

The Early Years Advantage: Building Strong Foundations in Literacy and Numeracy Through Evidence-Informed Teaching



The early years of education are more than an introduction to schooling — they help shape the foundations for future learning, wellbeing, and engagement.

During the early years of schooling, learners are developing the cognitive foundations that support literacy, numeracy, communication, reasoning, memory, attention, and problem-solving. At this stage, the brain is rapidly building and strengthening the neural pathways that underpin how learners think, understand, and engage with the world around them.

Research across neuroscience, literacy, and mathematics education continues to reinforce the same message: high-quality teaching in the early years has a lasting impact.

For school leaders and educators across Aotearoa New Zealand, this presents both an opportunity and a responsibility. The learning experiences children receive during these formative years can influence not only academic outcomes, but also learner confidence, engagement, communication, and long-term relationships with learning.

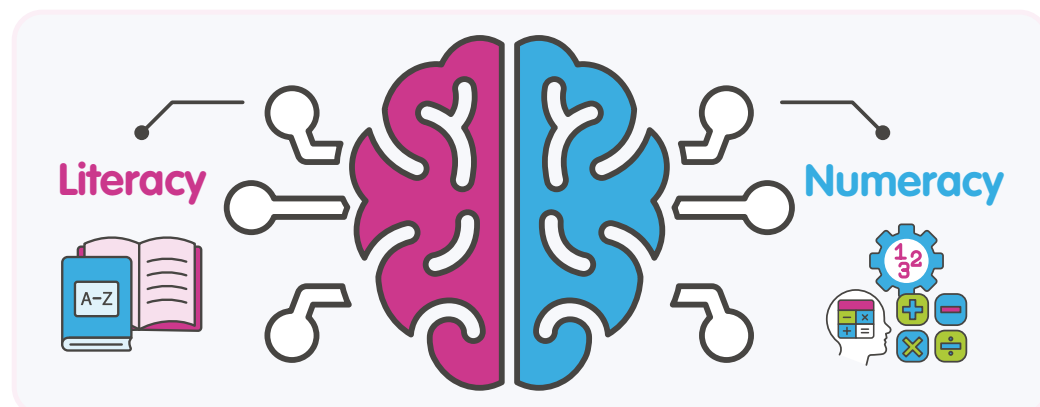
At the same time, schools continue to navigate growing challenges:

- widening learning gaps
- increasing complexity in learner needs
- literacy and numeracy achievement concerns
- teacher workload pressures
- increasing demand for evidence-informed practice

The [Curriculum Insights and Progress Study](#) reflects this, with only a quarter of Year 3 students meeting the refreshed curriculum's expectations in mathematics. The encouraging news is that we now know more than ever about how children learn best — and how schools can create stronger foundations through intentional, evidence-informed teaching across literacy and numeracy.

This guide explores:

- why the early years matter so much
- how literacy and numeracy development are interconnected
- why strong classroom teaching matters
- how oral language and communication support learning
- what school leaders can do to strengthen outcomes in the early years



Chapter 1

How the Early Years Shape Future Learning

The human brain's capacity for growth during the early years is extraordinary.

In the first years of life and schooling, children form neural connections at a rate that will never again be matched. These connections help shape the foundations for language, memory, executive functioning, reasoning, communication, and learning.

As learners grow older, many of these neural pathways become more established and less flexible. This means the early years provide a particularly important opportunity to strengthen foundational learning before gaps become increasingly difficult to address.

For educators, this shifts how we think about early learning.

