M1 RESEARCH AND READING INSTRUCTION

Companion Document

This companion document is one in a series of six companion documents complimenting the *Building Blocks of Reading Continuum*. The companion documents provide an overview of research pertaining to reading instruction and the building blocks of reading:

- Research and Reading Instruction
- Phonological Awareness
- Phonics
- Fluency
- Vocabulary
- Reading Comprehension

Research and Reading Instruction: Introduction

Research suggests, in combination with targeted instruction, explicit and systematic instruction of foundational reading skills benefits all learners (Young, 2012). While it may not be that all learners need explicit and systematic instruction to reach reading proficiency, all learners benefit from such. When foundational reading skills are foregrounded in curriculum and practice, those that need explicit and systematic instruction are less likely to be left behind.

Critical elements of effective reading instruction are not only well understood but also well-documented (Petcher et al., 2020; Shanahan, 2020). Yet, despite the identification of research-based practices in reading instruction, there continues to exist an overwhelming presence of instructional programming and practices that lack an evidence-base (Goodwin, 2020; Castles et al., 2018). Additionally, inconsistencies in research-based reading instruction requirements—for educators entering the profession—are commonly noted and indicative of a larger issue involving pre-service education and educator preparedness (Peng Peng & Goodrich, 2020; Goodwin, 2020; Shanahan, 2020). Furthermore, across North America, 60%–80% of learners reach reading proficiency by the end of Grade 4, yet there exists strong evidence suggesting most learners who fail to reach reading proficiency could do so through targeted instruction of sequenced and foundational reading skills (Goodwin, 2020; Peng Peng & Goodrich, 2020).

What is Research-based Practice?

Research-based practice is highly effective pedagogy supported by compelling research evidence. While there may be a multitude of instructional approaches that benefit some learners, research-based practices better support all learners.

A shift in practice towards research-based instruction does not mean educators should abandon all past approaches or practices. Simply put, knowledge of research findings can empower educational leaders and educators to assess their own practices to ensure all learners' foundational reading skills are assessed and targeted as necessary.

> " Having a good foundation of knowledge and keeping up to date with recent research is critical within the practice of teaching. It is important to choose instruction techniques that the highest levels of research have shown to be successful, and to know when and how to intervene to give a student additional assistance.
>
> Hawken, 2008 "

What is the Science of Reading?

The *science of reading* is a term used among researchers to describe a body of research that has been evolving for more than 200 years (Shanahan, 2020). Contributing research fields include cognitive sciences, neurosciences, linguistics, and education. As the term gains popularity, the term *science of reading* is sometimes used incorrectly to support a singular approach for teaching reading. Peggy Semingson and William Kerns (2021) agree the term should not be restricted as such and propose considering "a wide range of research ... evolving understandings of reading processes, the nature of reading, contextual factors, and the history of the study of literacy, with this research producing evidence-based implications that inform educational practices" (p. 2).

Of importance are the compelling, promising, and inconclusive findings of reading research—all of which provide meaningful implications for the instructional programming and practice of teaching reading.

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Compelling evidence

Compelling evidence refers to "a research foundation by which theories, principles, and hypotheses have been subjected to rigorous empirical scrutiny to determine the degree to which they hold up across variations in samples, measures, and contexts" (Petcher et al., 2020). Compelling research findings have transformative implications on pedagogical programming and practice; areas targeted and prioritized for instruction should have compelling evidence establishing their critical role in literacy acquisition (e.g., phonological awareness, phonics, fluency, vocabulary, and reading comprehension are supported by compelling research evidence as critical elements of reading instruction) (Duke & Cartwright, 2021; Petcher et al., 2020).

The distinction of compelling, promising, and inconclusive research evidence helps explain why instructional practices may change over time as new and compelling research emerges.

Promising evidence

Promising evidence refers to a research foundation that is poised to become compelling (Petcher et al., 2020). Research findings classified as promising may not yet stand up to the same rigorous scrutiny as compelling evidence (often due to lack of intervention research in a specific area) but do have merit based upon being derived from empirically supported theory and supported by preliminary direct research findings. While areas targeted for instruction ideally come from compelling evidence, many approaches to instruction will be derived from promising evidence (e.g., partial decoding of irregularly spelled words is based on empirically supported developmental theory and supported by promising research evidence as a way for readers to recognize unfamiliar words and map to meaning) (Gentry & Ouellette, 2019; Petcher et al., 2020).

