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Psychology of Reading & Overcoming Reading Difficulties: An Overview

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Abstract

One of the most critical transversal abilities for success in both school and society is reading comprehension. Children who struggle with specific reading comprehension issues can effectively decode texts, but they have serious comprehension issues. Reading comprehension issues are common among elementary and secondary school pupils and can have detrimental effects on their academic performance. Fluency is one of the most important aspects of reading success. Phonology, orthography, and semantics are all necessary for reading, which is a higher-order cognitive skill that also depends on more fundamental cognitive skills like working memory, speed measurements, attention switching and shifting, and cognitive control (inhibition and concentration). The development of cognitive control and general growth of the brain are most important during childhood and adolescence. As a result, cognitive training given in childhood and adolescence might be more beneficial than cognitive training given in old age.

Keywords: Reading, Disability, Difficulty, School, Children.

1. Introduction

While reading is one of the fundamental abilities that students must master, it is also a critical skill that is necessary to gain knowledge. One of the biggest issues that many teachers deal with in the classroom is reading difficulty. Reading-disabled students impede not just the flow of the teacher's instruction but also the students' acquisition of life skills (Demirok et al., 2019). A lower reading ability than anticipated among peers of the same age in the same school setting is referred to as reading difficulties (Lyon et al., 2003).

Children's ability to comprehend the theoretical underpinnings of the abilities and curriculum topics provided in school varies greatly. Concepts are collections of ideas that make sense collectively. As an illustration, the term "furniture" refers to beds, tables, chairs, and bookcases. The ideas that pupils come across along their academic journey get more abstract and intricate. Students are always adding new components to old mental frameworks, and new conceptions frequently contain preexisting concepts. They become increasingly adept at differentiating between

ideas that fall under a concept and those that do not, and they can recognise both excellent and poor prototypes of a concept over time. Such conceptual capacity is essential for learning that is genuinely in-depth. Sadly, some pupils only manage to get a shaky understanding of the material. Individuals with such persistently shaky grasps are likely to perform below expectations in the end. While some of them might have consistently poor comprehends, others might struggle with conceptual comprehends in specific disciplines (including science, math, and social studies). Some kids find it far more comfortable to develop concepts vocally, while others find it easier to form concepts visually. Many of the top students make an effort to express or consider ideas both orally and nonverbally. Abstract topics might be extremely difficult for certain students to understand. They are usually too concrete. Such a student could find it difficult to understand ideas like internal combustion, liberalism, or equation (Levine, 2009).

The application of previously gained knowledge and abilities to new learning or problem-solving scenarios is known as transfer of learning. Thus, analogies and resemblances between earlier and current learning materials and procedures could be quite important. The transfer phenomena is explained from a broad learning perspective. Two examples are given to demonstrate and explore the concepts of transfer of skills and analogy: playing the violin and recognising an unknown object. The following fundamental ideas are discussed about the issue of improving transfer effects: Consolidation is necessary for the transfer of recently acquired knowledge structures, and the initial learning process should give special attention to noncognitive aspects of learning (social, emotional, and motivational) (Steiner, 2001).

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2. Semantic knowledge

Because semantic information is structured in a way that allows for meaningful and flexible inferences, it can be applied to similar functional tasks (e.g., apples and oranges are both fruits). Early in development, bilingual newborns pick up vocabulary from both of their languages, and research shows that they catch up to monolinguals in terms of language milestones like the beginning of productive language: They begin with making single-word sentences, go on to generating two-word statements, and then, after some time spent constructing multiword sentences, they begin to use complicated sentences as well. But newborns learning two languages have an additional challenge when it comes to word learning compared to monolinguals. They have to figure out how to translate two lexicons' semantic meanings and related concepts between their two languages. It is commonly known that the idea of mutual exclusivity—that is, the presumption that new words often refer to novel referents or objects—is one of the key principles that drives monolingual children's word acquisition. To examine mutual exclusivity, disambiguation tasks have been the most popular approach. Throughout these investigations, the kids are shown a variety of things, one of which is labelled uniquely (maybe naming one of the objects). If the youngster

choose the previously unlabeled object as the referent of the new term, the mutual exclusivity effect is clearly visible (Sebastian-Galles, 2020).