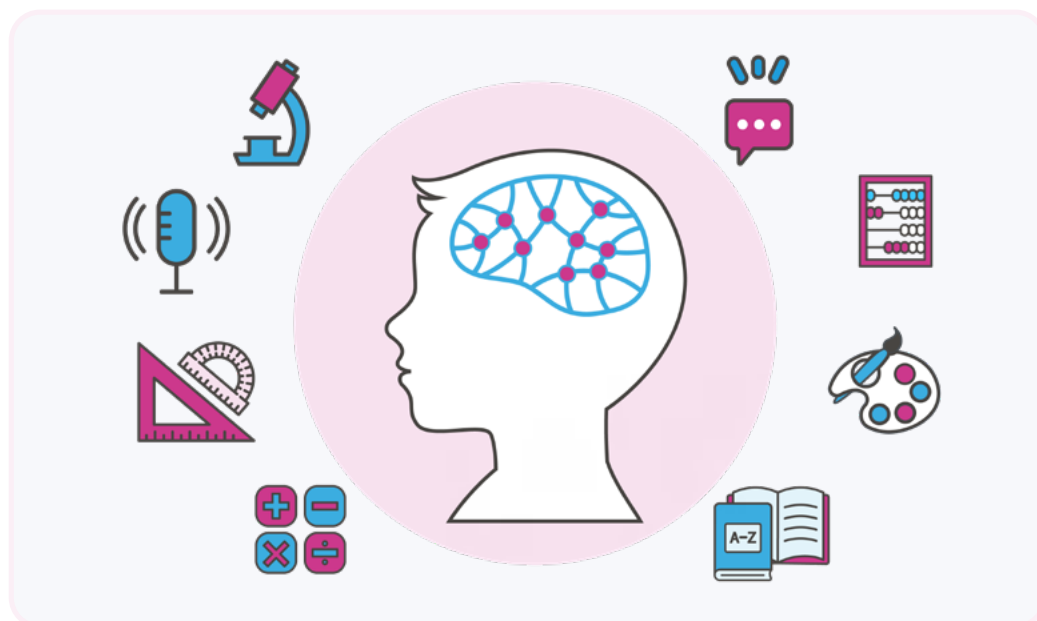
The early years are not simply preparation for “real learning” later on. They are where the foundations for future success are built.

Why evidence-informed teaching matters

Research consistently shows that learners benefit most when teaching is:

- clear and purposeful
- carefully sequenced
- scaffolded over time
- responsive to learner understanding
- supported through meaningful practice and feedback

The neural pathways developed during the early years become the foundation upon which future learning is built.



These approaches align closely with what cognitive science tells us about how learning develops.

These approaches also align closely with the intent of New Zealand's refreshed English and Mathematics and Statistics curricula, which place renewed emphasis on building strong foundational literacy and numeracy knowledge through explicit, evidence-informed teaching.

When teaching reduces unnecessary cognitive load and introduces concepts systematically, learners are better able to:

- retain information
- build connections between ideas
- apply knowledge flexibly
- develop confidence as learners

This is particularly important in literacy and numeracy, where foundational skills build progressively over time.

Strong early teaching does not simply improve short-term achievement — it strengthens the cognitive systems that support ongoing learning across the curriculum.

The importance of strong classroom teaching

Across Aotearoa New Zealand, schools are increasingly recognising the importance of strong classroom teaching and consistent instructional practice as the foundation for sustainable improvement.

While additional support remains important for learners who need it, the strongest long-term outcomes occur when classroom teaching itself is highly effective.

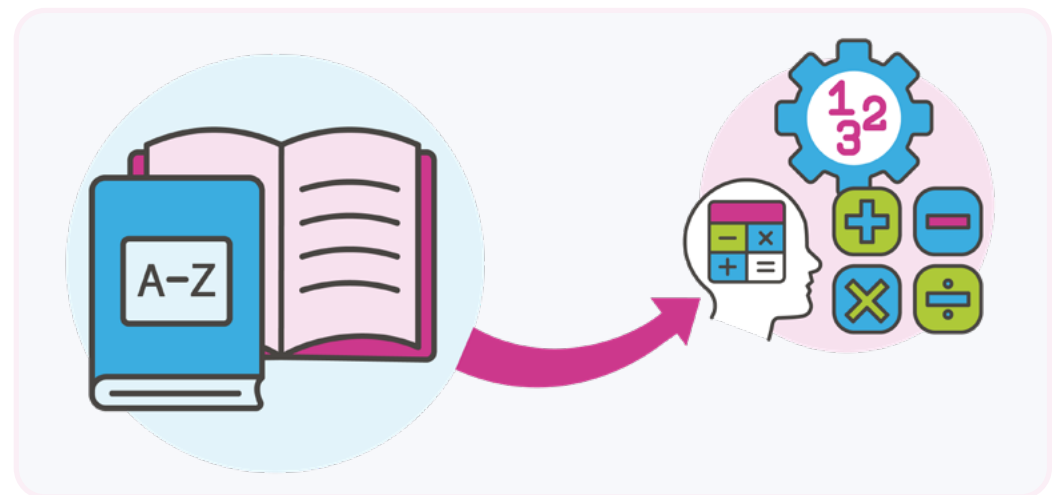
When schools prioritise:

- instructional consistency
- evidence-informed teaching approaches
- strong curriculum sequencing
- rich oral language opportunities
- formative assessment and responsive teaching

they are better positioned to:

- strengthen learner outcomes early
- support a wider range of learning needs
- reduce the need for intensive support later on
- improve sustainability for teachers and support staff

Literacy and numeracy are deeply interconnected



Historically, literacy and numeracy have often been treated as separate priorities competing for time and attention within the curriculum.

Research increasingly suggests otherwise.

Literacy and numeracy draw upon many of the same underlying cognitive systems, including:

- oral language development
- working memory
- executive functioning
- reasoning
- pattern recognition
- communication skills

Strong classroom teaching creates the foundation upon which long-term learner success depends.

Literacy and numeracy are interconnected learning systems that strengthen and support one another.

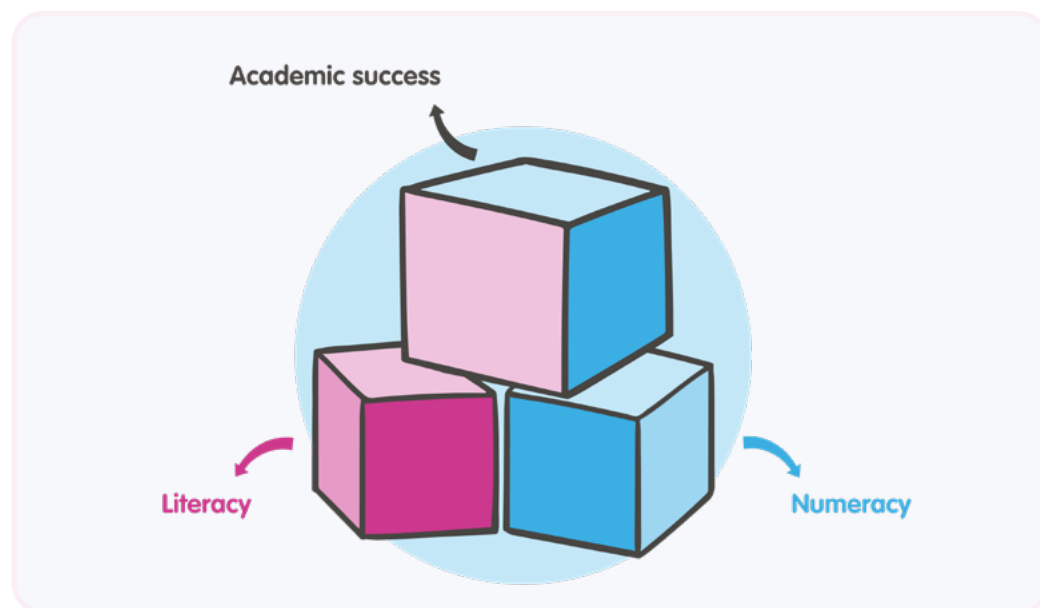
Strong oral language supports reading comprehension, mathematical reasoning, and problem-solving. Vocabulary development strengthens both literacy and numeracy learning. Executive functioning helps learners manage decoding, comprehension, and multi-step mathematical thinking.

This means strengthening one area often supports development in the other.

Rather than viewing literacy and numeracy as isolated domains, schools have an opportunity to create more connected, knowledge-rich learning experiences across the curriculum.

Chapter 2

Why **Early Literacy** Can't Wait



If there is one area where early investment has the potential to transform long-term outcomes, it is literacy.

Learning to read is about far more than decoding words on a page. Literacy shapes how learners access knowledge, communicate ideas, build confidence, and engage with the world around them.

When learners develop strong literacy foundations early, they are better positioned to succeed across every learning area.

When literacy gaps emerge early and remain unaddressed, those challenges often become increasingly difficult to close over time.

The critical early literacy window

The early years of schooling represent a particularly important stage for literacy development.