Inconclusive evidence

Research findings that are inconclusive may lack compelling research evidence, may be less connected to leading developmental theory, and/or not yet explicitly evaluated by researchers. Pedagogical practices that are not supported by compelling or promising research findings should not play a central role in core instructional practices and should be avoided if they are contraindicated by empirically supported theory (e.g., the three-cueing approach to word recognition is not supported by compelling or promising research and runs counter to research-supported theory that describes how children learn to read) (Burkins & Yates, 2021; Hempenstall, 2003).

What is Structured Literacy?

A structured literacy approach typically includes:

- explicit and systematic teaching of phonological awareness, phonics (including morphology), vocabulary, and reading comprehension (including sentence structure, paragraph structure, and text structure).

- sequential and cumulative practice and ongoing assessment (including targeted instruction) (Spear-Swerling, 2018).

How does structured literacy differ from balanced literacy?

While a balanced literacy approach can be an effective framework for organizing literacy learning, there is no definitive or explicit scope and sequence for teaching foundational reading skills related to the approach. The core elements of a structured literacy approach enable educators to identify learners' precise needs and to target instruction as necessary.

> Research-based practice is *not* an approach or an initiative; it is *not* a publisher or a program. Knowledge of compelling evidence does *not* indicate the necessity to abandon all past practices, but rather to critically analyze and assess the efficacy of currently employed programming and practices for reading instruction.

Nurturing Literate Identities and Fostering Engagement

A shift in practice towards research is not a shift away from nurturing learning through exploration and authentic inquiry. Skilled readers begin as engaged learners and are motivated and nurtured in literacy-rich learning environments. See below for pedagogical practices and provisions that support communication and literacy learning at all developmental phases.

- Create a learning environment rich in opportunities for learning, including:
  - flexible areas to accommodate learners' emerging interests.
  - access to a variety of multi-modal texts.
  - quiet areas for reading and mark making.
  - spaces for subject specific play and generalized play.
  - spaces for large and small groups or individual learners.
  - opportunities for risk taking, active play, and physical activity.
  - accessible spaces for learners' works in progress.
  - co-created spaces that inspire a personal sense of wonder.

- Utilize a wide repertoire of oral language and text, including:
  - various text forms (e.g., songs, poems, stories, read-alouds, informational text, graphic texts, picture-only books, etc.).
  - equitable representation (e.g., diverse and inclusive imagery and language).
  - environmental print (e.g., menus, flyers, newspapers, magazines, labels, lists, etc.).
  - names (e.g., first, last, middle, family members, pets, etc.).
  - reciprocal conversations (e.g., open-ended questions, wait time for responses, invitations and paraphrasing, etc.).
  - model language (e.g., new vocabulary, descriptive words, think-alouds, etc.).

(*New Brunswick Curriculum Framework for Early Learning and Child Care*, 2010; *NBCF Collaborative Assessment Tool Reflective Guide*, 2021).

Reading Instruction Through the Years: The Reading Wars

In North America, debates around effective reading instruction have been ongoing for hundreds of years (Semingson & Kerns, 2021). As Noah Webster's *American Spelling Book* promoted explicit instruction of letter-sound relationships in the late eighteenth century, opinions began to emerge opposing the teaching of relationships between letters and sounds (Semingson & Kerns, 2021). Those who opposed explicit teaching of phonics saw the practice as lifeless, driving children away from an interest in reading (Castles et al., 2018). This pendulum swing from phonics instruction (the explicit teaching of letter-sound relationships) to whole language (authentic discovery of meaning through exposure of literacy rich environments) and back again continued through the years, leading us to the present day reading wars (Castles et al., 2018; Goodwin, 2020; Petscher et al., 2020).

As trends in instructional approaches bounced around, market saturation of reading instruction programs and resources ensued. For decades, approaches to reading instruction have remain varied and inconsistent—despite a solid research foundation (Petscher et al., 2020). Perhaps the most widely agreed declaration relating to ending the reading wars is that all stakeholders (universities, curriculum designers, education systems, communities, and caregivers, etc.) should look to research to inform programming and practice choices (Petscher et al., 2020). Of critical importance, is the acknowledgement that research is ever evolving, and needs to be analyzed regularly as part of one's professional responsibility.

Advancements in Reading Research

Historically, researchers of cognitive sciences, neurosciences, linguistics, and education have worked to uncover leading practices in reading instruction. Now, more than ever, researchers understand precise and sequential processes involved in word reading, which has led to the investigation of instructional practices promoting reading acquisition. The research referenced throughout this document remains relevant and is considered **seminal**, that is—widely accepted as influential and transformative.

The Simple View of Reading

Phillip Gough and William Tunmer (1986) created a formula called the Simple View of Reading (SVR) which identifies both decoding/word recognition and language comprehension as critical skillsets in word reading. That is, development in both decoding/word recognition and language comprehension is necessary for a learner to reach reading proficiency.

