International Journal of Society Reviews (INJOSER) e-ISSN: 3030-802X
Vol. 3 No. 5, May 2025, pages: 838~850

READING AND WRITING CHALLENGES IN DYSLEXIA: A REVIEW FROM A PSYCHOLINGUISTICS PERSPECTIVE

Fahria Malabar
Universitas Negeri Gorontalo
fahria@ung.ac.id

Nurlaila Husain*
Universitas Negeri Gorontalo
nurlailahusain@ung.ac.id

Nur Qalbi Andini
Universitas Negeri Gorontalo
qalbiandini1997@gmail.com

Usman Pakaya
Universitas Negeri Gorontalo
utenusman22@gmail.com

Abstract

Dyslexia is a common yet complex learning disorder that interferes with an individual's ability to read and write fluently, despite adequate intelligence and access to education. This study employs a qualitative literature review to examine dyslexia through a psycholinguistic lens, focusing on how deficits in phonological processing, lexical access, and working memory contribute to the core challenges in reading and writing. Common manifestations—including substitution, omission, and inversion errors in reading, as well as spelling difficulties, morphological simplification, and disorganized sentence structure in writing—are discussed in relation to underlying cognitive mechanisms. The review also explores the multifactorial causes of dyslexia, emphasizing the roles of genetic, neurobiological, cognitive, and environmental factors. In addressing intervention strategies, the study highlights structured literacy approaches, the use of assistive technologies, and the importance of teacher training and policy support. By synthesizing current research, this review underscores the need for early identification and individualized educational responses. Ultimately, it contributes to a more holistic understanding of dyslexia and supports the development of inclusive practices that respond to the diverse needs of dyslexic learners.

Keywords: *Dyslexia, Psycholinguistics, Reading Challenges, Writing Challenges.*

INTRODUCTION

Dyslexia is a specific type of learning disorder that primarily affects a person's capacity to read and write with fluency and precision, even when they possess sufficient intelligence and have received proper educational opportunities. Characterized by persistent difficulties in word recognition, decoding, spelling, and reading

comprehension, dyslexia arises from neurobiological differences, particularly affecting phonological processing and the automation of language-related skills (Matsuura & Jaeah, 2024). Globally, it is estimated that dyslexia affects between 5% and 20% of the population, with approximately 9% to 12% of individuals experiencing mild to severe reading and writing challenges (Alanazi et al., 2023). These challenges can lead to cumulative academic difficulties, emotional stress, and reduced motivation, especially in contexts where reading is a fundamental skill for educational progress (Torrance et al., 2016). Co-occurring conditions such as dysgraphia may further impair the written output of students with dyslexia, requiring responsive and inclusive pedagogical interventions (Berninger et al., 2015).

Psycholinguistics provides a rich framework for understanding the multifaceted nature of dyslexia by analyzing the cognitive-linguistic processes involved in language comprehension and production. The disorder is most commonly linked to phonological deficits, particularly in phoneme recognition and manipulation, which are essential for decoding unfamiliar words (Ramus et al., 2013). In addition to phonology, individuals with dyslexia often face difficulties in morphological processing, affecting their ability to deconstruct and understand complex word forms (Law & Ghesquière, 2021). Syntactic challenges may also be present, manifesting in struggles with sentence construction and comprehension (Berninger et al., 2015). Interestingly, some research suggests that semantic processing may be relatively preserved or even enhanced, offering a possible compensatory mechanism for phonological weaknesses (Rijthoven et al., 2018). Cognitive factors, including working memory limitations and deficits in verbal short-term memory, further complicate the literacy development of individuals with dyslexia (Majerus & Cowan, 2016; Smith-Spark et al., 2017). Thus, exploring dyslexia through a psycholinguistic lens can deepen our understanding of the linguistic and cognitive mechanisms underlying reading and writing difficulties.