During this period, learners are:

- developing phonological awareness
- building decoding skills
- strengthening oral language
- expanding vocabulary
- developing communication skills
- beginning to read for meaning and enjoyment

Research consistently shows that structured, evidence-informed literacy teaching during these years is one of the strongest predictors of future reading success.

The early years provide schools with a powerful opportunity to strengthen literacy foundations before learning gaps widen.

This is why, from 2025, all New Zealand state schools teach reading using a [structured literacy approach](#) — a national shift, backed by dedicated funding, towards explicit, systematic and evidence-informed reading instruction.

This includes:

- structured literacy approaches
- explicit phonics instruction
- oral language development
- vocabulary instruction
- fluency development
- comprehension support

Together, these elements help build capable, confident readers.

Oral language is foundational

Strong literacy development begins long before learners independently read complex texts.

Oral language development plays a critical role in:

- comprehension
- vocabulary growth
- reasoning
- communication
- background knowledge development

Learners who experience rich language environments, meaningful discussion, storytelling, questioning, and strong vocabulary instruction are better equipped to understand increasingly complex ideas and texts over time.

This is particularly important because reading comprehension relies not only on decoding ability, but also on language knowledge and background understanding.

Strong oral language teaching benefits all learners and is particularly important for supporting equitable learning outcomes.



Reading engagement matters too

Strong literacy teaching is not only about helping learners develop the skills to read — it is also about helping them develop positive relationships with reading.

Learners need both
the skills to read
and the motivation
to continue reading
independently
over time.

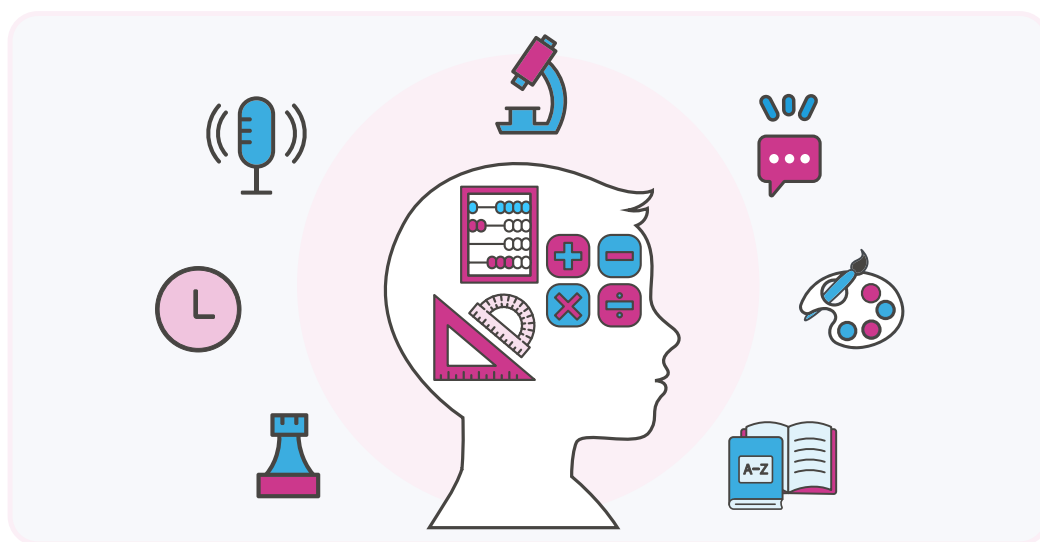
Reading engagement plays an important role in:

- confidence
- motivation
- reading stamina
- comprehension development
- long-term learning success

Learners who experience success, enjoyment, curiosity, and choice in reading are more likely to continue reading independently and develop stronger literacy outcomes over time.

This means schools should aim to balance:

- explicit teaching
- systematic literacy instruction
- rich classroom discussion
- authentic reading experiences
- opportunities for curiosity, enjoyment, and learner voice



What school leaders can do

School leaders play an important role in strengthening literacy outcomes through:

- evidence-informed teaching approaches
- high-quality curriculum implementation
- professional learning
- instructional coaching
- assessment and progress monitoring
- strong school-wide consistency

Successful literacy improvement efforts often include:

- clear instructional expectations
- structured literacy implementation
- regular monitoring of learner progress
- responsive support aligned to classroom teaching
- access to rich and meaningful texts
- strong partnerships with whānau and caregivers

The most effective schools create literacy-rich environments where reading, language, and communication are visible, valued, and consistently supported across the school community.

