

# Decoding

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## Learning to Read

In a nutshell

- *Basic reading skill* comprises two elements: technical reading skill of written language (word recognition and the combination of phonemes that represent letters to words: decoding) and the skill of interpreting the text (reading comprehension and interpretation of the reading material).
- Decoding is the beginning phase of learning to read words. Learning the basic techniques of how to use letter-sound connection to recognise words from the text.
- In orthographically-shallow (transparent) languages (such as Bantu languages), *letter knowledge* is an important predictor of accurate decoding skill.

- Another important predictor of decoding skill is *phonological awareness*, which means the child's sensitivity to perceive and their ability to understand and manage the connection between spoken and written language.
- Letter knowledge, understanding letter-sound correspondence and the ability to combine phonemes to bigger units such as syllables and words are all prerequisites of acquiring basic reading skill.
- In orthographically-shallow languages (such as Bantu languages), letter-phoneme correspondence is regular, and usually, a single letter is represented by a single phoneme (sound), which makes a phoneme structure of the words transparent for the reader.
- The greatest benefit of practising phonological awareness such as letter-phoneme correspondence is acquired when it is combined with teaching to read and spell words. If phonemic awareness does not develop while learning to read, it is usually a sign of difficulties in reading and spelling.
- *Reading fluency*, how accurate and fast a child reads, is a product of the automatisisation of word reading.

The purpose of reading skills is to enable the reader to interact with written language and to understand the meaning of the text. However, reading skills can be considered from different points of view concerning the phase of reading skills development and the purpose of reading.

- *Basic reading skill* is the ability to capture the phonemic form and meaning of written text. It comprises two elements: technical reading skill of written language (word recognition and the combination of phonemes that represent letters to words: decoding) and the skill of interpreting the text (reading

comprehension and interpretation of the reading material). Basic reading skill is based on several cognitive skills that are associated especially with the mastery of language<sup>1</sup>Lerkkanen, M.-K. (2019). Early language and literacy development in the Finnish context. In D. Whitebread, V. Grau, K. Kumpulainen, M. M. McClelland, N. E. Perry, & D. Pino-Pasternak (Eds.). The Sage Handbook of Developmental Psychology and Early Childhood Education. London: Sage, 403-417..

- *Functional reading skill* that starts from the activity of the reader emphasises the instrumental value of reading skill for an individual in everyday life<sup>2</sup>Galda, L. & Beach, R. (2001). Response to literature as a cultural activity. Reading Research Quarterly, 36, 64-74..
- *Multiliteracy skill* refers to the skill of interpreting, producing, and evaluating a wide range of contemporary texts that can be for example: written, pictural, auditive, numerical symbol systems, and audio-visual or digital or a combination of these<sup>3</sup>New London Group (1996). A pedagogy of multiliteracies: Designing social future. Harvard Educational Review, 66, 60-92..

It is evident that the beginning phase of learning to read emphasises learning the basic techniques of how to recognise words from the text and understand the meaning of it. As reading skill develops, the focus shifts from basic reading skill to the interpretation of texts and functional multiliteracy.

## Research briefs

[How Children Read Words](#)

[Working Toward a More Literate World Reading Intervention](#)

[Commentary](#)

[Repeated Reading Effect on Reading Fluency and Reading Comprehension in Monolingual and Bilingual EFL Learners](#)

[Reading Fluency Instruction Moving Beyond Accuracy Automaticity and Prosody](#)

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[Letter knowledge](#)

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## Reading skills development

The development of reading skill is associated with a child's development and their environment (for example, home literacy environment and the early text experiences of the child) as well as the child related linguistic and cognitive factors and their interest toward written language<sup>4</sup>Lerkkanen, M.-K. (2019). Early language and literacy development in the Finnish context. In D. Whitebread, V. Grau, K. Kumpulainen, M. M. McClelland, N. E. Perry, & D. Pino-Pasternak (Eds.). The Sage Handbook of Developmental Psychology and Early Childhood Education. London: Sage, 403-417.. A child learns in interaction with other people and the literacy environment. Thus, they gradually understand the principles of a writing system and letter-phoneme correspondence and how to combine

these to form meaning. Children's experiences of written language differ based on their interest in texts and the reading habits of the home. Early experiences of written language (such as a parent reading aloud to their child) are related to later reading skill. When an adult reads aloud to the child, the child notices that there is a connection between spoken and written language. Children's experiences of written language also strengthen vocabulary and metalinguistic awareness; that is, understanding the language as a coding system for which the structures are described with words, such as sentence, word, letter and phoneme.

A child's *linguistic development* is a basis for reading development. Then, several cognitive components are needed when they learn to decode words. The most important skills are letter knowledge and phonological awareness, which are necessary for understanding letter-sound correspondences to decode written words.

