of the team. Ideally, one representative teacher from each Stage would be on the team.
- SWAT discusses specific students' data as well as cohort data and progress to collaboratively make decisions relating to instruction, intervention, and next steps. Recommendations by the SWAT team are then fed back to the teacher for implementation into Tier 1 instruction.
- SWAT uses the [Data Review and Planning Worksheet](#) to prepare for SWAT meeting and record decision making.
- All intervention programs, activities and group sessions are based on Science of Learning Principles and is Explicit Direct Instruction in nature.

Data Driven Decision Making

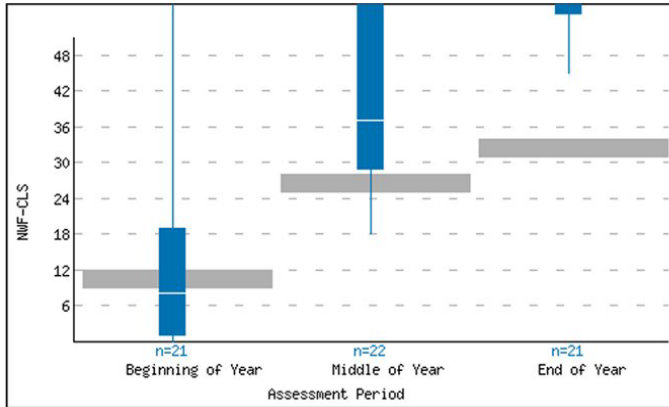
- A recommendation can be made to the SWAT to graduate a student from Tier 3 to Tier 2 intervention, or Tier 2 intervention to Tier 1 whole class instruction. This recommendation can be made by the Class Support Teacher, the classroom teacher or another teacher who has worked closely with the student. Recommendations needs to be accompanied by a Class Support Referral and will be tabled at the next SWAT meeting: <https://drive.google.com/drive/search?q=Referral%20for%20learning%20support>
- A student will be considered for graduation from Tier 2 intervention when they reach an achievement level of the 40th percentile in DIBELS testing. The 40th percentile in DIBELS testing is considered the minimum goal for exiting intervention.
- A decision to graduate the student from tier 2 intervention needs to be supported by progress monitoring assessments such as WARN, WARP and WARL.

Positive impact of Intervention in Early Years

Yearly Box Plot - DIBELS 8th Edition

District: Catholic Education Canberra Goulburn
 Grade: Kindergarten
 Year: 2023-2024
 Measure: Nonsense Word Fluency - Correct Letter Sounds

DIBELS® Data System

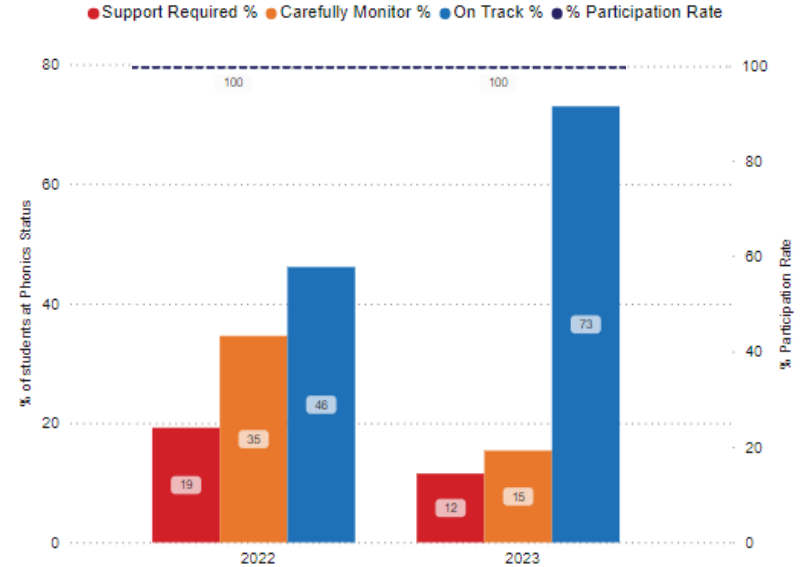


| | Beginning n=21 | Middle n=22 | End n=21 |
|------------------|-------------------|----------------|-------------|
| 95th %tile Score | 91 | 139 | 191 |
| 80th %tile Score | 19 | 59 | 117 |
| 50th %tile Score | 8 | 37 | 87 |
| 20th %tile Score | 1 | 29 | 55 |
| 5th %tile Score | 0 | 18 | 45 |

