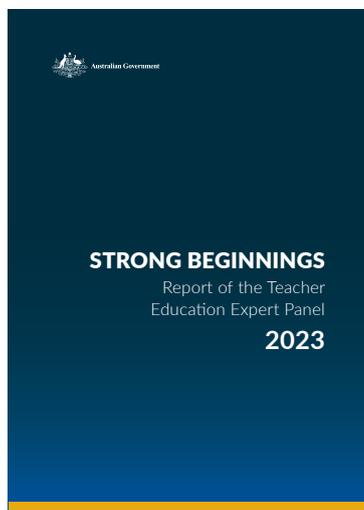


Briefings

Thought leadership for the independent schooling sector

VOLUME 27 | ISSUE 4

THE CHANGING FACE OF READING INSTRUCTION



Strong Beginnings: Report of the Teacher Education Expert Panel. Final report of the Teacher Education Expert Panel, chaired by Professor Mark Scott, AO highlights the imperative for initial teacher education (ITE) programs to equip pre-service teachers with the knowledge and techniques necessary for effective reading instruction.

Foreword

Literacy is undeniably fundamental to a student's academic success and active participation in society (ACARA, n.d.).

Recent statistics from the 2022 NAPLAN results (ACARA, 2022), however, underscore a concerning reality – over 11% of Year 9 boys struggle to achieve functional reading proficiency by the end of their ninth year in school. This pressing issue is further accentuated by a report from the Australian Government's Teacher Education Expert Panel in 2023, which highlights a deficiency in equipping pre-service teachers with effective reading instruction techniques. The need for change is clear, with Version 9 of the Australian Curriculum emphasising an evidence-based approach to reading. Consequently, educators require professional development to effectively implement these changes.

In this research feature, Independent Schools Queensland (ISQ) Education Services Manager Louise Brauer delves into *The Science of Reading* and its implications for Version 9 of the Australian Curriculum: English. *The Science of Reading* encompasses a substantial body of evidence concerning the cognitive processes involved in reading and the developmental aspects of reading skills.

This investigation focuses on practical classroom techniques aligned with these scientific principles, offering valuable insights to assist schools as they transition to the new curriculum.

ISQ is actively collaborating with leading researchers, Queensland Curriculum and Assessment Authority (QCAA), and other organisations to offer substantial support to member schools now and into 2024. ISQ is committed to supporting schools to improve literacy outcomes with the aim that every student has the opportunity to acquire proficient reading skills.



CHRISTOPHER MOUNTFORD

*Chief Executive Officer
Independent Schools Queensland*

THE CHANGING FACE OF READING INSTRUCTION



LOUISE BRAUER
Education Services Manager

According to the Australian Curriculum, Assessment, and Reporting Authority (ACARA), literacy plays a foundational role in a student's capacity to excel academically and participate effectively in society (ACARA, n.d.). The alarming drop in literacy levels, as evidenced by PISA assessments (ACER, 2019), poses a significant nationwide issue.

Addressing these concerns, the Teacher Education Expert Panel's report titled *Strong Beginnings* (Australian Government, 2023) highlights the imperative for initial teacher education (ITE) programs to equip pre-service teachers with the knowledge and techniques necessary for effective reading instruction. It emphasises that this instruction should align with how the brain learns to read, utilising systematic and explicit teaching practices encompassing phonemic awareness, phonics, fluency, vocabulary, comprehension, and oral language (p. 98). All Education Ministers have given in principle support to the recommendations in

the report and have agreed to ensure that core content noted in the report is embedded in all ITE programs before the end of 2025 (Victorian Institute of Teaching, 2023).

Similarly, in response to the strengthened research base, version 9 of the Australian Curriculum has reinforced an evidence-based approach to reading. This approach places a stronger emphasis on phonic knowledge and phonemic awareness, removing references to 'predictable texts' and the 'three-cueing system' (ACARA, 2023). The three-cueing system is most likely familiar to schools as running records using miscue analysis (Five from Five, n.d.a). Consequently, many schools employing programs rooted in the three-cueing system and predictable texts may require teacher training and resource upgrades to align with the updated curriculum.

