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Defining the Terminology Used on Nancy Young's Infographic *The Ladder of Reading & Writing*© (2026)

Note: The research for this infographic is based primarily on the English language but much of the information within the following definitions is likely to apply to other alphabetic languages.

Acceleration: This term encompasses multiple ways to accelerate students with advanced academic skills (see Colangelo et al. 2004), including early entrance to kindergarten, skipping grade(s), and subject-area acceleration (learning of a subject alongside students in a higher grade)

Analytic:

- Entails a strategic approach to teaching the alphabetic principle (letters represent speech sounds) for those who have not yet acquired this principle
- Emphasizes that individual words (and word parts) and combined words (sentences/paragraphs) are made up of patterns forming written language that can be logically analyzed (recognizing that the detail of any linguistic analysis will vary with need)
- Encourages students to be metacognitive as they learn and apply strategies to decode/encode as well as identify units of meaning within individual words/ sentences (Hoover & Tunmer, 2020), bringing intellectual engagement into learning about the structure of language and encouraging individual understanding and awareness of progress

Code-based: Every written language is based on a code, patterns for each respective language. For alphabetic languages, code-based instruction teaches that phonemes (sounds) in a spoken language correspond to graphemes (letters) in a written language. The process of teaching a student to decode (based on grapheme-phoneme correspondences) is in direct contrast to teaching a student to guess at a word by looking at a picture.

Comprehensive analytical approach: An umbrella term that encompasses the components of the English language that underpin reading and writing with fluency and comprehension, taught in ways that enable students to be metacognitive while learning about language structure.

Comprehensive:

- A multicomponent approach to teaching components of language structure (phonology/ orthography, morphology, semantics, syntax) ensuring ongoing implicit (statistical) learning opportunities
- Is a broad term (not one specific approach or program) that recognizes:
  - Needs-based foundational instruction generally entails an integrated approach but the specific content taught (what) and methods used (how) must be based on the individual, necessitating differentiation

- Explicit instruction teaches a necessary skill or concept the student **does not know**; not all skills will be explicitly taught and those deemed necessary will vary in amount, form, and intensity of instruction considered necessary to enable ("jumpstart") implicit learning. "Much, if not most, of what children learning to read in English come to know about its orthographic-phonologic relationships is acquired through implicit learning." (Hoover & Tunmer, 2020, p. 203)
- The concept of reciprocity, meaning that once a lower-level foundational skill reaches a certain point the development of higher skills continues to strengthen lower-level skills (Hoover & Tunmer, 2020)
- Exposure to varied forms of text is essential for many reasons (particularly statistical learning); For beginner readers or students with a reading disability/dyslexia, greater amounts of text aligned to lessons ("controlled" text) may be helpful to jumpstart independent word-level reading ability.
- Some children may require support specifically addressing language difficulties (i.e., DLD)

- Recognizes our understandings about how to best teach foundational skills continue to evolve and that more research is needed. At the present time, we know more about the components of language structure than about the effectiveness of particular approaches/programs to teach that structure (Seidenberg, 2020).

- Recognizes the need to be open ongoing research findings indicating that learning may be enhanced by addressing other factors such as self-regulation (see Duke & Cartwright, 2021), inquiry-based approaches to learning language structure (see Bowers & Kirby, 2010), and skill-based physical activity (see Jensen et al., 2025).

Data-informed: This term signifies that information indicating skill acquisition underpins the provision of differentiated instruction. Data can be obtained from a variety of sources (e.g., basic screening, formal and informal assessment, and progress monitoring) to gauge skill mastery and instructional needs and the effectiveness of instruction or intervention. Data sources may also indicate initial readiness to learn (pre-k and k students), language skills (applicable to students learning a new language and to students with language delays in their mother language), and special needs (results of psycho-educational assessment). Data can be obtained from observation and parent input. CAUTION: Methods to measure skills of students not yet reading (or at the foundational stages) will be different from students who are already reading. Methods used to gather data about students in the dark green must be appropriate for students who are already reading. (Testing isolated phonemic awareness skills of students already decoding is not necessary and may generate inaccurate results.)