Although phonological deficits have been widely recognized in dyslexia research, less attention has been given to how other linguistic components—such as morphology, syntax, and semantics—interact with phonological weaknesses. Recent findings suggest that morphological awareness may support word recognition when phonological decoding is impaired, yet this area remains underexplored (Law & Ghesquière, 2021). Similarly, the role of semantics, especially as a compensatory strategy in diverse linguistic contexts, warrants further investigation (Estivalet, 2021). In addition, many studies fail to fully incorporate cognitive processing profiles into intervention models, missing opportunities to tailor instruction based on learners' cognitive strengths and weaknesses (Brimo et al., 2021). A psycholinguistic literature review offers a multidimensional approach to address these research gaps by synthesizing findings across linguistic and cognitive domains.

This article aims to examine the reading and writing difficulties experienced by individuals with dyslexia from a psycholinguistic perspective. It seeks to analyze the

cognitive-linguistic factors—phonology, morphology, syntax, semantics, and memory—that contribute to the condition, and to highlight educational implications for intervention. Through a comprehensive review of existing literature, this study aspires to inform more nuanced and effective strategies for supporting dyslexic learners in both research and educational settings.

RESEARCH METHOD

This study adopts a literatire review as a research methodqualitative, descriptive literature review design to explore the reading and writing difficulties experienced by individuals with dyslexia from a psycholinguistic perspective. An effective and well-conducted review, as emphasized by Webster and Watson in Snyder (2019), creates a firm foundation for advancing knowledge and facilitating theory development. To that end, this review synthesizes relevant findings from a wide range of sources, including peer-reviewed journal articles, academic books, doctoral theses, and empirical studies published within the last 5 - 10 years. The inclusion criteria focused on literature that addresses dyslexia in connection with psycholinguistic components such as phonology, morphology, syntax, semantics, and cognition. Studies were excluded if they did not directly examine language processing in individuals with dyslexia or lacked sufficient empirical or theoretical grounding. A thematic analysis was employed to identify and organize key patterns across the selected literature, with particular attention to recurring themes related to reading and writing challenges, underlying cognitive-linguistic processes, and intervention strategies. This method enables a comprehensive and nuanced understanding of the psycholinguistic dimensions of dyslexia, contributing to more informed educational approaches and theoretical insights.

RESULT AND DISCUSSION

Psycholinguistic Characteristics of Dyslexia

Dyslexia is a neurodevelopmental disorder fundamentally rooted in psycholinguistic impairments, which significantly hinder the development of reading and writing skills. At the core of these challenges are deficits in phonological processing, the ability to recognize, segment, and manipulate the sounds of spoken language. These skills are essential for decoding written words and forming accurate sound-to-symbol correspondences. Numerous studies have shown that children with dyslexia exhibit difficulties in phonemic awareness even before they begin formal reading instruction, making early detection both possible and crucial (Snowling & Melby-Lervåg, 2016; Duff et al., 2021). Moreover, Mengisidou and Marshall (2019) argue that the issue may not lie solely in weak phonological representations but also in the ability to retrieve these representations efficiently under cognitive pressure. This insight has shifted the focus from mere identification of deficits to understanding how these deficits function in real-time language tasks, such as decoding unfamiliar words and spelling.

Adding to these difficulties is the role of phonological working memory, which allows individuals to hold and manipulate sound-based information temporarily. This cognitive function is critical for processing longer words, maintaining syntactic cohesion, and integrating information across sentences. Children with dyslexia often experience deficits in this area, which impairs their ability to track and decode sequences of sounds or letters effectively (Alt et al., 2021). As tasks increase in complexity, such as reading paragraphs or composing sentences, the burden on working memory becomes greater. The consequence is often surface-level reading, where students focus on word-by-word decoding without fluency or comprehension (Campen et al., 2018; Gray et al., 2019). Writing, too, is affected: learners may produce disorganized or fragmented texts, marked by poor spelling and syntactic errors, especially as academic demands increase (Alsulami, 2019).