The Science of Reading

The evidence-based approach to reading begins with the premise that oral language is a natural and necessary skill that was used by the earliest humans (Buckingham, 2021, p.22). At some point, the need to record

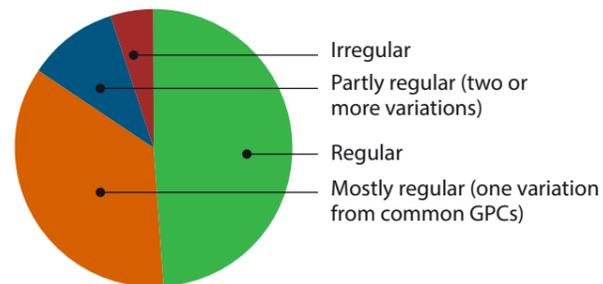
oral language arose and writing is the process of coding oral language. According to Daniel Willingham, "[b]eing able to read means being able to decode writing to recover speech." (2017, p. 27).

In contrast to some other languages, the English language exhibits complexity in its letter-sound representations (Buckingham, 2023, p.3). Each sound (phoneme) in English is denoted by a specific letter or combination of letters (graphemes). The complexity is evident in the fact that certain phonemes are represented in multiple ways, and some graphemes serve for different sounds (Willingham, 2017, p.40). However, as depicted in Figure 1, the English language demonstrates a degree of regularity. To read effectively, one must master the grapheme phoneme combinations (GPCs).

The science of reading relates to understanding how the brain reads and there are two neurological pathways to reading: The Phonological Pathway and the Lexical Pathway (Buckingham, 2021, p. 24-25).

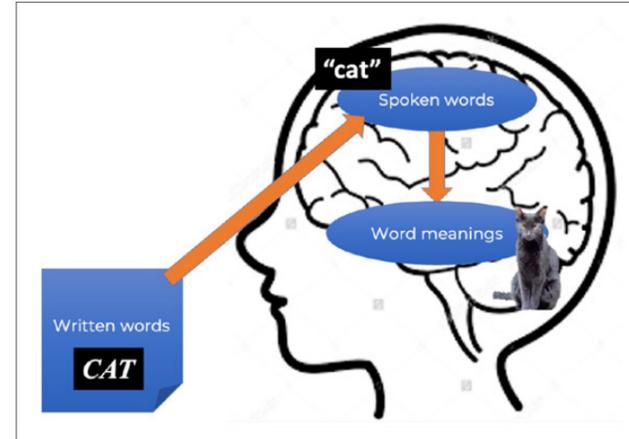
As shown in Figure 2, the primary pathway to reading is the phonological route, which involves the use of

FIGURE 1. GRAPHEME/PHONEME REGULARITY OF ENGLISH WORDS



(Buckingham, 2021, p. 20)

FIGURE 2. THE PHONOLOGICAL PATHWAY TO READING

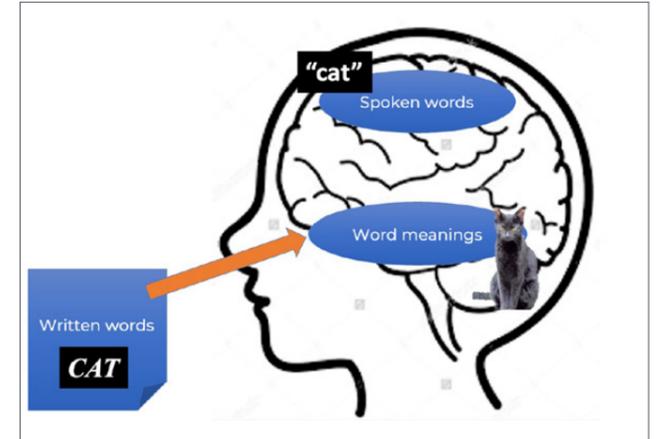


(Buckingham, 2021, p. 24)