3. Language and speech

Humans primarily communicate ideas, thoughts, feelings, and beliefs through language. Language, in contrast to other forms of communication, is symbolic; meaning is expressed through arbitrary signs. Language's properties, which involve the methodical application of symbols to express meanings, enable individuals to produce and comprehend an endless stream of messages. Speech and language are not the same thing. The precise articulation of sounds and syllables produced by the intricate interplay of the respiratory system, the larynx, the pharynx, the mouth structures, and the nose is referred to as speech. Although sign languages require the arrangement and motion of hands, arms, facial muscles, and other bodily parts to convey message, they nonetheless fit the concept of language.Similar to this, written languages use random symbols on a page to communicate meaning (Aylward et al., 2008).

It has been widely accepted since 1980 that phonological awareness is essential for reading. The fundamental sound elements that make up a language and are included in formal language systems are called phonemes. Phonemes are made up of different combinations of vowels (V) and consonants (C) in many of the world's languages. A phoneme can also be described for other languages as a CV+tone combination. Differentiating phonemes can be done on a number of levels, including: (1) location and/or style of articulation (e.g., opening or closing the lips during production); (2) voicing characteristics (e.g., starting laryngeal activity before complete production); and (3) level of aspiration (or airflow) during production. All language cultures' newborns seem to be able to distinguish between different phonemes, or recognise when one has changed from another. Two aspects of this early phoneme perception stand out in particular. First, much like adults, newborns have a categorical perception of phonemes. In other words, they distinguish between the phonemes /ba/ and /pa/ because they belong to two different groups (based on voice start time, an acoustic characteristic). They do not, however, distinguish between two versions of "pa" [pa1 vs. pa2] or two versions of "ba" [ba1 vs. ba2], despite the fact that sonically both pairs are equally dissimilar as the ba/pa distinction (Panneton et al., 2008).

4. Speech disorder

Conversely, it is possible to have a language disorder without also having a speech disorder. Nonetheless, children may simultaneously display speech and language difficulties. To comprehend the use of adult language, language can be broken down into various parts. The ability to interpret or comprehend the language of another person is referred to as receptive language. The

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ability to form words is referred to as expressive language. Usually, expressive language develops later than receptive language. Usually, the two elements advance in close time with each other. Nonetheless, in certain toddlers, language production skills fall well short of language comprehension skills. Elderly kids may exhibit asymmetrical comprehension and production skills, with one area being more developed than the other (Aylward et al., 2008).

The second intriguing feature of phoneme perception is that, in terms of non-native phonemes they have never heard before, younger infants react categorically to speech contrasts found in both their native language and non-native language. This is valid for both vowels and consonants, indicating that broader auditory abilities are the source of early phonetic perception. Babies, on the other hand, continue to distinguish between native phonemes as they get older and more experienced, but they struggle more to distinguish between non-native speech sounds. This is commonly known as perceptual attunement, and it is the outcome of newborns paying more attention to and memorising information in their native language (Panneton et al., 2008). Deficient morpheme awareness starts to become more significant as kids become older, even though deficient phoneme awareness is still the most accurate indicator of impaired reading in the early elementary grades. Numerous studies have demonstrated that impaired readers in later grades struggle with spoken and written language's morphology. Spelling mistakes, cloze problems, and vocabulary exercises involving definitions or forms of words are indicative of the challenges faced by impaired readers. Poor vocabulary and phoneme awareness are related to the problems (Mann, 2002).

5. Reading

In line with the Multiple Connections Model, children approach the task of learning to read with varying levels of proficiency in three orthographic coding procedures (phonetic or name codes, phonemes, and syllables) for written words and three phonological coding procedures (whole words, single letters, and letter clusters) for spoken words. This results in a variation in their ability to make connections between corresponding orthographic and phonological codes: whole word-phoneme, phoneme-phoneme, and cluster-syllable/subsyllable correspondence (Berninger & Traweek, 1991). Youngsters appear to pick up on the relationships between distinct letter names, letter sounds, and the written equivalent of those letters with ease. However, task evaluations of letter acquisition reveal that learning the alphabet is indeed a cognitively taxing process (Ehri & Roberts, 2006). In order to correctly correlate non-representational shapes with letter names and letter sounds that may also sound similar, beginners must first learn to discern between shapes that may be quite similar. It's essential to learn the alphabet at a young age. One of the two best indicators of reading and spelling learning, including comprehension, is alphabet knowledge at kindergarten entry. Crucially, research suggests that there is probably a causal relationship between young children's early alphabet understanding and their subsequent literacy abilities. It is necessary

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to identify letters quickly and accurately. However, a number of large- and small-scale study sources provide compelling evidence that many preschoolers are not acquiring high levels of alphabetic knowledge, as shown by tests of letter name or sound correctness (Roberts et al., 2018).