Another key challenge faced by individuals with dyslexia is lexical access—the ability to retrieve words and their meanings from long-term memory. Efficient lexical retrieval is necessary for fluent reading and coherent writing. However, research has shown that dyslexic readers often access words more slowly, especially in languages with irregular spelling rules or opaque orthographies (Wong et al., 2015). This delay leads to longer pauses, hesitations, and even avoidance of more complex vocabulary, further limiting reading fluency. Eye-tracking studies have corroborated these findings, revealing that dyslexic readers tend to have longer fixations and more regressions when processing semantically dense or syntactically complex text (Rivero-Contreras et al., 2021). These retrieval difficulties extend to writing, where poor access to vocabulary and grammatical structures results in awkward phrasing, spelling errors, and reduced clarity. The cumulative impact often includes frustration, loss of confidence, and decreased academic motivation.

To better understand how these psycholinguistic challenges, interact, researchers have developed theoretical models of reading and language processing. The dual-route model differentiates between two pathways: the lexical route, which involves recognizing entire words, and the non-lexical route, which relies on decoding words phonetically. Dyslexic individuals often rely heavily on the non-lexical route due to weaknesses in storing and retrieving whole-word forms (Folegatti et al., 2015). This reliance leads to slower reading, especially when encountering irregular or unfamiliar words. In contrast, connectionist models offer a more integrative perspective, emphasizing how phonological, orthographic, and semantic networks interact during reading. Disruptions in these systems can explain the variability and inconsistency often observed in dyslexic readers. These models account for not only decoding issues but also the broader challenges related to comprehension, word formation, and syntax.

In addition to phonology and memory, dyslexia also affect higher-order linguistic functions such as syntax, morphology, and semantics. Stella and Engelhardt (2021) found that individuals with dyslexia often struggle to construct or comprehend complex

syntactic structures, particularly when working memory demands are high. Morphological awareness—such as recognizing root words and affixes—may provide some compensatory benefit, but it is not always sufficient for achieving fluent and accurate reading and writing. Semantic processing, while sometimes relatively preserved, can also be delayed or effortful, as shown in Huettig and Brouwer's (2015) findings on anticipatory language processing. These higher-level difficulties reinforce the view that dyslexia is a multifactorial disorder. Addressing it effectively requires more than phonics-based interventions; rather, it calls for holistic approaches that integrate memory training, vocabulary development, morphological instruction, and strategies to enhance comprehension and fluency.

Reading and Writing Manifestations

The reading and writing manifestations of dyslexia frequently emerge during the early stages of a child's formal education, often becoming the first noticeable signs of the disorder. Far from being random or careless mistakes, these manifestations reflect deep-rooted psycholinguistic challenges. A primary indicator is the presence of reading errors, such as substitution, omission, and inversion, which reveal the underlying deficits in phonological processing, lexical retrieval, and visual sequencing. Substitution errors occur when a student reads one word in place of another that looks or sounds similar—for example, reading "cat" as "hat." According to Martin et al. (2016), these errors are not indicative of misunderstanding but rather of disrupted decoding processes, where the student may rely on partial phonological or visual cues without achieving full word recognition. This behavior reflects a fundamental difficulty in integrating orthographic and phonological information, often linked to deficits in memory and attention.

Omission errors further illustrate how working memory limitations affect the reading fluency of individuals with dyslexia. These errors, which often involve skipping short, high-frequency function words like "and" or "the," typically arise in longer or more complex texts. The phenomenon is closely tied to cognitive overload; when a dyslexic reader's processing system becomes overwhelmed, attentional lapses occur, leading to missed words (Martin et al., 2016). These omissions can have a significant impact on grammatical structure and textual meaning, especially when the omitted words serve a syntactic or semantic function. In this way, omission errors offer valuable insights into how deficits in phonological awareness, attention regulation, and visual tracking converge during reading tasks—making even simple sentences difficult to fully comprehend.

