



Criteria for identifying effective literacy resources to support teaching learners with dyslexia

These criteria were developed for the Ministry of Education in March 2022. They were developed in consultation with a range of New Zealand literacy experts and stakeholders. The criteria were used to select New Zealand, non-Ministry resources for inclusion in the Dyslexia Kete on Literacy Online.

These criteria draw on extensive, evidence-based research about effective literacy teaching for learners with dyslexia or displaying characteristics of dyslexia.

The criteria were developed to identify resources that effectively support teaching learners with dyslexia or characteristics of dyslexia.

Each criterion has a short explanation and questions that schools, teachers, parents, and resource developers can ask to ensure that the resources they select, or produce, are effective in teaching learners with dyslexia, or characteristics of dyslexia, and have a positive impact on learning outcomes.

The criteria cover effective teaching approaches and features of inclusive teaching that are essential for ākonga with dyslexia. Because all brains learn to read the same way, the recommended approaches within the criteria will support all ākonga to become skilled readers. Please note that teacher input is necessary with all software as dyslexic children require responsive, sounds-based teaching that is delivered by someone who can listen to and respond to their errors and identify the reasons for their errors.

Not all resources will meet all criteria evenly. It is essential that criteria 1 to 5 are addressed.

See the [glossary](#) for definitions of terms.

The criteria

Effective literacy resources for teaching learners with dyslexia:	
1*	promote the importance of word recognition and language comprehension
2*	promote explicit instruction
3*	provide systematic instruction
4*	provide targeted and responsive instruction
5*	use a systematic synthetic approach to phonics
6	meet the cultural needs of ākonga, their whānau and communities
7	promote an inclusive and strengths-based approach

*Must be included

Criterion 1: Effective literacy resources for teaching learners with dyslexia promote the importance of word recognition and/or language comprehension

The science of reading helps teachers understand what and how to teach ākongā so they build an effective reading network in their brain. Understanding the cognitive requirements of reading and learning to read helps teachers bring evidence-based coherence to literacy instruction (Hoover & Tunmer, 2020). Reading comprehension, the ultimate goal of reading, requires learners to develop skills in word recognition and language comprehension (Hoover & Tunmer, 2020).

The National Reading Panel's (2000) meta-analysis identified that the best approach to reading incorporates explicit instruction in – phonemic awareness, phonics (alphabetic principle), fluency, vocabulary, and comprehension. Elaborating on these instructional components for improving reading outcomes, Hoover & Tunmer (2020) present a model of what is cognitively required for reading and for learning to read, laying out the relationships between the cognitive requirements using the Cognitive Foundations of Reading Framework. Each component is an independent, knowledge-skill set that is an essential building block in learning to read. Together, the components result in reading comprehension, the ability to extract and construct meaning from print.