What is Reading? According to the SVR, reading is a complex process involving integration of skill development in both decoding and oral comprehension. While the equation may be simple, learning to read is not. As oral language develops, the task then becomes one of extending understanding to print.

The SVR formula shows that reading comprehension (RC) can be predicted if a learner's decoding/word recognition (D) and language comprehension (LC) abilities are known. Dr. Gene Ouellette (personal communication, 2020) suggests that while this may seem to align with past distinctions between code-related and meaning-related skills, the picture is more complex, as oral and written language processes interact in reading. D and LC are not simply added together to predict RC—they develop in tandem and with interplay. Reading comprehension cannot occur if either word recognition or language comprehension are completely absent, and a weakness in either area will result in greatly reduced reading comprehension.

Decoding / Word Recognition	×	Oral Language Comprehension	=	Reading Comprehension
(ability to decode and recognize words)		(ability to understand spoken language)		(ability to understand printed text)
D		LC		RC

While the SVR is widely accepted as seminal and compelling, worth noting are research advancements beyond Gough and Tunmer's original claim that decoding and language comprehension are the sole and distinct pillars of reading comprehension.

Recent research posits additional considerations: 1) There is considerable overlap between word recognition and language comprehension, as vocabulary learning actually influences both areas and reading fluency requires proficiency in both domains of the SVR; and 2) Self-regulation is an apparent contributor to reading successes, including executive functioning, motivation, and engagement (Duke & Cartwright, 2021).

Linnea Ehri's Phases of Word Learning

Educational researcher Linnea Ehri (1998) proposed the phases of word learning (sometimes used interchangeably with word reading) clarifying characteristics of developmental phases learners move through towards proficient reading. Each phase is characterized by a learner's understanding and use of the alphabetic system in their word learning. Phases range from pre-alphabetic, to partial alphabetic, to full alphabetic, to consolidated alphabetic, to skilled reader.

Knowledge of developmental reading phase characteristics is imperative, relevant to both targeted instruction and formative assessment. "Phase observation is literally a window into the child's reading brain. When this basic science–phase observation becomes part of your regular and ongoing practice, you'll be able to guide your readers in acquiring brain words and establishing the basic reading circuitry necessary that will move them forward through the grades to come" (Gentry & Ouellette, 2019, p. 63).

Phase characteristics (which are observable and not suggestions for teaching) and instructional goals for each developmental word learning phase can be seen in Appendix A.

The National Reading Panel

The National Reading Panel, comprised of fourteen researchers free from any political or financial affiliation or bias, was established under the US Congress in the late nineties (Shanahan, 2005). The panel conducted a large-scale research synthesis of global reading instruction research in consultation with hundreds of educators in public forums. The panel only drew conclusions based on compelling research, and the research synthesis involved "evidence only from the types of research that permit a high degree of certainty in determining what instructional actions cause higher achievement" (Shanahan, 2005, p. 2).

Two years after its establishment in 1998, the National Reading Panel released a report called, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*. The National Reading Panel (2000) report thoroughly addressed six focal topics, including: phonics, phonological awareness, reading fluency, vocabulary, reading comprehension, and professional learning. While the report did conclude that professional learning in the area of reading instruction had a significant impact on children's learning (Shanahan, 2005)—perhaps the greatest takeaway from the National Reading Panel report is clarity around the five core skill areas foundational to reading proficiency: phonological awareness, phonics, reading fluency, vocabulary, and reading comprehension. National Reading Panel researchers acknowledged research as ever evolving and identified the need for further investigation into some of the original research topics. However, panelists concluded the five foundational areas to be critical to reading skill development (National Reading Panel, 2000).

> The New Brunswick Department of Education and Early Childhood Development refers to the critical reading skills areas foundational to reading proficiency as the building blocks of reading, as seen in the Building Blocks of Reading Continuum.

Reading and the Brain

Over the last few decades, reading research has traversed disciplines resulting in exciting and revolutionary findings. Deheane (2009) sees neurosciences as having much to offer in the way of pedagogical recommendations for reading instruction.

What we know about the reading brain is based upon observations of brain activity during reading and brain analysis (Deheane, 2009; Gentry & Ouellette, 2019). Of great importance is how literate brains respond to seeing written text and that specific areas of the brain have been isolated and identified as having great involvement in word reading processes (Deheane, 2009). This has led us to an understanding of the "neurological reading circuit" or reading brain activity (Deheane, 2009; Gentry & Ouellette, 2019). While it is not necessary for educators to become experts in neuroscience, understanding the brain processes in learning to read can help to inform decisions around instructional programming and practice.