He three traditional methods of teaching reading are whole word, phonics, and whole language. According to the visual memory hypothesis of word reading, we name the thing after receiving visual information and activating a verbal memory linked with it (naming a familiar object or person when we see them, for example). Word-level reading and visual memory abilities have little to no link, although phonological awareness and word-level reading have a substantial correlation. When performing word-reading activities, different parts of the brain fire than when performing visual memory tasks. The majority of deaf pupils finish reading at a third or fourth grade level. Learning to read might not be as challenging for deaf people if reading relied solely on visual memory (Kilpatrick, 2015).

To reduce reading risk, it is helpful to provide enough letter-sound instruction, direct and clear phonological awareness training, and instruction on the relationships between the two. Early intervention benefits from intensive training in phonemic awareness, rigorous phonics instruction, and the chance to read texts that are connected. When used in conjunction with reading related texts, intensive training in phonemic awareness and phonics can be beneficial for older kids requiring assistance. Despite the fact that a substantial body of evidence indicates that there are more successful ways to teach reading, many educators still rely their instruction on custom and gut feeling (Kilpatrick, 2015).

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The conformity of spelling to sound varies throughout writing systems. This has a significant impact on how quickly reading abilities are picked up. For instance, regular orthographies, in which letters or letter clusters regularly map onto phonemes, are found in Italian, Spanish, Greek, and Finnish. When it comes to reading accuracy, students in these countries usually reach near ceiling by the end of first grade. While the same orthographic patterns can frequently be pronounced in many ways and the same pronunciations can nearly always be spelt in multiple ways, youngsters learning to read English, on the other hand, encounter a great deal of inconsistency. It should come as no surprise that children in English-speaking nations require a lot longer to reach a good reading proficiency than children in countries where orthographies are taught more regularly. Phonological decoding is one of the most important abilities for successful reading learning. Children's nonword reading performance can be used to test phonological decoding accurately. Because it enables kids to connect new letter sequences to words previously recorded in their phonological (spoken word) lexicons, nonword decoding is an essential skill. Throughout their early school years, the youngster is able to effectively decode and generate orthographic entries for thousands of new words thanks to this ability to generalise. Research on nonword reading comprehension reveals that learning

English phonological recoding is a challenging and slow process. By the conclusion of grade 1, nonword reading mistake rates usually range from 40% to 80% on average. In comparison, children of the same age produced only around 10% of errors when reading words and nonwords in Greek, a regular spelling (Hutzler et al., 2004). According to a recent review, by the end of grade 1, children reading in regular orthographies such as Dutch, German, Greek, Italian, Portuguese, or Turkish produce no more than 25% of nonword reading errors. In addition to studies conducted in a single language, some direct cross-linguistic comparisons have been made. Children learning to read conventional orthographies shown higher nonword reading skills in comparisons between Turkish and English, Italian and Greek (Hutzler et al., 2004).

The full word approach lacks a practical method for storing words in a way that makes them instantly recognisable sight words. The visual memory hypothesis serves as the foundation for the full word method (Kilpatrick, 2015). The three cueing systems model has significant drawbacks, including: poor readers, not skilled readers, heavily rely on context; contextual guessing does not promote sight-word learning in poor readers; proficient word recognition does not require context; guessing words from context is less efficient than phonic decoding; One of the three cues in the three cueing model is unrelated to word reading, therefore semantic errors are not indicative of greater reading growth than phonetic errors. Assuming that a student can read a passage quickly and easily and understand it when it is read to her, it stands to reason that the student should be able to grasp the passage when she reads it on her own. The questions to ask are "would the student understand it?" and "what is the student's oral reading like?" when a teacher reports that a student has trouble understanding what they are reading (Kilpatrick, 2015).