Cognitive Foundations of Reading Framework

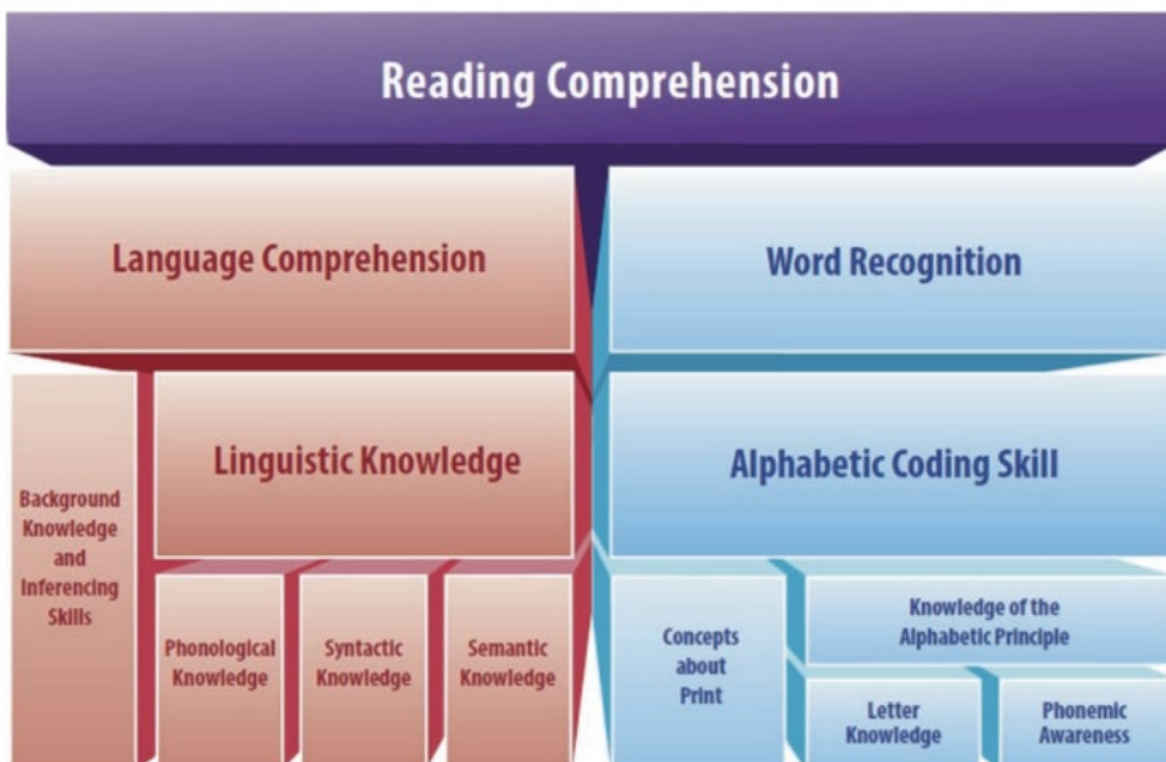


Fig. 5.1 The Cognitive Foundations Framework and its knowledge-skill set definitions

Caption: Each cognitive component represents an independent, but not necessarily elemental, knowledge-skill set that is an essential, hierarchically positioned, building block in reading and learning to read.

(Hoover & Tunmer, 2020 pp 86-87 Copyright © 2020, Springer Nature Switzerland AG)

See the [Glossary: Definitions from Hoover & Tunmer \(2020\)](#) for definitions of terms used in the framework.

Key questions

Does the resource, where applicable:

- recommend the teaching of word recognition skills (phonemic awareness, letter knowledge, concepts about print, knowledge of the Alphabetic Principle, alphabetic coding) and/or language comprehension skills ((phonological awareness, syntax, semantics, inferencing, linguistic knowledge) in literacy programmes?
- recognise that phonemic awareness is especially important for learning to decode and encode words which leads to reading fluency?
- recognise that phonemic proficiency supports the development of orthographic mapping through extended practice in blending and segmenting words?

Criterion 2: Effective literacy resources for teaching learners with dyslexia promote explicit instruction

Effective literacy resources for teaching learners with dyslexia promote explicit instruction as the primary approach and support the development of teacher pedagogical knowledge that aligns with the science of reading.

Explicit instruction requires the teacher to understand and explain concepts thoroughly and clearly with planned and defined objectives for each lesson (Pearson & Gallagher, 1983; Archer & Hughes, 2011 in Stewart, nd). Learners are not expected to deduce these concepts naturally or intuitively on their own. Ākonga are more likely to be engaged in learning when they understand the purpose of learning (Pressley, et al., 2001; Chopra, 1994; Jackson & Zmuda, 2014 in Stewart, nd).

Explicit instruction involves the Gradual Release of Responsibility Model, also known as “I do it, we do it, you do it” (Archer, 2019). The teacher gives clear explanations and demonstrations of a new skill (I do it), followed by supported practice of the newly taught skill (we do it), with sufficient planned opportunities for the learner to retrieve and practise the skills independently with teacher monitoring and feedback (you do it).

Hahn, Foxe & Molholm (2014) explain, two sensory systems are intrinsic to learning to read. Written words enter the brain through the visual system and associated sounds through the auditory system. Beginning readers must learn correspondences between graphemes and phonemes until there is a seamless automatic “connection”. Learning to read requires the formation of cross-sensory associations to the point that deeply encoded multisensory representations are attained. The multisensory principle has not yet been isolated in controlled, comparison studies of reading instruction, but many effective reading programs include multisensory instruction which focuses on making the connection between hearing, seeing, saying, and writing sounds (IDA, nd).

Key questions

Does the resource, where applicable:

- support the development of teacher knowledge that aligns with the science of reading?
- recommend that instructional tasks are modelled and clearly explained with defined objectives?
- promote a high level of student-teacher interaction with explicit teacher feedback and guidance?
- support explicit instruction in important foundation skills such as phonological awareness, phonemic awareness, decoding, and spelling?
- recommend regular direct instruction that requires retrieval of information and synthesis to support comprehension?
- recommend that oral language (vocabulary, sentence structure, morphology, verbal reasoning, background knowledge) and text knowledge (genre, text structures, writer's devices, concepts of print, etc) be explicitly taught and developed alongside alphabetic code knowledge?
- make the connection between hearing, seeing, saying, and writing sounds?