The Neurological Reading Circuit

Much like having an understanding of how muscles work can support physical fitness, knowing about brain processes can inform the ways in which we teach reading. For example, "the frontal lobes for speech, the temporal/parietal lobe for sound representation and meaning, and the Word Form Area for spelling representations—do not in themselves bring about skilled reading ... this is where environmental stimulation and efficacious reading instruction come in" and where educators can make a huge difference (Gentry & Ouellette, 2019, p. 40).

Deheane (2009) states, "nothing in our evolution could have prepared us to absorb language through vision" (p. 4). However, through explicit and systematic research-based reading instruction, educators can support reading brain development by stimulating reading brain circuitry.

The Missing Link: Orthographic Learning and Brain Words

Studying the reading brain has contributed to our understanding of how foundational reading skills are acquired and what is needed for learners to achieve reading proficiency. In addition to the building blocks of reading, it is important to recognize orthographic learning as a research-supported critical element of reading development (and one with compelling evidence). According to Gentry and Ouellette (2019), spelling and word reading should be developed in parallel, as the skills necessary for both spelling and word reading are intertwined. Orthographic learning describes a brain process whereby, through effective reading instruction, the brain learns to store spelling representations. These stored representations "of spelling patterns, syllables, and words" (Gentry & Ouellette, 2019, p. 13) linked to the sound and meaning of oral language are what is referred to as brain words. According to Gentry and Ouellette (2019), the development of brain words requires a solid foundation of alphabetic knowledge and phonological awareness, explicit instruction of phonics (including spelling), and the integration of explicit instruction of decoding and sight word learning (as opposed to memorization).

Richard Gentry's Phases of Developmental Spelling

Much like Ehri's phases of word learning, Gentry's phases of developmental spelling can be used to formatively assess a learner's spelling development progression. The phases of developmental spelling align nicely with Ehri's phases of reading acquisition, despite having been developed independently (Gentry & Ouellette, 2019). "Understanding the closely aligned phases of both Ehri and Gentry can help teachers detect problems and target instruction" (Gentry & Ouellette, 2019, p. 23).

Gentry's phases of spelling begin with scribbles, random letters, then partial spellings, and finally letters for each sound in a word. As with Ehri's phases of word learning, monitoring phase characteristics enables us to target instruction through each phase of reading and spelling development.

Phase characteristics and instructional goals for each developmental spelling phase can be seen in Appendix B.

Turning Research into Practice: Building Blocks of Reading Continuum

Developed in consultation with experts in the field, the New Brunswick EECD *Building Blocks of Reading Continuum* describes a phased progression of learning outcomes in five foundational areas of reading (i.e., phonics, phonological awareness, fluency, vocabulary, and reading comprehension). In combination with provision of time and practice, use of the continuum supports research-based practice and progress monitoring.

The continuum provides the following functions:

- Sequences key markers of achievement for a solid reading skill foundation
- Identifies observable characteristics that support reading skill development
- Supports a clear research-based framework to guide reading skill instruction

The five foundational skill areas are organized in rows and columns. Each row consists of an outcome continuum pertaining to the foundational skill areas. Each column aligns with current research on the phases of word learning and describes expected end of phase outcomes. The phases of word learning are pre-alphabetic, partial alphabetic, full alphabetic, consolidated alphabetic, and skilled reader. The continuum also highlights the interrelated and interdependent nature of language processes, which are distinct yet intertwined developmentally.

The continuum can be read in two ways, horizontally and vertically. Both inform decisions about instruction.

- Read horizontally to track the progression over the phases of word reading.
- Read vertically for a holistic view of how the foundational skills/knowledge interrelate to describe learners at any given point.

A review of the New Brunswick Language Arts curriculum and supportive resources has been undertaken to ensure alignment to the following research-based practices:

- The nurturing of healthy literate identities
- Developmental phase progression of sequenced outcomes
- Explicit and systematic instruction of:
  - phonological awareness
  - phonics
  - fluency
  - vocabulary
  - reading comprehension
- Formative and ongoing assessment
- Targeted instruction and intervention

It is important to note that the pace in which learners progress through phases may vary across the foundational skill areas; a vertical slice may not characterize every reader.

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Supporting All Learners

It is important to remember that children develop skills and knowledge at their own pace, dependent upon their developmental abilities and experiences. Diverse learner populations bring a multitude of strengths, cultural perspectives, language experiences, and world views to the classroom. It is important for educators to be cognizant of this diversity and respond to the needs of all learners in their class.