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6. The "Simple View of Reading"

One classic model of reading acquisition is the Simple View of Reading (SVR; Gough & Tunmer, 1986). It makes the argument that decoding and linguistic comprehension work together to produce reading comprehension, making it clear that neither one is adequate on its own and that both are required. Because the model implies that comprehension in text reading will be nil (mathematically 0) until there is appropriate ability to comprehend the words in the text and understand the discourse, it accommodates asymmetries and atypical reading development. The SVR predicts that correlations between linguistic comprehension and reading comprehension will increase with development, while correlations between decoding and reading comprehension will decrease. It also specifies the functional form of the components that predict reading comprehension and suggests that the model accounts for the vast majority of reliable variance in reading comprehension. The functional form of the model has been replicated in research over the past 30 years, with varying degrees of success. The variance explained in reading comprehension has been found to vary widely. The strong version of SVR claims to account for all of the reliable variance

in reading comprehension, in addition to predicting the functional form and the shifting correlations of reading comprehension with decoding and with language comprehension across time. Since more reading comprehension variables have been studied, the most predictive ones are fluency, IQ, and working memory (Foorman et al., 2018).

According to the simple perspective of reading model, linguistic comprehension and decoding lead to reading comprehension. It will enable assessors to evaluate underlying reading skills that might be causing reading difficulties. Teachers will be able to focus on the abilities that are most likely the cause of a student's reading difficulties. The more we understand about word-level reading, the more proficient and successful our instruction, evaluation, and intervention strategies will be. According to the Simple View, word-level reading consists of two components: cypher knowledge and word-specific information.A person's working memory, morphological awareness, phonological blending, letter-sound knowledge, orthographic knowledge, phonological awareness, vocabulary/phonological long-term memory, rapid automated naming, and visual/phonological paired-associate learning are all related to their ability to decipher cyphers. Factors that impact understanding include (Kilpatrick, 2015):

1) Knowledge of vocabulary and semantics, or understanding the meaning of words you have read
2) Syntactic-grammatical knowledge, which includes understanding verb tenses and the order in which words belong in sentences as well as many linguistic ideas.
3) Background knowledge, or the knowledge a reader brings to the work from prior experiences, readings, or hearings.
4) Working memory, which is the capacity to momentarily retain and retrieve the precise vocabulary and grammatical structures found in any given sentence or set of sentences in order to understand the material.
5) Attention (the capacity to keep an eye on what a student is reading or having read to them).
6) Inferencing, which involves using prior information to a text to deduce the meaning of its unstated passages.
7) Monitoring comprehension (the capacity to identify instances in which a reader does not grasp what they have read).
8) Nonverbal visual-spatial abilities (the capacity to conjure up a picture in their mind based on what they have read or heard read aloud to them).

7. Reading problems
Types of reading problems are:

7.1. Dyslexia: Dyslexia is a difficulty in developing word-level reading skills despite adequate instructional opportunities. The main two international classifications for learning disabilities,

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DSM-IV and ICD-10, define dyslexia as a specific and persistent learning disability that affects the development of written language skills (reading and spelling) and significantly hinders academic achievement and/or day-to-day activities. The most prevalent learning problem is dyslexia. All IQ levels are affected by dyslexia. Children who experience delays in speech and language generally develop into struggling readers. The lowest half of a normal distribution of reading ability is represented by dyslexia. The severity of dyslexia varies; most children with reading problems have relatively modest issues, while a smaller percentage have more severe difficulty. This condition is permanent and does not signify a brief delay in development. If left untreated, a struggling reader in the first grade would nearly always continue to struggle. Adult dyslexics always read slowly throughout their lives (Handler, 2016).

7.2. Hyperlexia: People with hyperlexia are able to read words at a level above their comprehension. They are usually unable to understand what they read because of language-related deficiencies. The first, usually the second, and frequently the third of the following criteria—(a) surprisingly precocious decoding, (b) reading comprehension below decoding skill, and (c) accompanying pathology—are operational markers of hyperlexia (insinuating a more pervasive developmental issue). Early reading, which frequently begins with a particular attraction to alphabetic symbols and develops without official instruction, reflects the first requirement. Regarding the second criterion, a more widespread language comprehension impairment took precedence over the diminished text understanding. In the diagnosing process, these first two criteria have been consistently used (Kennedy, 2003).