phonological awareness, phonemic awareness and phonics to decode words by analysing individual sounds to form complete words (Buckingham, 2021, p. 24; AERO, 2023). Subsequently, as the word is decoded and recognised, its meaning becomes apparent, if it is a word the reader is already familiar with (Buckingham, 2021, p. 24). At this point, it is essential to highlight the significance of teaching vocabulary, as reading words one has never encountered before can pose significant challenges (AERO, 2023). Once students have mastered the code and can proficiently utilise the phonological pathway, they are better equipped to apply their reading skills to new contexts and acquire unfamiliar words.

Readers transition to using what is known as the lexical pathway, a concept depicted in Figure 3. This pathway allows readers to instantly grasp the meaning of words they have learned to recognise, bypassing the need to process individual sounds (AERO, 2023). Once words are known to automaticity, a reader can instantly grasp their meaning without the need to attend to individual sounds within the word. Becoming an expert reader is a gradual process.

FIGURE 3. THE LEXICAL PATHWAY TO READING



(Buckingham, 2021, p. 25)

Initially, with practice, beginning readers start using the lexical pathway for words encountered regularly, often beginning with familiar words such as their own name. Over time, the number of words stored in long-term memory increases, enabling them to predominantly rely on the lexical pathway for reading (AERO, 2023).

It is noteworthy that even expert adult readers occasionally resort to the phonological pathway (AERO, 2023). To illustrate, one could consider pronouncing these words aloud: Epitome, Hyperbole, Percutaneous, Ululation, Casuistry. In doing so, one may find themselves engaging their phonological pathway. If their vocabulary does not encompass a very wide range of terms, it is likely that they needed to 'sound out' these words. Furthermore, students from beginning readers through to Year 12 frequently employ this strategy when confronted with new vocabulary in subjects like English, Science, Humanities and Social Sciences, and other content areas. This highlights the crucial importance of educators understanding phonemic awareness and phonics, including morphology and etymology, in order to effectively teach students how to read the content they encounter.

All teachers, from Prep through to Year 12, should be aware of new vocabulary introduced in lessons. Research (Moats, 2020) shows that explicitly teaching age-appropriate phonics, morphology and etymology is needed to support some students to read new words. Additionally, providing students with a simple meaning of these words assists students in developing understanding. It is crucial to provide students with opportunities to rehearse reading, pronunciation and meaning of new vocabulary until they can process new words fluently through the lexical pathway (Moats, 2020). Use of the lexical pathway conserves working memory capacity and enables students to engage in other cognitive processes, such as text analysis (Willingham, 2017).

THE CHANGING FACE OF READING INSTRUCTION

The Simple View of Reading

The phonological and lexical pathways are one component of Hoover and Gough's (1986) Simple View of Reading (Figure 4). These pathways support the decoding component, however, for students to achieve reading comprehension, students must also possess a strong foundation in language comprehension.

From the words presented earlier: Epitome, Hyperbole, Percutaneous, Ululation, Casuistry, it is likely that, with a little effort, one could sound out 'ululation'. However, that does not necessarily imply reading comprehension of the sentence, 'The ululation broke the silence of the forest.' Without language comprehension, there is no reading comprehension.

The Five from Five project explains, "[t]he Simple View of Reading proposes that reading can be predicted by two key factors – the ability to decode or identify words and the ability to understand what the words are saying." (n.d.b). During the early years of schooling, a substantial portion of instructional time is dedicated to teaching word recognition skills, while language comprehension is primarily cultivated through oral activities. However, as students become proficient in word recognition, the instructional emphasis gradually shifts towards enhancing their language comprehension skills (Five from Five, n.d.b.).

Scarborough's Reading Rope

Scarborough's (2001) reading rope (Figure 5) further expands on the simple view of reading.