Inversion errors, such as reading "was" as "saw," reflect a different layer of processing difficulty related to visual and orthographic representation. These types of errors are rooted in difficulties maintaining stable visual-spatial representations of words, often due to impairments in how the brain processes and sequences letters

(Lallier et al., 2016). Inversions can be especially common when dyslexic individuals read under time pressure or attempt to increase their reading speed, suggesting that fluency demands intensify visual processing challenges. This instability in letter orientation and sequence contributes to the characteristic slow and effortful reading associated with dyslexia. Moreover, these types of errors can reduce reader confidence and further discourage engagement with reading tasks, creating a negative cycle of avoidance and underachievement.

The difficulties observed in reading are paralleled—and often magnified—when it comes to writing tasks. Dyslexic students frequently struggle with spelling, often producing phonetic approximations of words (e.g., "bote" for "boat"), which reveals persistent issues with mapping sounds onto corresponding letters (Olulade et al., 2013). As students age, their spelling challenges tend to become more morphologically complex, involving affix misuse or omission, such as confusing "played" with "play" or "helping" with "help." According to Güven and Friedmann (2019), such errors demonstrate ongoing difficulty in applying rules of word formation and reflect a lack of automaticity in processing both the sound and structure of language. These difficulties, compounded by weak orthographic memory, interfere with the accuracy and clarity of written communication and make it difficult for dyslexic learners to meet academic writing expectations.

In addition to spelling and morphology, dyslexic writers often exhibit challenges in structuring their written language. Morphological simplification—such as omitting grammatical endings like "-ing" or "-ed"—diminishes both the grammatical and semantic integrity of sentences (Amaral & Azevedo, 2021). Furthermore, limited working memory and planning ability contribute to sentence disorganization, where students write fragmented, repetitive, or overly simplistic ideas that lack coherence (Bourke & Adams, 2003). This inability to manage higher-order writing processes highlights the broader language production difficulties inherent in dyslexia, beyond basic decoding or transcription. These insights support the argument that interventions for dyslexia must extend beyond phonics and address complex linguistic and cognitive processes involved in both reading and writing. Comprehensive, individualized support is essential for helping students with dyslexia build literacy skills and gain confidence as competent language users.

Underlying Causes of Dyslexia

Understanding the causes of dyslexia requires a multidimensional approach, as the condition arises from an intricate interplay of genetic, neurobiological, cognitive, and environmental factors. It is now widely accepted that dyslexia is not the result of poor teaching, low motivation, or lack of intelligence. Instead, it is a neurodevelopmental disorder characterized by atypical brain development and functioning, particularly in areas related to language processing. These neurological

differences often become evident as children begin formal reading instruction and struggle to acquire foundational literacy skills at the same pace as their peers. Recent interdisciplinary research has helped solidify the view that dyslexia is fundamentally rooted in biological mechanisms that interact with cognitive processes and educational environments.

From a genetic standpoint, dyslexia has been shown to be highly heritable, with family and twin studies estimating heritability rates between 40% and 60% (Pennington et al., 2012). Specific gene variants, such as DYX1C1 and KIAA0319, have been identified as playing key roles in neuronal migration—a crucial process during brain development that helps form the networks used for language processing (Gostić et al., 2019). In a broader context, genome-wide association studies have also found that some gene variants associated with dyslexia overlap with those linked to other neurodevelopmental disorders, suggesting shared biological pathways (Gialluisi et al., 2020). These genetic findings support the notion that dyslexia is not caused by external learning environments alone, but by underlying biological differences in brain structure and function.

In addition to genetic findings, neuroimaging research has provided deeper understanding of the brain mechanisms involved in dyslexia. Functional MRI scans have consistently demonstrated atypical activation patterns in the brains of individuals with dyslexia—particularly in the left hemisphere areas such as the inferior frontal gyrus, temporo-parietal junction, and occipitotemporal cortex, which are central to reading and phonological processing (Peterson & Pennington, 2012). These brain regions are typically underactive during reading tasks in dyslexic individuals, leading to slower decoding and impaired word recognition. Such structural and functional differences often precede formal literacy instruction, indicating that they are developmental in nature rather than a consequence of reading failure. These findings provide strong biological evidence for the early identification and support of children at risk.