Universal Design for Learning

Universal Design for Learning (UDL) is a set of principles for designing curriculum that provides all individuals with equal opportunities to learn. Grounded in research of learner differences and effective instructional strategies, UDL principles call for varied and flexible ways to do the following:

- Represent or access academic content (the "what" of learning)
- Plan and execute learning tasks, including expression (the "how" of learning)
- Become and stay engaged in learning (the "why" of learning)

Why is UDL Necessary?

Learners come to classrooms with a variety of skills, needs, and interests. This diversity is confirmed by neuroscience; brain imaging technologies allow educators to "see" the different ways learners respond to educational tasks and environments. Those differences can be as varied and unique as DNA or fingerprints.

The principles of UDL promote accessibility to flexible and customizable learning experiences so that learners can access information in a variety of ways. In an elementary classroom, UDL ensures that high quality literacy and learning experiences meet the needs of all learners and are multi-sensory, meaningful, and exciting.

If a child is performing outside of what might be considered developmentally appropriate, it may be necessary to revisit skills addressed in previous phases or other skill areas. Working with your school-level ESS Team on an as-needed basis will help to ensure that the needs of all learners are being met.

Assessment
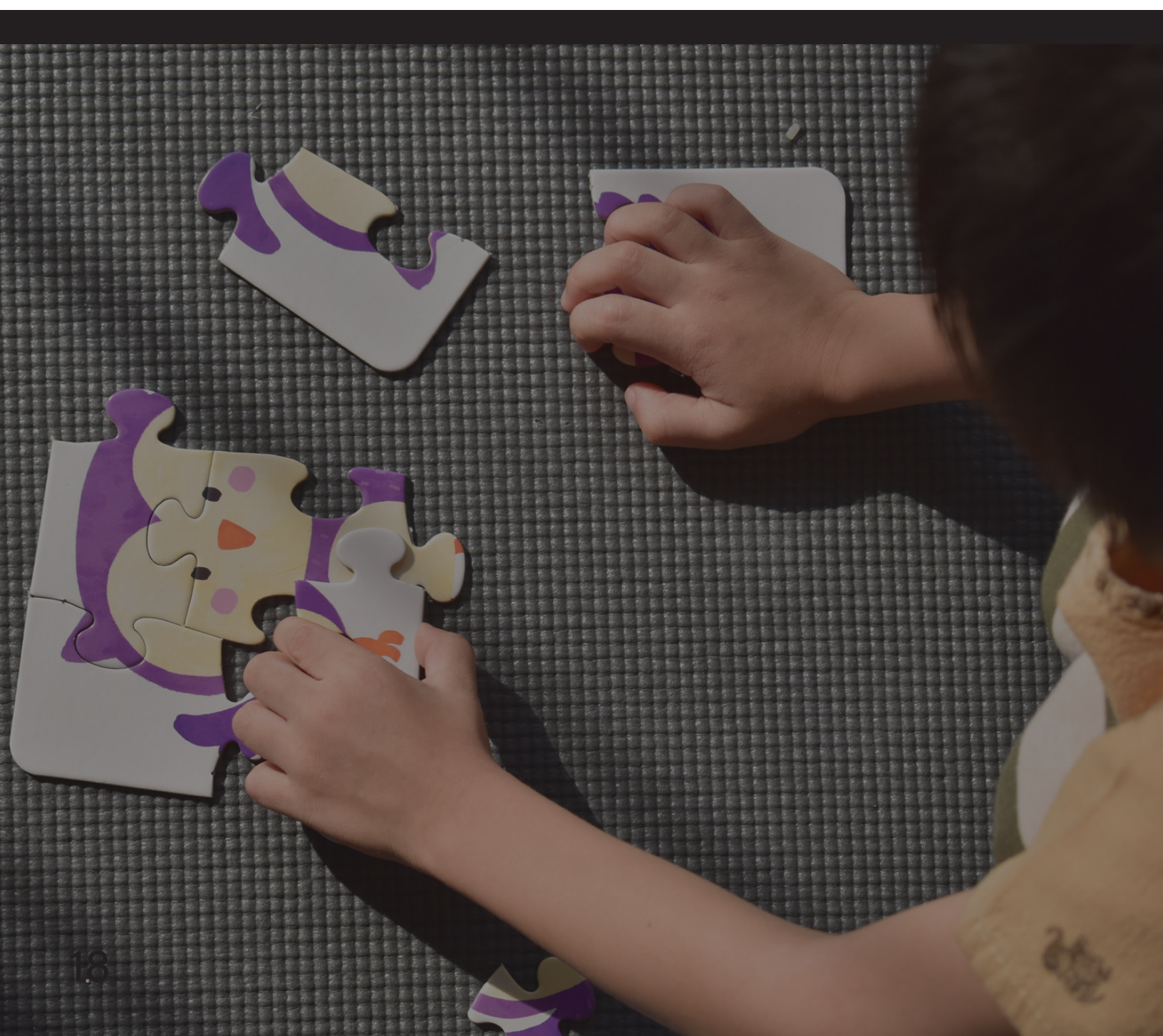
Assessment is the systematic gathering of information about what learners know and are able to do. Educators use their professional skills, insight, and knowledge to establish specific criteria while assessing learner performance in relation to learning outcomes. Assessment is critical to the teaching and learning process. By collecting and examining evidence of learning on an ongoing basis, educators are able to make informed decisions about instruction to support learners as they progress through the phases of reading development.