In orthographically-shallow languages (such as Bantu languages), *letter knowledge* is an important predictor of accurate decoding skill. Letter knowledge reflects the child's previous experiences of written language and the child's own interest toward it. Children who can name many letters when starting school have probably had many experiences related to written language, have been interested in letters and have paid attention to the symbols of written language.

Another important predictor of decoding skill is *phonological awareness*, which means the child's sensitivity to perceive and their ability to understand and manage the connection between spoken and written language. This develops from a holistic perception of spoken language to more detailed perception of structures of language as the child gradually focuses on the shift from the meaning of spoken language more to the form of the language and phonological structures of words. In particular, after learning written language and letters, awareness of phonological structures of language develops to

*phonemic awareness*; that is, an ability to understand the phoneme structure of written language and to combine or separate either a single sound or phonemes from words. Phonemic awareness is an important dimension of linguistic awareness for learning accurate decoding. In some languages, the development of phonological awareness and reading skill is reciprocal, meaning that although phonological awareness predicts reading skill, reading skill also predicts the development of phonological awareness. Also, in Bantu languages, phonological awareness seems to develop reciprocally with learning reading skill.

Letter knowledge, understanding letter–phoneme correspondence and ability to combine phonemes to bigger units, syllables, and words are all prerequisites of acquiring basic reading skill. In orthographically-shallow languages such as Bantu languages, letter–phoneme correspondence is regular and usually a single phoneme is represented by a single letter, which makes a word’s phoneme structure transparent for the child who is learning to read. The greatest benefit of practicing phonemic skills is acquired when it is combined with teaching to read and spell words. If phonemic awareness does not develop while learning to read, it is usually a sign of difficulties in reading and spelling. For this reason, the assessment of phonemic awareness has significance for the early recognition of reading difficulties.

*Reading fluency*, how accurate and fast child reads, is a product of the automatisisation of word reading. In particular, *naming speed* seems to be universal; that is, it is an independent predictor of the development of reading fluency.<sup>5</sup> Landerl, K., Freudenthaler, H. H., Heene, M., De Jong, P. F., Desrochers, A., Manolitsis, G., Parrila, R., & Georgiou, G. K. (2018). Phonological awareness and rapid automatized naming as longitudinal predictors of reading in five alphabetic orthographies with varying degrees of consistency. *Scientific Studies of Reading*, 1-15.<sup>6</sup> Torppa, M.,

Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen, M.-K. & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Bantu languages orthography: A longitudinal study from Kindergarten to Grade 2. *Reading and Writing: An Interdisciplinary Journal*, 26, 1353-1380.. Naming refers to the ability to grasp facts accurately from memory labels, such as names of familiar letters, numbers and objects.

*Reading comprehension* means to understand what you read, which consists of reading fluency and comprehension of language. The more fluent the reading, the more attention the reader can direct toward text comprehension. Both listening comprehension and vocabulary have been found to predict the development of reading comprehension<sup>7</sup>Torppa, M., Georgiou, G. K., Lerkkanen, M.-K., Niemi, P., Poikkeus, A.-M., & Nurmi, J.-E. (2016). Examining the Simple View of Reading in a Transparent Orthography: A Longitudinal Study from Kindergarten to Grade 3. *Merrill-Palmer Quarterly*, 62, 179-206.. It is of note that although vocabulary affects reading comprehension, these skills develop reciprocally: reading enriches a child's vocabulary<sup>8</sup>Stanovich, K. E. (1986). Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy. *Reading Research Quarterly* 21(4):360-407. DOI: 10.1598/RRQ.21.4.1. In addition to reading fluency and language comprehension, memory, reading strategies and the metacognitive abilities of monitoring, evaluation and regulation of own comprehension have been found to be related to [reading comprehension](#).

The development of reading skill requires [motivation](#) to practice enough and a voluntary reading habit. The significance of these factors increases as the school years proceed: reading activity and reading habit are predictors of good reading skill<sup>9</sup>Torppa, M., Niemi, P., Vasalampi, K., Lerkkanen, M.-K., Tolvanen, A., & Poikkeus, A.-M. (2020). Leisure reading (But Not Any Kind) and reading comprehension

