Promoting the science of learning

Kate Griffiths, Policy Director

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Who is AERO?

The Australian Education Research Organisation (AERO) is Australia's new independent education evidence body, established and funded by Commonwealth, state and territory governments.
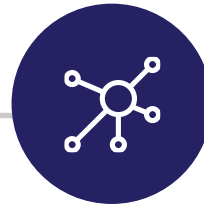
AERO's vision

AERO's vision is for excellence and equity in educational outcomes for all children and young people through effective use of evidence
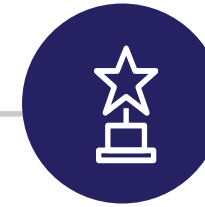
In support of this vision, we:

generate high-quality evidence

present high-quality evidence that is **relevant** and **accessible**

encourage **adoption** and effective **implementation** of evidence in practice and policy.

Our annual research agenda

Our research agenda outlines **seven** priority areas:

1. Literacy and numeracy

2. Wellbeing of children and young people

3. Continuity of learning and development across ECEC and schools

4. Improving outcomes for Aboriginal and Torres Strait Islander children and young people

5. Addressing educational disadvantage

6. Supporting continuous school improvement

7. Examining evidence use in ECEC and schools

Research Agenda 2023
Australian Education Research Organisation

The Australian Education Research Organisation (AERO) produces a Research Agenda that identifies its high-level annual priority areas. These priorities are underpinned by AERO's vision of achieving excellence and equity in educational outcomes for all children and young people through effective use of evidence.

AERO has 7 priority areas for 2023. These priority areas are continuing from 2021 to 2022, and may continue into future years. AERO has identified these priorities by considering demand (the areas the education community nominate as the most pressing challenges) and impact (the areas the evidence base suggests would most improve excellence and equity in educational outcomes).

Within each priority area, AERO will generate, synthesise and curate rigorous research, so as to present high-quality evidence that is relevant and accessible to education practitioners and policymakers.

1. Literacy and numeracy
2. Wellbeing of children and young people
3. Continuity of learning and development across ECEC and schools
4. Improving outcomes for Aboriginal and Torres Strait Islander children and young people
5. Addressing educational disadvantage
6. Supporting continuous school improvement
7. Examining evidence use in ECEC and schools

The challenge

- Australian students' performance on international assessments is declining, in national assessments performance is stagnating, and there are growing equity gaps.

- Teachers need further support to teach for maximum impact so that all students, in all classrooms, in all schools, benefit from the highest quality teaching.

- Despite strong evidence on which teaching practices have been proven to make a difference, implications for teaching are not well understood or implemented in schools.

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We are making the case for the science of learning

Research evidence demonstrates there are some practices that benefit all students:

- sequencing learning so students can access their prior knowledge to reduce cognitive load

- explicitly paced instruction with modelling and examples to help ease the burden on working memory

- classrooms that focus on routines for learning so students can develop positive dispositions for learning.

The opportunity

- For practitioners:
  - Build awareness and understanding of how students learn and implications for teaching practices

- For policymakers:
  - Build on interest in how students learn to embed evidence-based teaching practice in strategies and policies

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Our 'Tried and Tested' guides outline what we know works