Over the past several years, New Brunswick, like many other jurisdictions, has placed a greater emphasis on assessment and how it can positively impact learning. Educators at all levels are encouraged to be guided by the following principles of assessment:

- The purpose of all assessment is to obtain evidence of learning and to guide instruction.
- Assessment is a powerful tool to effect change for improvement.
- Assessment is an integral component of an evidence-based, decision-making model.
- The effectiveness of assessment depends on users' understanding and appropriate application of results.

Ongoing Assessment

Research indicates that learners benefit most when assessment is regular and ongoing and is used in the promotion of learning (Stiggins, 2008). This is often referred to as formative assessment. Evaluation is less effective if it is only used at the end of a period of learning (summative evaluation).

Formative assessment is an essential part of a balanced assessment program and when used regularly and in an interactive manner can significantly improve learning. Formative assessment or assessment for learning involves the following:

- Collecting and examining evidence of learning on an ongoing basis to make informed instructional decisions
- Providing specific and descriptive feedback
- Planning for learning that happens at different rates and is shown in many ways
- Sharing specific information and a process to help learners take responsibility for their own learning

Triangulation of Data

To effectively assess learning, it is important that educators gather evidence from a variety of sources over time to ensure they have a comprehensive understanding of the learner. Three generally agreed upon categories of evidence are observations, products, and conversations (Lincoln & Guba, 1985; Davies, 2011; Cameron & Gregory, 2014).
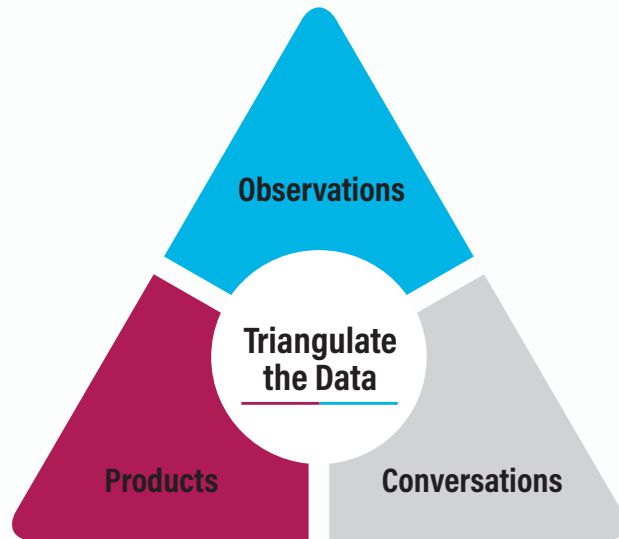
The following are examples of types of evidence within each category. It is important to note that some types of evidence can represent more than one category:

- **Observations** (e.g., checklists, presentations, performance assessments, learner engagement)
- **Products** (e.g., projects, benchmark assessment, screeners, experiments, writing samples, journals/learning logs)
- **Conversations** (e.g., self-assessments, interviews, conferences, peer feedback)

Targeted Instruction

If learners are experiencing difficulty in any of the foundational skill areas, knowing when and how to provide effective intervention is critical. Use of ongoing formative assessment as well as triangulating data will help to inform instructional decisions for all learners.

Targeted instruction as an intervention consists of the following:

- Generally occurs on a daily basis (15-30 minutes)
- Involves spending time in direct teaching (modeling, explaining, and demonstrating)
- Involves working with individuals or a small group (depending on the needs of the learners)
- Provides opportunities for learners to apply immediately the strategies that have been shared
- Provides daily ongoing assessment
- Involves frequent home communication about how parents can help

> Additional assessment strategies and recommendations can be found in the phonological awareness, phonics, fluency, vocabulary, and reading comprehension companion documents.

Before You Begin

Within each of the companion documents, you will find activities to support learning at each phase of word learning. Some activities are embedded within the documents while others are provided in the appendices and have been clearly indicated throughout.