95th Percentile
 80th Percentile
 50th Percentile
 20th Percentile, May need instructional support
 5th Percentile, May need intensive instructional support


Yearly Box Plot – DIBELS 8th Ed.
 Non-sense Word Fluency assessment - Kindergarten results
 2023-2024

PSC Status Trend Analysis


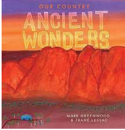
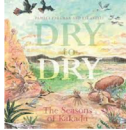

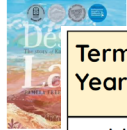


Year 1 Phonics Screening Check

Program/planning documents for reading

| Week | First Read | Second Read | Third Session | Fourth Session: Writing 2 sentence-level OR 1 text-level writing tasks |
|---|---|--|---|--|
| <p>Week 21 & 22 Name of text: Eric - Shaun Tan</p>  <p>Shared Reading ...</p> | <p>Vocabulary Words (3-6 words): bothered b/o/th/er/ed both-ered Adjective (positive) Meaning: annoyed or worried about something. Sentence: The man was bothered when his friends were using their phones instead of talking to him. Word family: bother, bothers, bothered, bothering, bothersome.</p> | <p>Pause Points & Questions:</p> <ol style="list-style-type: none"> Page 3-4 - What do you think the author wants us to know? What does the author mean by the phrase 'it's a cultural thing'? | <p>Vocabulary Revision: bothered Similar to: annoyed, agitated, troubled, distressed. Different from: calm, happy, relaxed, untroubled. Sentence: He was so polite that I'm not sure if he would have told us if something bothered him. Morphology: bother+ed <-ed> past tense Etymology: Anglo-Saxon. Meaning: to bewilder, confuse.</p> | <p>Sentence Level: Sentence Expansion - Because, But, So: Because - tells us why something has happened. Secretly I had been looking forward to having a foreign visitor because I had so many things to show him. But - indicates a change of direction. We found it difficult to pronounce Eric's name correctly, but he didn't mind. So - joins clauses that have similar ideas. We started storing food in the kitchen and things in other cupboards, so we wouldn't disturb him.</p> |
| | <p>Macrostructure Narrative text. Recount from the perspective of the narrator. Phrases:</p> <ul style="list-style-type: none"> It's a cultural thing (habits, traditions and beliefs of a society). Foreign exchange student (A high school or university student who travels to foreign countries to live and study for a period of time). Fountain of interesting facts and opinions (figurative language: fountain = large amount). | <p>Read/Write/Discuss/Revise Cycle: Do you think Eric had a wonderful time with the family? Why/why not? Read-Write-Discuss-Revise Cycl...</p> <p>Full Cycle</p> <ul style="list-style-type: none"> Read 10 -15 minutes Write 5 - 10 minutes Discuss 5 - 10 minutes Revise 5 minutes | | <p>Students expand the sentence using the conjunctions because, but, so.</p> <ol style="list-style-type: none"> The family were excited to have a foreign exchange student because ... The family were excited to have a foreign exchange student, but ... The family were excited to have a foreign exchange student, so ... |

High quality texts that align with the curriculum

| Term 2, 2023. Year 3 and 4 Geography | | | | |
|--|--|---|---|---|
| Week 1 and 2 Under the Southern Cross  | Week 3 and 4 Ancient Wonders  | Week 5 and 6 Dry to Dry  | Week 7 and 8 A is for Australia  | Week 9 and 10 Desert Lake  |
| dunes eerie bizarre luminous dazzling dwindling | ancient majestic sacred distinctive hurtle erode | blazingly estuary monsoon humidity billabong migratory | iridescent deadliest evaporate constellation canopy extinct | basking thrumm thrive wearily fledged vast |

| Term 3, 2023. Year 3 and 4 Health | | | | |
|--|---|--|---|--|
| Week 1 and 2 Eric  | Week 3 and 4 Girl on Wire  | Week 5 and 6 Boy  | Week 7 and 8 Crumbs  | Week 9 and 10 The Lost Thing  |
| bothered intensity determined exasperating bewildered speculation | motionless prowl cautiously billow curious steadily | stunned frantic flabbergasted puzzled mystified chorused | laden teetered pleadingly morsel quivering slumped | tirelessly baffled slouched shrieked dilemma profound |

Explicit vocabulary instruction and application to writing

Sample daily lessons

Vocabulary

determined
de.ter.mined



Adjective (positive)

Meaning: wanting to do something very much and not letting anything or anyone stop you.