- **Formative assessment** - know where your students are in their learning

- **Explicit instruction** - know how to teach your students

- **Mastery learning** - know how to make sure your students learn

- **Focused classrooms** - managing the classroom to maximise learning

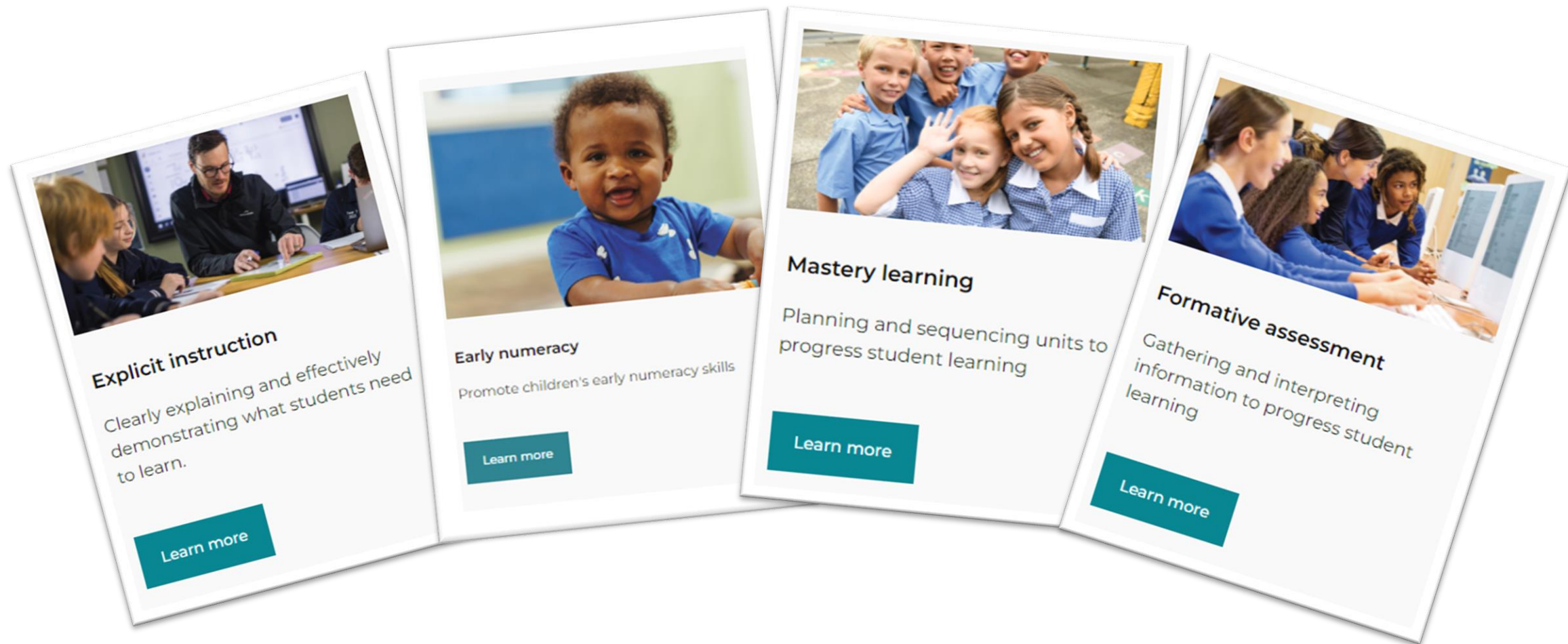- **Spacing and retrieval practice** - how to improve students' long-term retention of learning

Visit: edresearch.edu.au/resources

Our practice hub brings together evidence-based, practical resources in one central location

Explicit instruction

Clearly explaining and effectively demonstrating what students need to learn.

Learn more

Early numeracy

Promote children's early numeracy skills

Learn more

Mastery learning

Planning and sequencing units to progress student learning

Learn more

Formative assessment

Gathering and interpreting information to progress student learning

Learn more

edresearch.edu.au/practice-hub

What next?

AERO will produce comprehensive guidance on how students learn, evidence-based practices that align with this guidance, and supporting resources.

An evidence-based 'model of teaching and learning' will help teachers, leaders and systems understand:

- practical implications for teaching

- how evidence-based practices 'fit' together

- application for maximum impact on student outcomes.

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Example of guidance

How do students learn?	
	Teachers
How do students acquire new information?	Structure and sequence learning in small parts to prevent overloading working memory and maximise retention
How do students retain what they learn?	Repeat, space out and vary opportunities to practice to ensure retention of new information
How do students draw on what they know?	Routinely check for prior knowledge and understanding to help students connect new information with the most relevant prior knowledge and prevent misconceptions
How do students solve problems?	Emphasise building on and consolidating existing knowledge to support students to solve problems rather than teaching generalised problem-solving skills

Our approach

Research translation and guidance

Engagement

Implementation

Monitoring and evaluation approach

Communications strategy

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We're always looking for people to test resources and provide feedback! Get in touch: **info@edresearch.edu.au**