The activities in the companion documents come from many sources: the Ontario Institute for Studies in Education; the Florida Center for Reading Research Student Center Activities; books by Miriam P. Trehearne, Marilyn Jager Adams, Jo Fitzpatrick, Richard Gentry and Gene Ouellette, and New Brunswick educators.

Keep the following points in mind when you explore the documents:

- They are large, so it may be helpful to concentrate on the phase(s) of word learning that best match learners' abilities, skills, and needs.
- Efforts have been made to ensure activities are developmentally appropriate and many activities can be modified and used for any age.
- The list of activities in each companion document is not comprehensive; there are many others that are beneficial to learners developing their reading skills.

On behalf of the New Brunswick Department of Education and Early Childhood Development, we wish to acknowledge educator dedication and commitment to the improvement of student learning outcomes in New Brunswick. We thank you for your motivation and engagement in the lives of our children and for contributing to the betterment of our beautiful province.

"Learning to read transforms lives. Reading is the basis for the acquisition of knowledge, for cultural engagement, for democracy, and for success in the workplace."

(Castles et al., 2018)

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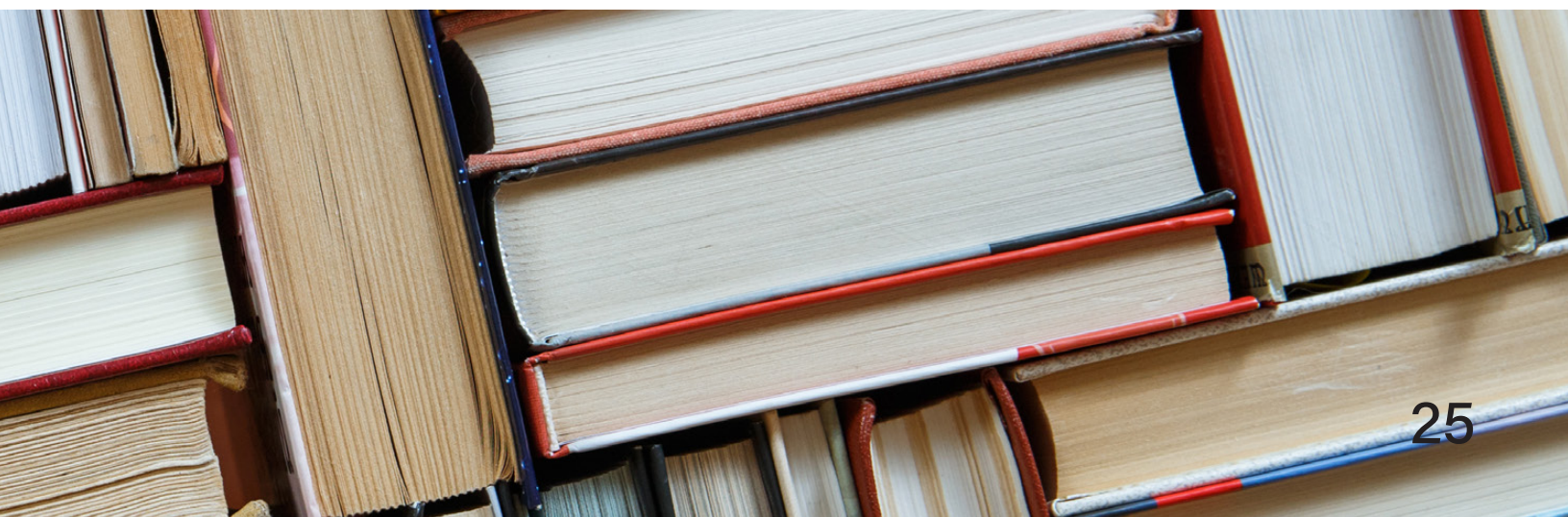
Appendix A:
Linnea Ehri's Phases of Word Learning

Pre-alphabetic Phase

Characteristics/Observable Phase Indicators	Instruction
The reader: ▪ has little or no alphabetic knowledge. ▪ recognizes familiar words and environmental print. ▪ uses context clues, pictures, and guessing strategies to identify words[1]. ▪ makes arbitrary rather than systematic connections. ▪ engages in memorized or "pretend reading."	Instruction for learners in this phase should focus on phonological awareness, alphabet knowledge, and grapheme-phoneme correspondence.

[1]Although characteristic of children at this level, teaching guessing strategies to decode words and make meaning of text is not an evidence-based approach.