Differentiation: Instruction based on the need of each student (WHO) to master specific skills (WHAT needs to be taught) based on their individual need, the educator being able to justify the instruction/materials (WHY). Some children will require a more systematic and explicit approach during which skills are built in a cumulative manner yet other children require far less instruction and repetition – if any. Differentiated instruction based on need is essential to enable ALL students to progress.

Inappropriate instruction (such as phonemic awareness or step-by-step phonics instruction for those who can already read) is likely to delay reading and writing development.

Environmental factors: This encompasses a child's home literacy situation and background (including socio-economic situation), the language spoken in the child's home, the dialect within the child's spoken language at home and/or in a child's community, the knowledge, skill-level, experience, and resources available to the child's teachers, and aspects of the school itself.

Explicit instruction: A teaching approach during which students receive clear explanations and demonstrations of a **new** skill or task followed by practice as needed. "Explicitness occurs on a continuum and can take a variety of forms" (Fletcher et al., 2019, p. 100).

Extended learning: Encompasses extended learning of content (e.g., deeper comprehension of more complex text) or enrichment (e.g., guided inquiry delving into a student's interest area).

Implicit learning: Implicit learning is unconscious learning, learning that happens without awareness; it begins at a very early age and continues throughout our lifetime (Arciuli & Simpson, 2012; Spencer et al., 2015; Seidenberg & MacDonald, 2018). The term "statistical learning" is often used to describe a form of implicit learning specific to the patterns within spoken and written language. Examples of these patterns are the speech sounds of spoken language (phonology), the spellings and units of meaning in written words (orthography and morphology), and the varying organizational structures of spoken and written text (syntax). (See Kidd & Arciuli, 2016 and Seidenberg & MacDonald, 2018.) According to researcher Dr. Joanne Arciuli, *"Reading can be thought of as learning statistical regularities"* (2019, p. 642). Some learners acquire these patterns easily, whilst for other learners the acquisition of the same patterns takes more time and instruction. The ability to learn statistical patterns has been linked to higher reading ability (Arciuli, 2012). For those with a reading disability, research suggests that "implicit learning is impaired" (Fletcher et al., p. 330) and that "children with developmental dyslexia have atypical learning and processing of statistical patterns." (Singh, 2018, p. 177). According to Kligler et al. (2023), "A growing body of evidence…suggests that people with DD [developmental dyslexia] are less sensitive to patterns in their environment than are typical readers." (p. 2)

Language structure:

- The structure that makes up written language.
- Learning of language structure (for an alphabetic language) entails understanding that:
  - The letters (orthographic structure) of a written word connect to the sounds (phonemes) heard
  - Letters singly or combined can represent morphemes (units of meaning)
  - The writing of individual words and words combined in sentences and paragraphs, in varying forms of text, is based on established structural conventions
  - Not every aspect can or should be taught; grasping that written language is based on a structure entails ongoing learning through implicit learning, exposure to spoken and written language from a very early age (statistical learning – see Treiman & Kessler, 2022)

- The process by which the structure of the code is learned encompasses attention to the meaning and use of the word(s) being analyzed

Spelling: The accurate representations of individual words in written text, sometimes described as encoding. Note that, although certain forms of instruction may be beneficial (the type and amount of instruction based on the student), spelling skills will be developed/strengthened during the process of reading as the child is implicitly learning probabilistic patterns in words (statistical learning).

Systematically Designed: Instruction based on a consistent system of teaching (including the WHAT and HOW of planned skills or strategies will be taught, reviewed, and practiced). Systematic design applies to where a student is on the continuum of ease in learning to read, the pace of instruction and practice adjusted for the faster or a slower pace they require. The goals for a student in the green will be different from the goals for a student in the red. A sequence (and examples and practice materials) within a program designed for an early reader will be different from a program designed for a child who needs foundational skill instruction.

Within-student factors: *Within-student* factors includes:

- Attentional disorders or challenges (may be undiagnosed)
- Psychological disorders or challenges (may be undiagnosed)
- Exceptionalities (e.g., dyslexia, specific reading comprehension disability, developmental language disorder, intellectual disability, intellectually gifted/advanced)

A few of the many references supporting the above definitions (More references at Nancy's website)

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