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7.3. Specific reading comprehension deficit (S-RCD): While many people who have trouble understanding what they read also have trouble decoding, a significant portion of people (about 10% of adults and children) have trouble understanding what they read even when their decoding skills are intact (Landi, 2010). These individuals, who are sometimes referred to as notably poor comprehenders or just poor comprehenders, are thought to have a specific reading comprehension deficit (S-RCD). The more often used term "poor comprehenders" does not clearly imply a deficiency that is independent of other reading difficulties, which is why we use S-RCD here. While some children with this profile score below average on both verbal and nonverbal IQ tasks, many with S-RCD have intellect within the normal range (Landi & Ryherd, 2017). Coordinating several linguistic and cognitive processes—from lexical retrieval to syntactic parsing to the construction of an overall representation of the text—is necessary for reading comprehension. It follows that the difficulty in identifying the causal mechanisms underlying S-RCD is not shocking. The notion that adults and children might have a comprehension deficit that is not the result of poor decoding is consistent with a commonly held concept of reading, even if the diagnosis of S-RCD is relatively new. According to "The Simple View of Reading," decoding and listening comprehension lead to reading comprehension. In line with this, people with S-RCD struggle with both spoken and written

comprehension, indicating that the condition is a language impairment rather than a reading-specific one (Hulme et al., 2011).

7.4. Compensator type: The compensator type is characterised by wonderful language proficiency and reading comprehension that is average but well behind language proficiency. Their reading comprehension skills are above normal, but their word reading comprehension is below average.

8. Overcoming reading difficulties

Poor language skills, poor word-level reading comprehension, or both can cause a kid to suffer in reading. Multiple subtests and the evaluation of the fundamental skills that underpin both reading comprehension and general language comprehension constitute best practices in the assessment of reading comprehension. An intervention-oriented assessment seeks to identify the causes of a student's reading comprehension difficulties. For every kid who exhibits reading comprehension difficulties, a listening comprehension assessment is strongly advised. For many language learners, vocabulary is the most important component influencing reading comprehension. A student's skill profile includes word-level reading proficiency, specifically the amount of vocabulary they can read out loud; comments from educators, parents, and students themselves; vocabulary, listening comprehension, and other language-related test performance; additional factors that may impact reading comprehension (e.g., working memory, background knowledge, genre knowledge, etc.); and issues like motivation, prior learning experiences, and instruction, as well as reading outside of the classroom. The first thing to do when a student has trouble understanding what he reads is to see whether he can follow along with a story that is being read to him. If so, his word-level reading comprehension is probably lacking. More evaluation is required if he has trouble understanding stories that are read to him, and in most buildings, speech-language pathologists are the best individuals to consult regarding the best course of action. We can reduce reading issues by fifty to seventy-five percent if all kindergarten and first grade students are taught phonological awareness in a systematic manner. A systematic and explicit approach to teaching phonics will prepare a much larger number of pupils for reading success. There is proof that phonemic awareness and phonics function better, thus we must abandon the three-cueing system and full word acquisition. Pupils must acquire strong phonic decoding abilities, the ability to recall words with ease, and an abundance of reading experience. If a student is not showing much progress in phonics, it is almost always due to poor phonological awareness skills (Kilpatrick, 2015).

It is widely believed that a student's motivation plays a crucial role in influencing their success in academic settings. Numerous research have demonstrated the significance of students' motivational attitudes and beliefs in explaining their academic task engagement and accomplishment. One element that affects students' reading comprehension, reading engagement, and reading acquisition

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has been studied: motivation. For example, it has been demonstrated that young students' self-reported motivating beliefs and interests predict their reading engagement, time spent reading, use of reading methods, reading comprehension level, and reading grades (Logan et al., 2011). Research has shown that using strategies to maintain or increase students' motivation can enhance the effectiveness of interventions aimed at improving children's reading (Guthrie et al., 2007). After reviewing previous research on psychological health problems, dyslexia, and/or reading difficulties, Mugnaini et al. (2009) came to the conclusion that "dyslexia and reading problems consistently contribute to higher depressive and anxiety symptoms in students from first grade to university." The reading-impaired child's negative self-concepts were found to be influenced by repeated scholastic failures, feelings of inadequacy despite considerable reading training, being called lazy by teachers, feeling stupid, and needing to put in extra effort for reading-related tasks (Glazzard, 2010). Previous research has consistently demonstrated a connection between psychological disorders and reading challenges. But in the last ten years, some research on psychological well-being and self-perception has produced inconsistent findings, suggesting that kids who struggle with reading may not always think of themselves or others as being more likely to experience sadness, anxiety, or a poor self-image (Jordan et al., 2014; Lindeblad et al. 2014).

REFERENCES

Aylward, G. P., Stancin, T., Wolraich, M., Drotar, D., Dworkin, P., & Perrin, E. (2008). Screening and assessment tools. Measurement and psychometric considerations. Developmental Behavioral PediatricsEvidence and Practice. Philadelphia: Elsiver, 123-9.