Miss Cooper was so **determined** to secure Taylor Swift tickets for her birthday and went to great lengths to ensure she succeeded.

Word Family:
determine
determined
determining
determination

Compound Sentence

When, **who** what it did, *coordinating conjunction*, **who** what it did **where**.

When: In the holidays,

Who: **a foreign exchange student**

What it did,: **came to stay**,

Coordinating conjunction: **and**

Who: **he**

What it did,: **was bewildered by the unfamiliar objects**,

Where: **in our home**.

Prepositions to begin **prepositional phrases**:
at, in, on, by, from, until, since, during, for, within

Genius Words

bothered
intensity
determined
exasperating
bewildered
speculating

Eric
foreign
exchange
student
cultural
pronounce
wonderful
pantry

Creating high quality curriculum resources

Over **20 CECG teachers** involved

36K visits to the CECG Years 3-6 English materials in the last month

330K visits to the CECG K-6 Maths resources in the last 12 months

75k Australian teachers have accessed resources through CECG Catalyst project on the Ochre website

Teachers report **saving up to 6 hours** per week

Over 90% of users agree resources are supporting student progress



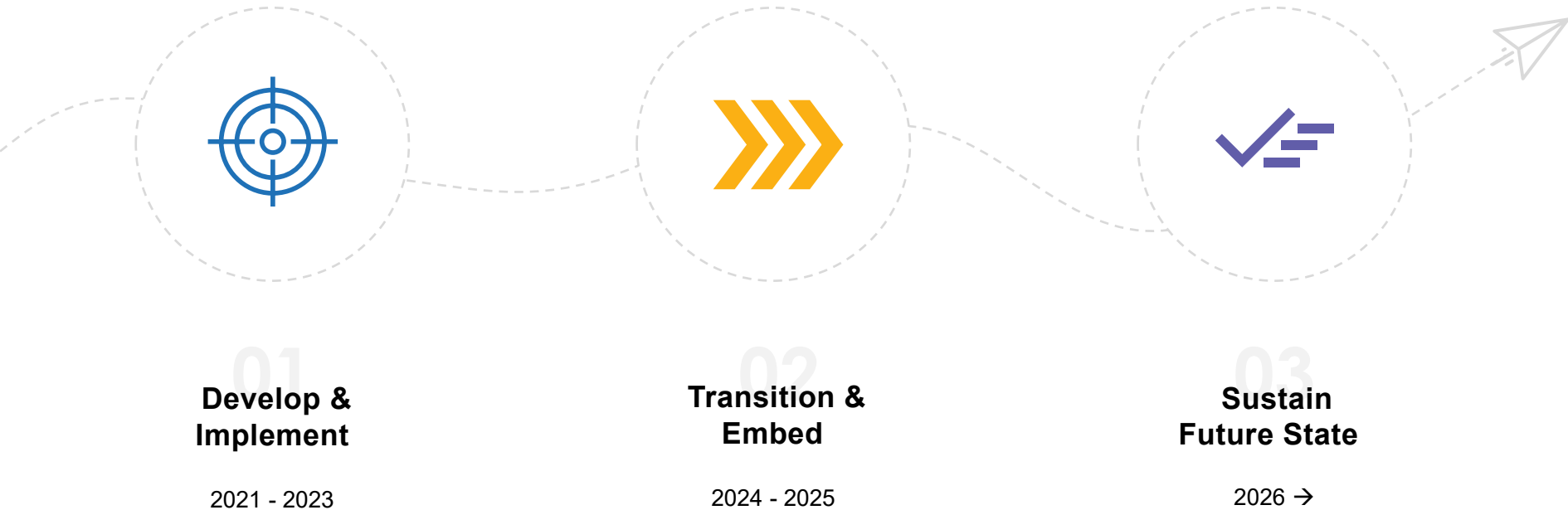
Shaping Minds

The science of learning meets the art of teaching



Access Ochre website for resources and instructional materials