Criterion 3: Effective literacy resources for teaching learners with dyslexia provide systematic instruction

Systematic instruction provides a clear scope (what you teach) and sequence (the order you teach) of skills from easier to more difficult with one concept building on another. Instruction is cumulative and repetitive so that learners build on and review skills and concepts to ensure a secure knowledge foundation (NICHD 2000; Shaywitz, 2003; McCardle & Chhabra, 2004 in Stewart, nd).

Ākongā are more likely to be engaged in learning when they are provided with incremental steps to success (Pressley, et al., 2001; Chopra, 1994; Jackson & Zmuda, 2014 in Stewart, nd). Within the context of systematic instruction, careful and continuous monitoring and assessment allows individualised teaching that meets each learner's needs (IDA, 2017). The goal of systematic instruction is the automatic and fluent application of language knowledge to gain meaning from text.

Key questions

Does the resource, where applicable:

- promote a structured, cumulative approach where concepts and skills are taught in incremental steps?
- recommend a systematic scope and sequence for the teaching of phonological awareness, phonemic awareness, and phonics?
- provide a phonics scope and sequence that goes from simple to complex sound and letter representations? For example, begin with sound-letter correspondence for single consonants and short vowels, before moving to consonant digraphs, long vowel patterns and vowel teams, syllable types and multisyllabic words, prefixes, suffixes, and more complex morphology and etymology?
- recommend the gradual introduction of new sounds at a pace that ākongā with characteristics of dyslexia can cope with?
- recommend that learners are given multiple opportunities to practise previously learned concepts to support mastery?

Criterion 4: Effective literacy resources for teaching learners with dyslexia provide targeted and responsive instruction

Targeted and responsive instruction is data-driven and tailored to the specific developmental needs of ākonga. The [Response To Intervention model \(RTI\)](#) (Ministry of Education, 2020 p.69) is a tiered approach, designed to improve learning outcomes. Learners move flexibly between coordinated tiers of support according to their rates of progress. Instruction that is targeted and responsive is based on careful and continuous monitoring and assessment (formal and informal) of the skills that have been taught. Teachers adjust the pacing, presentation, scaffolding, and amount of practice within lessons based on learner response.

If necessary, allow extra time for learners to complete standardised tests. This modification invalidates the stanines (which are standardised based on time) but does not affect the diagnostic value of the test.

Early targeted, sustained instruction in foundation literacy skills (phonological and phonemic awareness, phonics, spelling and writing, and fluency) is the most effective approach to supporting learners with dyslexia (Rose, 2009). Older learners with reading difficulties can improve but the later the intervention, the longer it takes (Torgesen, 2002 in Stewart, nd). Interventions for older learners need to be intensive, systematic, and needs-based with a strong emphasis on structured synthetic phonics (Griffiths & Stuart, 2011).

Key questions

Does the resource, where applicable:

- recommend close and regular monitoring of ākonga progress through observation and assessments?
- recognise the benefit of additional time allowed for assessments?
- recommend that teachers adjust pacing, presentation, and amount of practice based on ākonga responses?
- recommend that ākonga experiencing literacy challenges are identified early and provided with specific and targeted instruction based on needs?
- promote early intervention and literacy supports using the RTI model, and recognise that some learners will require intensive support?
- promote continuity between classroom learning and specific interventions?

Criterion 5: Effective literacy resources for teaching learners with dyslexia use a systematic synthetic approach to phonics

Systematic, synthetic phonics has been identified as an effective approach to the early teaching of reading and spelling (Medina & Webber, 2019). It is particularly beneficial for children at risk of learning difficulties.

Phonics is used for teaching decoding in reading. It describes an association between the sounds used in our spoken languages and letters in the alphabets. There are two different approaches for teaching phonics – analytic and synthetic phonics.

Synthetic phonics is a bottom-up approach where instruction starts with the most basic sound unit, the phoneme, rather than whole words. The term “synthetic” refers to the practice of synthesising or blending together. “Phonics” reflects the process of linking individual speech sounds (phonemes) to written symbols (graphemes).

Synthetic phonics includes a strong connection between reading, spelling, and writing where learners are encouraged to write what they read, and read what they write. When ākongā learn to read using synthetic phonics they learn that graphemes match up to phonemes in spoken words (alphabetic principle) and they blend these sounds together to read words. They also learn to separate (segment) words into their individual sounds and link these sounds to graphemes to spell them. A key goal of systematic, synthetic phonics is for the learner to map familiar letter sequences to their permanent memory for immediate and effortless retrieval. This process, called orthographic mapping, helps ākongā build reading fluency.