The model uses the factors identified in the Simple View of Reading and highlights the sets of skills required for each, as well as their intertwining as students' reading proficiency develops (Five from five, n.d.b). The skills identified as a part of language comprehension assist teachers in understanding how to develop reading comprehension beyond phonics.

Vocabulary and Background Knowledge

Scarborough's Reading Rope identifies vocabulary and background knowledge as critical factors in determining a student's reading comprehension ability, and more recent research (Willingham, 2017, p.117) has identified similar findings. When students are unfamiliar with the words they encounter, or lack knowledge about the content they are reading, their comprehension tends to suffer. Imagine reading a passage on subjects like circadian rhythm biology or aerospace engineering, where both the vocabulary and context are entirely unfamiliar. In such situations, genuine comprehension becomes a formidable challenge, a challenge that many students face in the classroom (Willingham, 2007, p.45).

There are various effective methods to teach vocabulary, and an initial approach may involve explicitly teaching both the phonics and the meaning of the word. Subsequently, fluency can be cultivated by having the teacher say the word, followed by all students reading it, repeating this pattern several times (Ehri, 2014). This same technique can also be applied to the definition, employing diverse rehearsal strategies over time. The systematic process of building vocabulary and fluency runs across multiple lessons, reinforced through weekly and monthly practices. Such reinforcement ensures that students can proficiently employ their lexical pathway to read the word and fully grasp its meaning. Additionally, teachers can employ other techniques, such as integrating words into sentences and encouraging discussions, to further enhance vocabulary acquisition (Willingham, 2017, p.97; Lemov, 2021, p. 301).

Developing background knowledge is a crucial component of developing reading comprehension across all grade levels (Buckingham, 2023, p 8; Willingham, 2007, p.45). It involves exposing students to quality texts slightly above their current reading abilities and using a mix of reading and oral comprehension strategies to enhance students' understanding and knowledge. This foundational background knowledge plays a pivotal role in supporting learning, particularly when educators prepare students for upcoming topics (Wexler, 2023).

FIGURE 4. HOOVER AND GOUGH'S (1986) SIMPLE VIEW OF READING

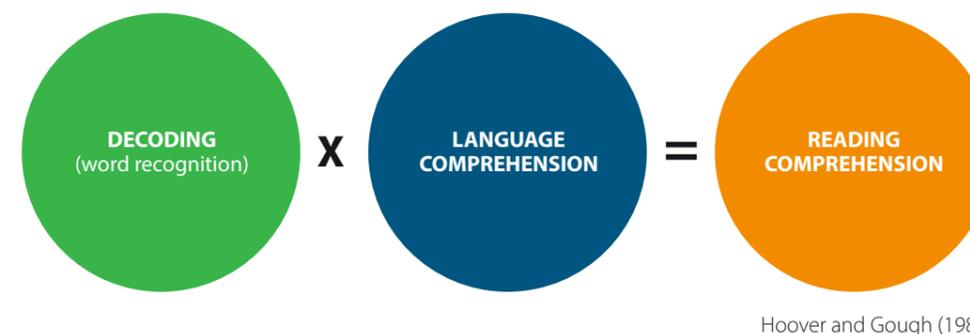
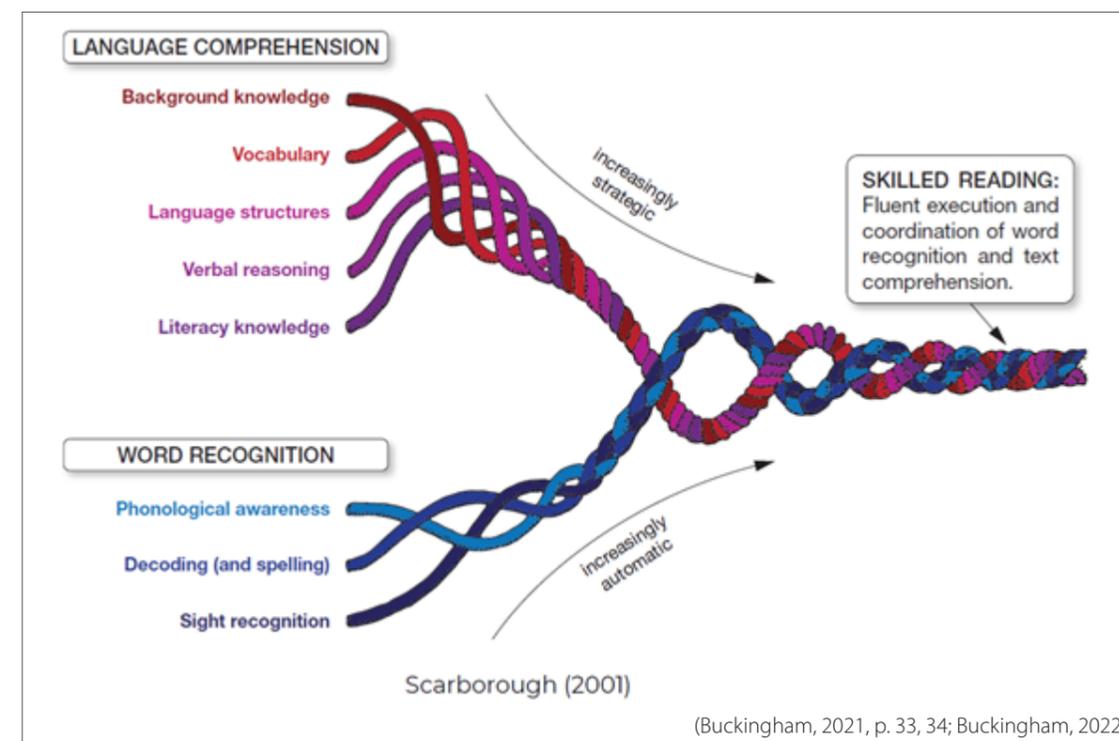