Our long-term approach to Teaching & Learning



Catalyst

2024 - 2025

CORE SYSTEM SUPPORT



Teaching & Learning team



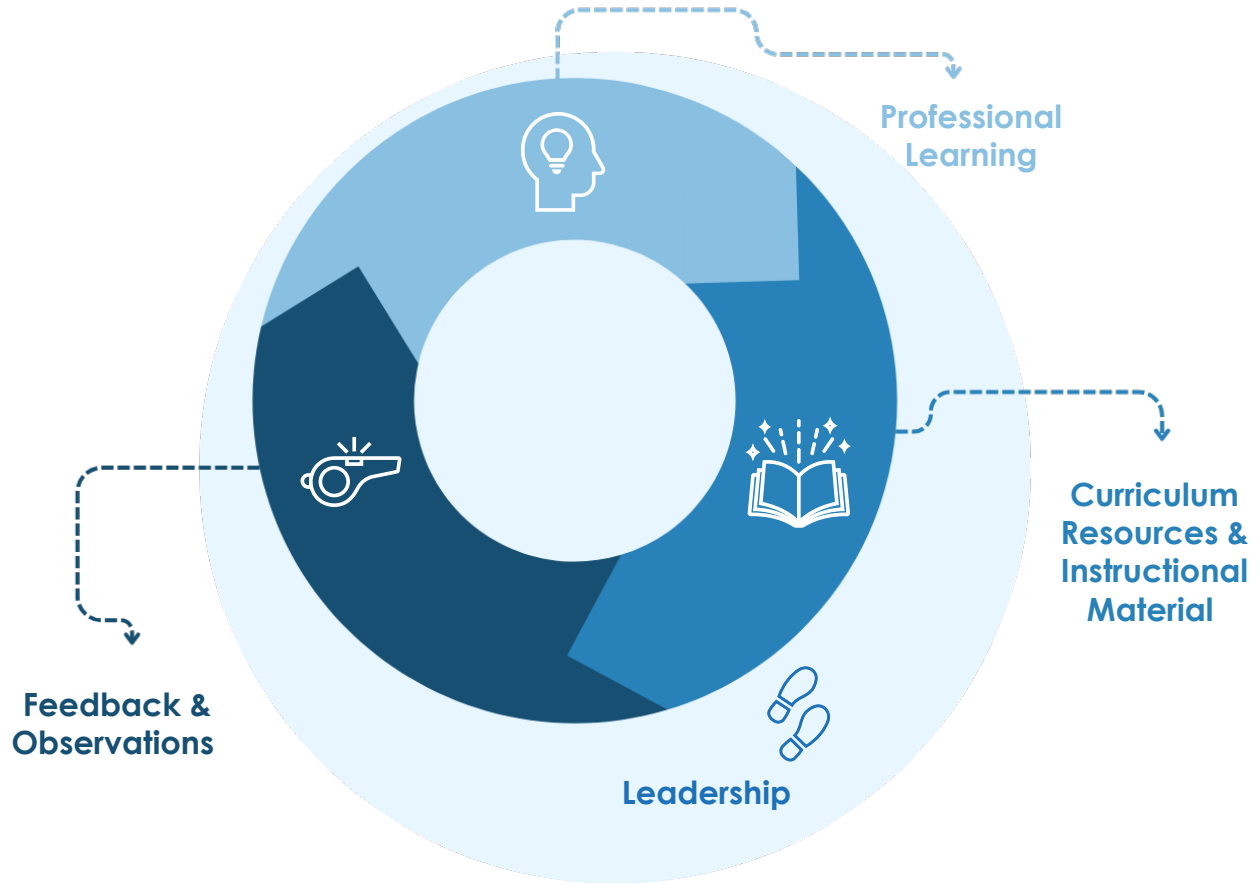
Monitoring Systems



Content & Material



Governance & Funding





Key considerations for change



Clear vision and purpose



Based on evidence



Connect with experts



Lead and align



Enablers to drive change



Empower Principals



Early adopters are critical



Impactful Professional Learning





Embed effective monitoring processes



Collaborate, share and network



Celebrate success



What we're hearing from teachers

The use of daily reviews and active participation have led to significant increases in the content retention of my students.

Students seem to be responding better since I introduced regular reviews.

I have been blown away by the increase in student ability.

We are extremely grateful for the Maths resources that CE are providing and it is an enormous reduction in excessive workload

A greater level of attention and participation has led to more effective retrieval of concepts and skills needed. I've also noticed increased student confidence in skills.



What we're hearing from leaders

HITP has enthused teachers and given them strategies to use to address engagement and learning in the classroom.

It supports us as we mentor early career teachers.