Handwriting is an important component of synthetic phonics. When children learn to draw graphemes by hand, their later recognition for those letters is improved (Dinehart, 2015). Being able to form letters fluently eases the cognitive load for learners and writing letter patterns and words can support orthographic mapping and spelling knowledge (Pritchard, Malone & Hulme, 2020).

Key questions

Does the resource, where applicable:

- recommend using synthetic phonics where instruction starts with the most basic sound unit, the phoneme, following a systematic scope and sequence?
- place greater emphasis on learning the speech sounds and letters that represent them rather than just learning letter names?
- promote orthographic mapping for all sounds within regular and irregular words rather than the whole word visual learning method?
- promote the use of decodable reading books that focus on the specific sound patterns that have been taught?
- promote the use of pseudo-words for monitoring and assessment to ensure that ākongā use decoding and encoding skills rather than rely on visual memory?
- recommend that spelling is explicitly taught alongside reading so that sound-symbol association is mastered in two directions, phoneme to grapheme (spelling) and grapheme to phoneme (reading)?
- stress the importance of handwriting instruction and practice?

Criterion 6: Effective literacy resources for teaching learners with dyslexia meet the cultural needs of ākonga, their whānau and communities

Culturally responsive resources are critical to effectively supporting learners of Māori and Pacific heritage (Ministry of Education, 2011 & 2018).

Macfarlane, Clarke & Macfarlane (2016 p. 81) remind us, “when working with Māori learners in Aotearoa New Zealand who are presenting with specific learning difficulties (dyslexia), it is important that educators do not dismiss learners’ culture, but recognise the gifts, uniqueness and potential that come with the culture to which they belong”. They also note that taking a partnership approach to learning with ākonga and parents/whānau supports self-concept and identity.

Key questions

Does the resource, where applicable:

- promote teaching and assessment approaches that enable learners to feel secure within their own language, culture, and identity?
- advocate for authentic learning contexts and examples that reflect and affirm the culture and identity of learners?
- support learners to take ownership of their learning and understand the specific steps toward success in reading?
- support engaging and valuing the role and contribution of parents and whānau, drawing on the cultural knowledge and experiences of learners?
- reflect a genuine commitment to bicultural approaches for ākonga Māori?

Note: Questions relate to [Tataiako](#) (Ministry of Education & Education Council NZ, 2011), [Tapasā](#) (Ministry of Education, 2018), and [Our Code, Our Standards](#) (Education Council NZ, 2017)

Criterion 7: Effective resources for teaching learners with dyslexia promote an inclusive and strengths-based approach

No two learners have the same set of strengths and learning needs. Providing accommodations and modifications to meet the identified needs of learners removes barriers to participation and learning across the curriculum. For example:

- making accommodations, such as audio books and screen reading applications, available for all learners enables participation and learning for ākongā with dyslexia without stigmatising them
- modifying assessments by providing extra time for reading and writing enables the learner to demonstrate their understanding, reducing additional stress and cognitive strain.

Resources for teachers and learners need to be in an accessible format. They need to be flexible so teachers can use them to meet the specific needs of their learners. As learners begin to experience regular success, they are more likely to engage and make progress.

Ākongā are more likely to be engaged in learning when they see themselves reflected in the curriculum (Pressley, et al., 2001; Chopra, 1994; Jackson & Zmuda, 2014 in Stewart, nd). Building a relationship based on knowledge of your learner and making connections with their interests, strengths, and experiences supports engagement and self-esteem.

Key questions

Does the resource, where applicable:

- promote a personalised approach to learning, recognising specific needs, interests, and strengths?
- recognise that ākongā learn at different paces?
- reflect the diversity of ākongā so they see themselves in the resource?
- describe specific modifications and accommodations to support accessibility which can be made universally available to help with some of the wider needs learners with dyslexia can experience?
- provide specific evidence-based information and learning supports for both younger and older learners with dyslexia?
- offer regular opportunities for the learner to experience success?
- include online materials that can be downloaded or used offline?
- give guidance on how direct teaching sessions can be adapted for online delivery (live or recorded) or offline?
- meet web [accessibility guidelines](#) or [print accessibility guidelines](#)?