FIGURE 5. SCARBOROUGH'S (2001) READING ROPE



For instance, introducing students to diverse contexts related to a subject like electricity, along with expanding their vocabulary and comprehension during the first term, can significantly expedite their grasp of the subsequent science unit on electricity in the following term.

Furthermore, some schools take this concept to a higher level by implementing a systematic school-wide knowledge curriculum (Willingham, 2007, p. 50). This initiative ensures

that students acquire a foundational vocabulary and knowledge base across a wide range of subjects (Willingham, 2017, p.127). Such an approach equips students to perform at their best in external assessments that encompass

unknown and diverse contexts. While some of the examples of this approach originate from the United States, they serve as valuable illustrations of the concept's effectiveness.

"[t]he Simple View of Reading proposes that reading can be predicted by two key factors – the ability to decode or identify words and the ability to understand what the words are saying."

THE FIVE FROM FIVE PROJECT

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Instructional practices aligned with the Science of Reading

Learning to Read

Beginning readers encompass all students who are in the process of mastering phoneme/grapheme combinations. During the initial phases, students are 'learning to read,' with a predominant focus on teaching word recognition skills. Language comprehension is primarily developed through oral activities. Table 1 is a sample of instructional practices for students in the 'learning to read' phase; however, this list is not exhaustive (The Reading League, 2021).

These examples demonstrate that the Science of Reading intentionally employs a mix of texts. Decodable readers are utilised by students who are learning to read as they include restricted phonemes which reduce the cognitive load on working memory and facilitate the acquisition of phonemic skills, thereby promoting student success in early reading. In addition, rich and diverse texts are incorporated to foster a passion for reading and enhance language comprehension skills.

Reading to Learn

Once students can effectively decode text, the focus of teaching shifts towards enabling them to 'read to learn'. Word recognition instruction transitions to reinforcing previously learned skills and addressing unfamiliar words, while placing a greater emphasis on word morphology and etymology. Instruction in language comprehension receives increased attention, with students

learning through independent reading and teachers reading aloud. Table 2 is a sample of instructional practices for students in the 'reading to learn' phase; however, this list is not exhaustive (The Reading League, 2021).