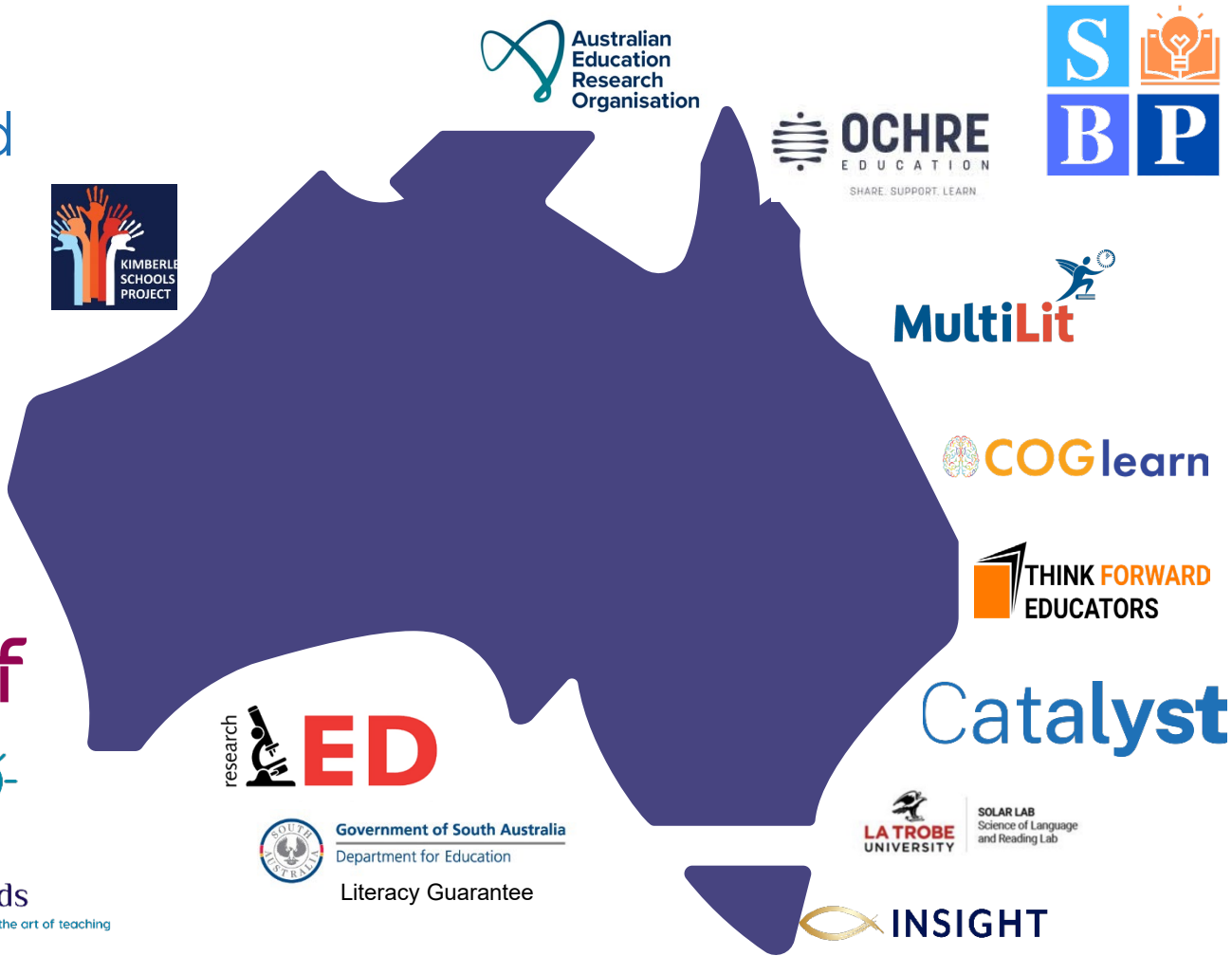
Consistency between teachers helps students to know what and how to do learning better.

HITP has provided an evidenced based pedagogy and common language that can be used across faculty and subject areas in the classroom.

It has been successful across all year levels and types of learners. The data has shown that it has been particularly effective with students who are struggling.