Glossary of terms

- **Science of reading** – The science of reading is a large interdisciplinary body of scientifically-based research about reading and issues related to reading and writing. For more information visit: [The Reading League: What is the science of reading?](#)
- **Phonics** – The relationship between spoken sounds and the letters that represent them. There are different ways of teaching phonics, and synthetic phonics is the recommended approach for teaching learners with dyslexia.
 - **Synthetic phonics** – Instruction is systematic and sequential, building up from the simplest and most common grapheme-phoneme correspondences (GPCs) to more complex and less common GPCs. Learners map the graphemes (letters) to phonemes (the smallest speech units) and blend (synthesise) them together to read words. In spelling, they learn to segment spoken words into separate phonemes and link these phonemes to the appropriate graphemes (PGCs). The earliest teaching involves blending GPCs together for reading and segmenting spoken words into PGCs. The teaching sequence in synthetic phonics is planned to minimise confusion and to achieve decoding quickly by learning a small set of GPCs at a time. Typically, synthetic phonics teaches the GPCs and the PGCs that correspond to the 44 phonemes of the English language.
 - **Analytic phonics** – Instruction starts at the word level and then deconstructs the word by looking for its constituent parts. The focus is on larger spelling generalisations and word analogies. The learner breaks words into sound syllables and uses similar sounding words to generalise and expand their vocabulary. This relies on the learner's ability to recognise similarities and make appropriate generalisations. Learners are often taught consonant blends/clusters as single units, fl, str, which are combined with rimes e.g., fl + ing, str + ing.
- **Phonological awareness** – The ability to hear the sounds within spoken words.
- **Phoneme** – The smallest unit of sound in speech. There are 44 phonemes of the English language but this number may vary depending on accent and articulation.
- **Grapheme** – A letter or series of letters that represent a sound (phoneme).
- **Orthographic mapping** – Involves the formation of letter-sound connections to bond the spellings, pronunciations, and meanings of specific words in memory. It is the:
 - mental process we use to permanently store words for immediate, effortless retrieval
 - process we use to take an unfamiliar printed word and turn it into an immediately recognisable word (Kilpatrick, 2015).
- **Scope** – What you are teaching, this is the alphabetic code. English has 44 sounds and more than 175 spellings for those sounds.
- **Sequence** – The order of what you teach, this is the order you teach the alphabetic code. A sequence needs to ensure a progression from simple to complex in small cumulative steps. It is also important to:
 - include the skills of blending sounds for reading words, segmenting sounds for spelling words, and phoneme manipulation for error corrections)
 - increase the skill level as learners progress.

- **Accommodations** – Adjustments that allow a learner to demonstrate knowledge, skills, and understanding, e.g., such as more time to complete the test or a short break during an exam. Ākonga learning or what is being measured remains the same.
- **Modifications** – Involve a change in curriculum content, homework assignments, or assessments so a learner can demonstrate their understanding, e.g., the word limit may be reduced, or an oral rather than a written report presented.

Definitions from Hoover and Tunmer (2020 pp 86-87) explaining the Cognitive Foundations of Reading Framework

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- **Reading comprehension:** The ability to extract and construct literal and inferred meaning from linguistic discourse represented in printed text.
- **Language comprehension:** The ability to extract and construct literal and inferred meaning from linguistic discourse represented in speech.
 - **Background knowledge and inferencing skills:** Knowledge of relevant content, the preceding linguistic discourse, and the situational context, and the ability to use them to derive logical conclusions that go beyond the literal meaning of linguistic discourse.
 - **Linguistic knowledge:** The unconscious knowledge of a language’s grammar (including its phonology, syntax, and semantics), which defines the sound-to meaning (listening) and meaning-to-sound (speaking) relationships the language allows.
 - **Phonological knowledge:** Linguistic knowledge about the definition, organisation, and combination of speech sounds.
 - **Syntactic knowledge:** Linguistic knowledge about the definition and combination of phrases, clauses, and sentences.
 - **Semantic knowledge:** Linguistic knowledge about the meaning bearing units of language at the word and sub-word levels and their use in building meaning at the sentence and discourse levels.
- **Word recognition:** The ability to recognise printed words accurately and quickly to efficiently gain access to the appropriate word meanings contained in the mental lexicon.
 - **Alphabetic coding skill:** The ability to map letters and letter patterns onto phonological forms at the level of phonemes.
 - **Concepts about print:** Basic knowledge about how print works in representing linguistic discourse.
 - **Knowledge of the alphabetic principle:** The conscious awareness that letters and letter combinations in alphabetic writing systems are used to represent the phonemes underlying spoken words.
 - **Letter knowledge:** The ability to recognise and manipulate the letters of the alphabet used in print.
 - **Phonemic awareness:** The ability to consciously recognise and manipulate the phonemic units underlying spoken words.

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