Independent Schools Leading the Way

This year, Independent Schools Queensland presented two literacy masterclasses to over 150 members which supported school leaders and teachers in understanding the cognitive science of how humans learn as well as the science of reading and writing. With the acknowledgement of a change required in the Australian Curriculum version 9, a number of schools have since successfully upskilled their teaching staff and replaced predictable texts with decodable readers. Some schools are also developing literacy advice for all teachers across the school to support use of the phonological and lexical pathways and ensuring continued explicit teaching through the 'reading to learn' phase. In the future, schools will have the opportunity to present their work at ISQ's Teaching and Learning Showcase.

Many schools are now interested in more resources and support in the 'reading to learn' phase, specifically for assessment and the systematic teaching of background knowledge. ISQ is working with leading researchers, the QCAA and other jurisdictions in these areas to provide further support to member schools in 2024.

Conclusion

The science of reading is now well established through extensive research and is making its way into policy. The need for schools to upskill leaders and teachers is vital throughout the transition to version 9 of the Australian Curriculum: English.

Available Support

On ISQ's Member Hub Literacy Page, there are valuable resources to facilitate ongoing learning. For those seeking in-depth professional development focused on systematic, synthetic phonics, vocabulary development and fluency development, **Five from Five** provides a range of free research-backed webinars. Looking ahead to 2024, ISQ is set to lead an English program that will provide schools with comprehensive insights into cognitive science, the science of reading, and the science of writing. This program includes individualised support aimed at whole-school improvement throughout the year. Moreover, ISQ is planning both a 'Science of Reading' whole day event and a 'Science of Writing' whole day event in Semester 1, with a repeat in Semester 2. These masterclasses are designed to offer educators and leaders an immersive exploration of reading and writing instruction, aligning with both the science and version 9 of the Australian Curriculum.

TABLE 1. INSTRUCTIONAL PRACTICES IN THE 'LEARNING TO READ' PHASE

	Examples supported by scientific evidence	Examples not supported by scientific evidence
Word Recognition	<ul style="list-style-type: none"> Identifying individual sounds within words Letter recognition Providing explicit and systematic phonics instruction Practising decoding skills (reading) through the use of controlled phonics in decodable texts Practising encoding skills (spelling) through controlled phonics in dictation exercises Rehearsing sightwords 	<ul style="list-style-type: none"> Instructing students in larger speech units like syllables, rhyme, and onset-rime, rather than focusing on individual sounds Incidentally teaching phonics Encouraging whole-word memorisation rather than decoding Using picture cues to read words Encouraging students to consider context to determine the most likely word when reading rather than decoding Providing predictable texts for reading practice
Language Comprehension	<p>The following instructional practices are carried out by the teacher as they read rich and varied texts to students, surpassing the students' current reading proficiency level:</p> <ul style="list-style-type: none"> Emphasising new vocabulary Providing necessary background knowledge Clarifying metaphors and inferences Discussing language structures, including semantics and syntax Explaining a text's organisation and purpose 	<ul style="list-style-type: none"> Using only texts that align with students' reading abilities Creating a rich literary environment without explicit instruction in all components of Scarborough's Reading Rope.

TABLE 2. INSTRUCTIONAL PRACTICES IN THE 'READING TO LEARN' PHASE

	Examples supported by scientific evidence	Examples not supported by scientific evidence
Word Recognition	<ul style="list-style-type: none"> Identification of phonemes/grapheme combinations in new or unusual words Developing automaticity in decoding (reading) and encoding (spelling) of new words Exploring the morphology, etymology and meanings of unfamiliar words 	<ul style="list-style-type: none"> Absence of phonics instruction beyond the early years of schooling
Language Comprehension	<ul style="list-style-type: none"> Reading texts to students which are beyond their current reading abilities to continue to develop their language comprehension skills orally Engaging in choral reading exercises to enhance fluency Encouraging re-reading as a method to foster fluency Providing explicit teaching on sentence-level language structures Engaging with an extensive variety of topics to develop varied background knowledge Providing explicit teaching to develop verbal reasoning skills 	<ul style="list-style-type: none"> Rehearsing comprehension strategies without explicit teaching in all components of Scarborough's Reading Rope.