Chapter 3

From Counting to Critical Thinking: Rethinking Early Numeracy

While literacy often dominates early years conversations, research increasingly shows that early numeracy development may be one of the strongest predictors of future learning success.

The foundations of mathematical thinking begin much earlier than many people realise.

Long before learners encounter multiplication, fractions, or algebra, they are developing:

- number sense
- spatial reasoning
- pattern recognition
- mathematical language
- problem-solving skills
- flexible thinking

These early capabilities form the foundation for later mathematical understanding.

Strong early numeracy development supports the reasoning and problem-solving skills learners need across the curriculum.



Why early numeracy matters

Research consistently highlights strong relationships between early numeracy development and later achievement across learning areas.

This matters because early numeracy is closely linked to broader cognitive capabilities including:

- reasoning
- working memory
- executive functioning
- analytical thinking
- problem-solving
- communication

When learners build strong mathematical foundations early, they are better equipped to engage with increasingly complex learning later on.

New Zealand's response points the same way: the [refreshed Mathematics and Statistics curriculum](#) introduces a more structured, evidence-informed approach to teaching maths across the primary years, based on the science of how children learn.

Beyond rote learning

Effective early numeracy teaching goes beyond memorisation and procedural practice alone.

Learners need opportunities to:

- understand numerical relationships
- explain mathematical thinking
- develop conceptual understanding
- apply learning flexibly
- solve problems collaboratively
- connect mathematics to meaningful contexts

This shift from rote counting towards conceptual understanding is critical.

Learners who develop strong number sense are more likely to:

- solve problems flexibly
- adapt strategies
- recognise mathematical relationships
- apply learning in unfamiliar situations



Building rich mathematical environments

Strong numeracy teaching should be visible throughout the learning environment.

Schools can support this by creating classrooms where:

- mathematical thinking is discussed regularly
- learners explain and justify their reasoning
- problem-solving is encouraged
- mathematical language is modelled
- visual representations support understanding
- numeracy is integrated across learning experiences

The early years represent one of the highest-impact opportunities schools have to strengthen long-term numeracy outcomes.

When strong classroom teaching is already in place, well-designed digital learning tools can extend learning, provide additional practice, and give teachers timely insight into learner progress. Used strategically, they can also:

- reinforce foundational skills
- support targeted practice
- strengthen engagement
- provide responsive learning insights
- support differentiated teaching

What school leaders can do

School leaders can strengthen early numeracy outcomes by:

- prioritising conceptual understanding
- supporting evidence-informed teaching approaches
- investing in teacher professional learning
- strengthening curriculum consistency
- implementing early assessment and monitoring
- embedding numeracy across the wider curriculum

As with literacy, the strongest outcomes occur when schools first strengthen classroom teaching and foundational learning experiences before relying heavily on intensive support later on.



Building Strong Foundations for Lifelong Learning

The evidence is clear: the early years matter enormously.

What learners experience during the first years of schooling helps shape:

- how they learn
- how they communicate
- how they think
- how they solve problems
- how they engage with learning
- how confident they become as learners

Strong literacy and numeracy foundations do not develop by chance.

They are built through:

- evidence-informed teaching
- carefully sequenced learning
- strong classroom practice
- rich language experiences
- meaningful learning opportunities
- responsive support and strong instructional foundations

Most importantly, literacy and numeracy should not be viewed as competing priorities.

Together, they form the interconnected foundation upon which future learning depends.

For school leaders, this presents an important opportunity: to strengthen teaching and learning during the years where it can make the greatest long-term difference.

Schools looking to strengthen early literacy and numeracy increasingly seek solutions that align with evidence-informed teaching while helping teachers deliver engaging, consistent instruction at scale.

At 3P Learning, we partner with schools across Aotearoa New Zealand to support evidence-informed literacy and numeracy teaching through engaging, developmentally appropriate learning experiences.

Our award-winning solutions — including [Reading Eggs](#) and [Mathseeds](#) — help schools build strong learning foundations that support long-term learner success.