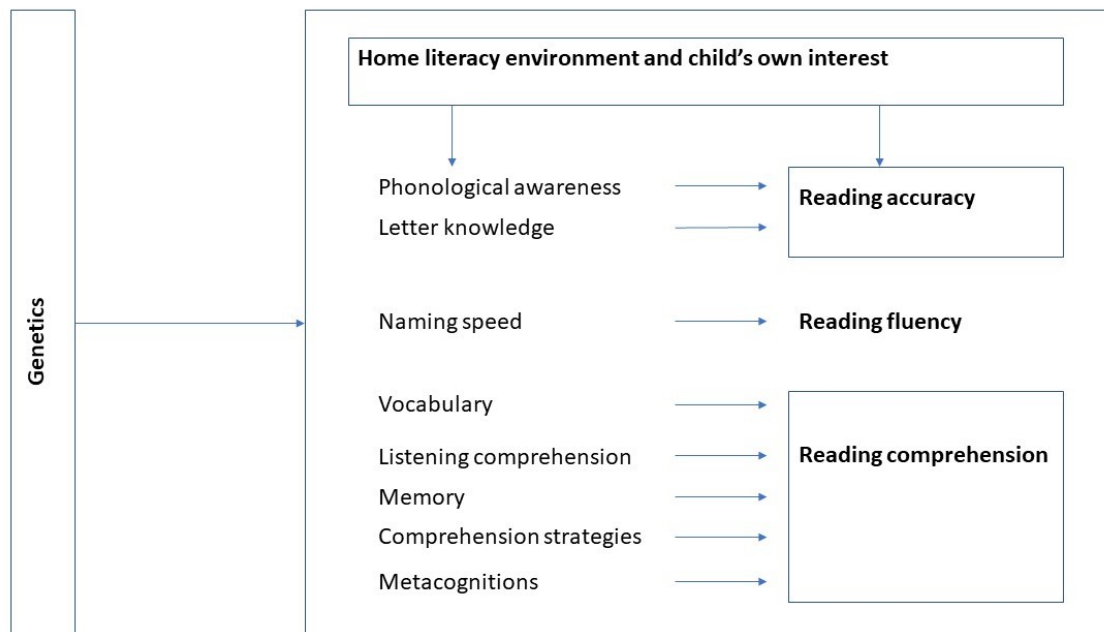
support each other – A longitudinal study across Grades 1 and 9. *Child Development*, 91(3), 876–900. DOI:10.1111/cdev.13241. This relationship is also naturally reciprocal: children's reading skill also predicts the amount of reading spent during spare time. Skilled readers also read a lot voluntarily, which further advances the development of [Reading fluency](#).

Figure 1 shows the main factors that affect the development of reading skill. Home literacy environment and the child's own interest toward texts are particularly related to letter knowledge, which predict the accuracy of reading words together with the development of phonological awareness. Naming speed predicts automatisisation of word recognition (or reading fluency), which strongly predicts reading comprehension. Furthermore, a child's vocabulary, listening comprehension, memory and comprehension strategies together with metacognitive skills are related to reading comprehension. It is of note that the same factors that predict development of reading skill are mainly responsible for the development of spelling and productive writing skill.

## **Practical tips**

[Training in Reading Sentences](#)





*Figure 1. Main predictors of reading skill development (Aro & Lerkkanen, 2019<sup>10</sup> Aro, M. & Lerkkanen, M.-K. (2019). Lukutaidon kehitys ja lukemisvaikeudet [Reading skills development and reading difficulties]. In T. Ahonen, M. Aro, T. Aro, M.-K. Lerkkanen & T. Siiskonen (Eds.) Oppimisen vaikeudet [Learning difficulties]. Jyväskylä: Niilo Mäki Institute, 252-289.)*

## Reading fluency

Fluent reading refers to accurate, fast and prosodic reading of words and texts. <sup>11</sup>Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology*, 95(1), 3–21. <https://doi.org/10.1037> Prosody refers to the rhythm and spacing of reading as meaningful and reasonable pieces and while reading aloud the accent and intonation reflect understanding of the meaning of the text for the reader. Fluent reading is all about effective and easy management of the process of basic reading skill, understanding the meaning of words and expressions and interpretation of the text.

Simultaneous management of several processes makes fluent reading a demanding task. The more fluently the reading skill develops, the more attention can be directed toward comprehension of the content of the text.

Fluent reading is based on the skill to recognise words or parts of words (letter combinations, syllables and morphemes that are meaning units) quickly and automatically without needing to use phoneme-by-phoneme composition of words while reading. The ability to recognise different regularities and restrictions related to written words and letter combinations (and usage of this knowledge while reading) is called orthographic awareness. Furthermore, in fluent reading, the recognition of meaning units (such as parts of compound words or word affixes and inflected forms) is automatic. As reading skill develops, the management of syntax (the management of contextuality and grammatical structures) supports the prediction of text, and through that, fluency of reading.

The strongest predictor of reading fluency problems is difficulty with naming speed: those who name slowly are often also slow readers. <sup>12</sup>Torppa, M., Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen, M.-K. & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Bantu languages orthography: A longitudinal study from Kindergarten to Grade 2. *Reading and Writing: An Interdisciplinary Journal*, 26, 1353-1380. Naturally, fluency of reading skill requires reading practice; independent practice and usage of skill are requirements for the automatisisation of recognition of different level language units. In particular, from the viewpoint of reading fluency development, interest in written texts as well as motivation and enthusiasm toward independent reading are important.

# Practical tips

[Training in Reading Fluency](#)

## References

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