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References

Australian Curriculum Assessment and Reporting Authority (ACARA) (n.d.) What is literacy? <https://www.australiancurriculum.edu.au/resources/national-literacy-and-numeracy-learning-progressions/national-literacy-learning-progression/what-is-literacy/>

(2023) Key changes: Foundation level. <https://learning.acara.edu.au/#/course/26/item/132>

AERO (Australian Education Research Organisation) (2023) Introduction to the science of reading. <https://www.edresearch.edu.au/resources/introduction-science-reading>

ACER (2019) PISA 2018: Australian student performance in long-term decline. <https://www.acer.org/au/discover/article/pisa-2018-australian-student-performance-in-long-term-decline>

Australian Government (2023) Strong Beginnings: Report of the Teacher Education Expert Panel. <https://www.education.gov.au/quality-initial-teacher-education-review/resources/strong-beginnings-report-teacher-education-expert-panel>

Buckingham, J. (2021). No time to lose: Effective reading instruction to work towards 100% literacy. <https://fivefromfive.com.au/wp-content/uploads/2022/08/TAS-100-Literacy-Sept-2021.pdf>

Buckingham, J. (2022). Key concepts in the Science of Reading for teachers. Progress in policy and practice. https://www.youtube.com/watch?v=sU0KWOC73_E

(2023) Need to know or nice to know... What is at the heart of the Science of Reading for teachers? https://fivefromfive.com.au/wp-content/uploads/2023/07/Need-to-Know_5from5_JUNE23_FA.pdf

Ehri, L. (2014) Orthographic Mapping in the Acquisition of Sight Word Reading, Spelling Memory, and Vocabulary Learning. *Scientific Studies of Reading*, 18(1), 5-21.

Five from five (n.d.a) The three cueing system. <https://fivefromfive.com.au/phonics-teaching/the-three-cueing-system/>

(n.d.b) Comprehension. <https://fivefromfive.com.au/comprehension/>

Lemov, D. (2021) *Teach Like a Champion 3.0*. Jossey-Bass, New Jersey.

The Reading League (2021) *Science of Reading. Defining Guide*. <https://www.thereadingleague.org/wp-content/uploads/2022/03/Science-of-Reading-eBook-2022.pdf>

Moats, L. (2020) *Teaching Reading Is Rocket Science, 2020. What Expert Teachers of Reading Should Know and Be Able to Do*. <https://www.aft.org/sites/default/files/moats.pdf>

Victorian Institute of Teaching (2023) *Strong Beginnings: Teacher Education Expert Panel report*. <https://www.vit.vic.edu.au/news/strong-beginnings-teacher-education-expert-panel-report>

Willingham, D (2007) *How We Learn. Ask the Cognitive Scientist. The Usefulness of Brief Instruction in Reading Comprehension Strategies*. <https://education.ufl.edu/patterson/files/2020/10/Willingham-ComprehensionStrategies.pdf>

(2017) *The Reading Mind: A Cognitive Approach to Understanding How the Mind Reads*. Jossey-Bass. San Francisco.

Wexler, N. (2023) *No, Teachers Don't Have to Choose Between Knowledge and Strategies*. https://nataliewexler.substack.com/p/no-teacher-dont-have-to-choose-between?utm_source=post-email-title&publication_id=443300&post_id=135569651&isFreemail=true

ISQ thanks its 2023 Alliance Partners



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Independent Schools Queensland Ltd
ACN 614 893 140 ABN 88 662 995 577



Independent Schools Queensland
Level 7, 189 Grey Street, South Brisbane Q 4101
P (07) 3228 1515 E office@isq.qld.edu.au
www.isq.qld.edu.au