Partial Alphabetic Phase

Characteristics/Observable Phase Indicators	Instruction
The reader: ▪ demonstrates emerging use of grapheme-phoneme or letter-sound connections (connections are incomplete or inconsistent). ▪ uses the first letter sound along with the context to guess unfamiliar words. ▪ may occasionally use the last letter sound or other letters to figure out the word.	Reading in this phase is more productive than pre-alphabetic reading, but the learner is not yet reading novel (new) words in print. Instruction in this phase should reinforce grapheme-phoneme correspondence and phonemic awareness with an emphasis on using all letters of each word.

Full Alphabetic Phase

Characteristics/Observable Phase Indicators	Instruction
The reader: • attends to every letter in every word. • accesses words by converting letters into sounds while reading and sounds into letters while spelling. • has working knowledge of most grapheme-phoneme correspondences, has phonemic awareness, decodes sequentially and often slowly, and uses these skills to read and spell unfamiliar words.	Reading in this phase is more productive than partial alphabetic reading as the learner begins to decode unfamiliar words more reliably. Instruction in this phase should focus on segmenting and blending syllables, onset, rime, and phonemes. Readers should be given ample opportunity to practice decoding words and encouraged to attend to every grapheme individually. This promotes orthographic learning.

Consolidated Alphabetic Phase

Characteristics/Observable Phase Indicators	Instruction
The reader: • begins to use chunks to decode rather than individual phonemes leading to accurate and automatic word recognition. • consolidates in memory and recognizes instantly consonant blends, digraphs, and vowel teams. • recognizes syllables and morphemes as chunks.	Instruction in this phase should focus on common spelling patterns and recognition of various chunks within words. Orthographic learning continues to develop as these chunks become more instantly recognizable and readers more readily learn new spelling patterns.

Automatic/Skilled Reader Phase

Characteristics/Observable Phase Indicators	Instruction
The reader: • reads effortlessly and most words encountered have become sight words. • reads unfamiliar words with highly developed phonics strategies. • uses a variety of strategies at their disposal.	Readers in this phase are proficient at word reading and able to focus primarily on text meaning.

(Ehri & McCormick, 1998; Lane, H., (n.d.))

Appendix B:
Gentry's Phases of Developmental Spelling

Pre-alphabetic Spelling

Characteristics/Observable Phase Indicators	Instruction
The writer: • has limited letter knowledge. • uses letters but does not know they represent sounds. • appears to use letters at random.	Instruction for learners in this phase should focus on phonological awareness, alphabet knowledge, and grapheme-phoneme correspondence.

Partial Alphabetic Spelling

Characteristics/Observable Phase Indicators	Instruction
The writer: • begins to see how the alphabet works. • begins to use the alphabet to spell. • matches some letters to sounds in their spoken language. • may use abbreviated letter-sound mapping (i.e., omit letters, including vowels). • is unable to use full phonemic segmentation ability with letters to sounds.	Instruction in this phase should reinforce grapheme-phoneme correspondence and phonemic awareness with an emphasis on identifying all letters of each word.

Full Alphabetic Phase

Characteristics/Observable Phase Indicators	Instruction
The writer: ▪ almost always spells words with a letter for each sound. ▪ represents all of the phonemes in a word, though spellings may be unconventional. ▪ often finger spells to determine the sounds in a word that they write. ▪ can spell but it may be slow and deliberate (i.e., can often hear a child say the sound and then print the letter). ▪ may use incorrect spellings for short vowels (e.g., "bet" for "bit" and "hit" for "hot").	Instruction in this phase should focus on segmenting and blending syllables, onset, rime, and phonemes. Readers should be given ample opportunity to practice encoding (spelling) words and encouraged to attend to every grapheme individually. This promotes orthographic learning.

Consolidated Alphabetic Spelling

Characteristics/Observable Phase Indicators	Instruction

The writer:
 	
 ▪ spells words in chunks of letter patterns using their knowledge of phonic patterns.
 	
 ▪ exhibits conventions of English orthography, including:
 	
   ▪ vowels in every word
 	
   ▪ VCe and vowel diagraph patterns
 	
   ▪ correctly spelled inflectional endings
 	
   ▪ memory of recurring English letter sequences in chunks or phonics patterns (i.e., egil for eagle; eightee for eighty; jumpped for jumped)
	Instruction in this phase should focus on common spelling patterns and recognition of various chunks within words.
	
	 Orthographic learning continues to develop as these chunks become more instantly recognizable and readers more readily learn new spelling patterns.

Conventional Spelling

Characteristics/Observable Phase Indicators	Instruction
The writer develops brain words over years of systematic spelling study.	Instruction for conventional spellers should reinforce the continued development of brain words at a developmentally appropriate level of complexity.

(Gentry & Ouellette, 2019)