Berninger, V., & Traweek, D. (1991). Effects of a two-phase reading intervention on three orthographic-phonological code connections. Learning and Individual Differences, 3(4), 323-338.

Demirok, M. S., Gunduz, N., Yergazina, A. A., Maydangalieva, Z. A., & Ryazanova, E. L. (2019). Determining the Opinions of Special Education Teachers Regarding the Use of Assistive Technologies for Overcoming Reading Difficulties. International Journal of Emerging Technologies in Learning, 14(22).

Ehri, L. C., Roberts, T., Dickinson, D. K., & Neuman, S. B. (2006). The roots of learning to read and write: Acquisition of letters and phonemic awareness. Handbook of early literacy research, 2, 113-34.

Foorman, B. R., Petscher, Y., & Herrera, S. (2018). Unique and common effects of decoding and language factors in predicting reading comprehension in grades 1–10. Learning and Individual Differences, 63, 12-23.

Glazzard, J. (2010). The impact of dyslexia on pupils' self-esteem. Support for learning, 25(2), 63-69.

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Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. Remedial and special education, 7(1), 6-10.

Guthrie, J. T., McRae, A., & Klauda, S. L. (2007). Contributions of concept-oriented reading instruction to knowledge about interventions for motivations in reading. Educational Psychologist, 42(4), 237-250.

Handler, S. M. (2016). Dyslexia: What you need to know. Contemporary Pediatrics, 33(8), 18.

Hulme, C., & Snowling, M. J. (2011). Children's reading comprehension difficulties: Nature, causes, and treatments. Current Directions in Psychological Science, 20(3), 139-142.

Hutzler, F., Ziegler, J. C., Perry, C., Wimmer, H., & Zorzi, M. (2004). Do current connectionist learning models account for reading development in different languages? Cognition, 91(3), 273-296.

Jordan, J. A., McGladdery, G., & Dyer, K. (2014). Dyslexia in higher education: Implications for maths anxiety, statistics anxiety and psychological well-being. Dyslexia, 20(3), 225-240.

Kennedy, B. (2003). Hyperlexia profiles. Brain and language, 84(2), 204-221.

Kilpatrick, D. A. (2015). Essentials of assessing, preventing, and overcoming reading difficulties. John Wiley & Sons.

Landerl, K. (2000). Influences of orthographic consistency and reading instruction on the development of nonword reading skills. European journal of psychology of education, 15, 239-257.

Landi, N. (2010). An examination of the relationship between reading comprehension, higher-level and lower-level reading sub-skills in adults. Reading and writing, 23(6), 701-717.

Landi, N., & Ryherd, K. (2017). Understanding specific reading comprehension deficit: A review. Language and linguistics compass, 11(2), e12234.

Levine, M. D. (2009). Differences in learning and neurodevelopmental function in school-age children. In Developmental-behavioral pediatrics (pp. 535-546). WB Saunders.

Lindeblad, E., Svensson, I., & Gustafson, S. (2016). Self-concepts and psychological well-being assessed by Beck Youth Inventory among pupils with reading difficulties. Reading Psychology, 37(3), 449-469.

Logan, S., Medford, E., & Hughes, N. (2011). The importance of intrinsic motivation for high and low ability readers' reading comprehension performance. Learning and Individual Differences, 21(1), 124-128.

Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. Annals of dyslexia, 53, 1-14.

Mann, V. A. (2002). Reading disorders, developmental. Encyclopedia of the Human Brain, Academic Press, 141-154, ISBN 9780122272103.

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Mugnaini, D., Lassi, S., La Malfa, G., & Albertini, G. (2009). Internalizing correlates of dyslexia. World Journal of Pediatrics, 5, 255-264.

Panneton, R., McIlreavy, M., & Bhullar, N. (2008). Preverbal Development and Speech Perception. Encyclopedia of Infant and Early Childhood Development, Academic Press, 624-636, ISBN 9780123708779

Roberts, T. A., Vadasy, P. F., & Sanders, E. A. (2018). Preschoolers' alphabet learning: Letter name and sound instruction, cognitive processes, and English proficiency. Early Childhood Research Quarterly, 44, 257-274.

Sebastian-Galles, N. (2020). Bilingualism. Encyclopedia of Infant and Early Childhood Development, Academic Press, 172-182, ISBN 9780123708779

Steiner, G. (2001). Transfer of learning, cognitive psychology of. International Encyclopedia of the Social & Behavioral Sciences, Pergamon, 15845-15851, ISBN 9780080430768

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