Momentum for evidence-based practice is building across the country





Supported by National and International Science of Learning Expertise



E.D. Hirsch Jr



Tom Sherrington



Dr Lorraine Hammond



Prof Pamela Snow



Ollie Lovell



Dr Jennifer Buckingham



Dr Jenny Donovan



Natalie Wexler



Dr Tim McDonald



Dr Ben Jensen



Ingrid Sealey



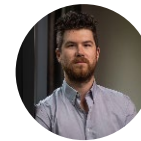
Toni Hatten-Roberts



Michael Roberts



Reid Smith



Dr Nathaniel Swain



Elena Douglas



Simmone Pogorzelski



Prof Tanya Serry

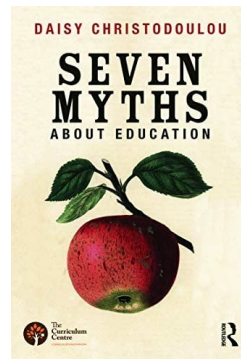
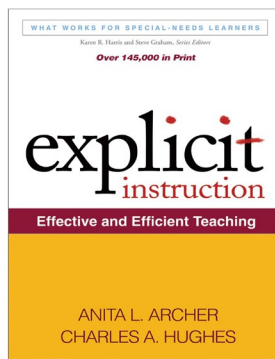
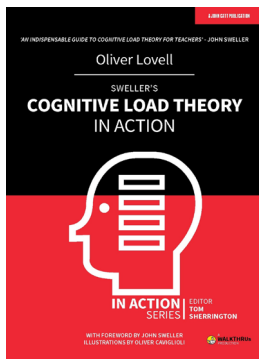
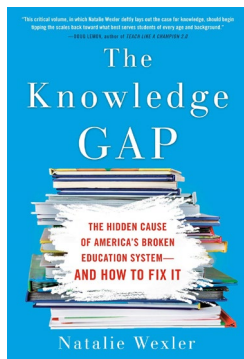
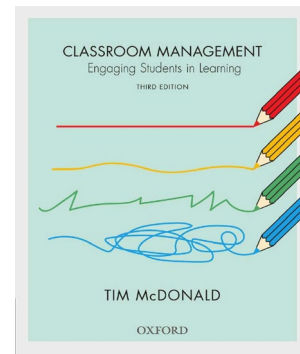
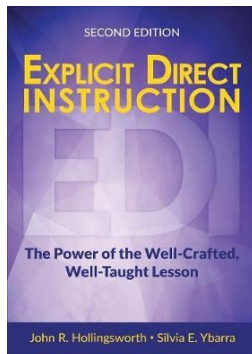
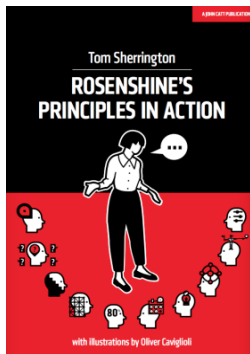
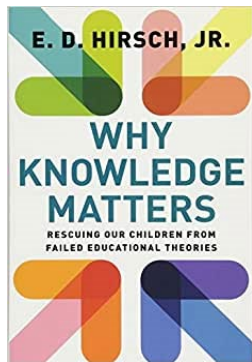


Brooke Wardana



Jordan O'Sullivan

Books that have guided our journey



Podcasts



Ollie Lovell

Filling the Pail
Greg Ashman

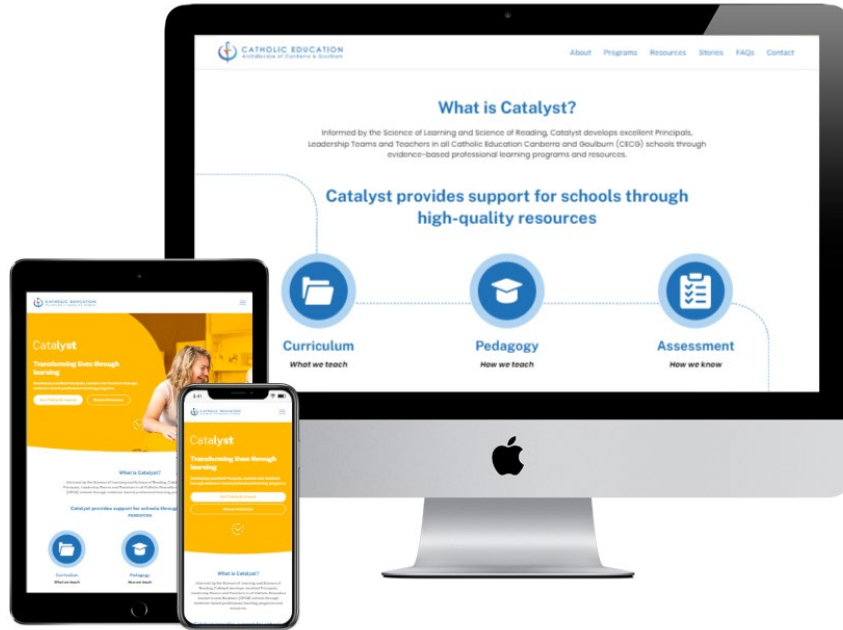
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