In addition to genetic and neurobiological factors, cognitive deficits play a significant role in the manifestation of dyslexia. Two of the most thoroughly researched deficits are in phonemic awareness—the ability to manipulate sounds in spoken language—and rapid automatized naming (RAN)—the speed at which individuals can name familiar visual stimuli like letters or numbers (Bishop, 2015; Viersen et al., 2019). According to Pennington et al.'s (2012) double-deficit hypothesis, individuals who struggle with both of these areas tend to experience the most severe reading difficulties. Phonemic awareness deficits hinder decoding and spelling, while RAN impairments prevent the development of reading fluency. These cognitive challenges underscore the complexity of dyslexia and highlight the need for tailored interventions that address multiple aspects of reading.

Finally, environmental influences play a critical role in either mitigating or exacerbating dyslexic symptoms. Children exposed to language-rich environments and

high-quality, evidence-based reading instruction—especially approaches that include phonics and phonemic awareness—are better equipped to develop literacy, even when cognitive vulnerabilities exist (Kunwar, 2024). In contrast, environments that lack early literacy support or rely on ineffective teaching strategies can magnify reading and writing difficulties, delaying progress and increasing frustration (Shofiah & Putera, 2023). This dynamic interplay between biological predisposition and educational experience underscores the importance of early identification and tailored intervention. By acknowledging the multifactorial nature of dyslexia, educators and clinicians can design more effective, individualized programs that address both the neurological and contextual dimensions of this condition.

Educational Interventions

Educational interventions are essential in addressing the unique challenges faced by individuals with dyslexia, especially in acquiring foundational literacy skills such as reading and writing. Because dyslexia stems from neurocognitive differences—particularly in phonological processing and working memory—standardized or one-size-fits-all teaching methods often fail to meet the needs of dyslexic learners. Recent research emphasizes the importance of tailored, evidence-based interventions that directly target the underlying deficits while also nurturing the learner's confidence and academic engagement. As understanding of dyslexia has evolved, intervention models have become more structured, inclusive, and multidimensional, aiming not only to remediate specific skill deficits but also to promote long-term educational success and psychological well-being.

Among the most widely endorsed approaches is structured literacy, which places a strong emphasis on systematic and explicit instruction in phonics. This method has demonstrated notable success in improving reading fluency, phonemic awareness, and decoding abilities—areas in which dyslexic learners typically struggle. Hall et al. (2022) confirm that early implementation of phonics-based instruction leads to significant gains in literacy outcomes. In tandem with this, multimodal teaching strategies that incorporate visual, auditory, and kinesthetic learning modalities have been shown to increase accessibility and retention. For example, GraphoLearn, a digital learning tool designed to reinforce phonics through game-like activities, has been effective in creating engaging and adaptive learning environments (Lyytinen et al., 2021). These approaches ensure that instruction is not only effective but also aligned with the diverse cognitive profiles of students with dyslexia.

In addition to pedagogical strategies, policy and legislation have increasingly shaped how dyslexia is addressed within school systems. In the United States, widespread legislative reforms have led to the institutionalization of early screening and dyslexia-specific interventions. By 2022, 47 states had enacted laws mandating standardized identification protocols and the use of evidence-based instructional

frameworks (Hall et al., 2022). These policy shifts are accompanied by the development of practical handbooks and implementation guides, such as those described by Brown-Chidsey et al. (2024), which help educators translate scientific insights into everyday teaching practices. As a result, such frameworks have created more consistent and equitable access to support services, reducing the risk of misdiagnosis or under-identification and promoting early intervention—an essential factor in improving long-term literacy outcomes.

However, the success of any intervention ultimately depends on teacher preparedness. Teachers are on the front lines of dyslexia support and must be equipped with both theoretical knowledge and practical strategies. Studies by Lim et al. (2022) and Bridges and Kelley (2023) show that educators who receive targeted training in dyslexia feel more confident and competent in supporting their students. Professional development not only improves instructional delivery but also cultivates a greater understanding of the emotional challenges that often accompany dyslexia, such as anxiety, low self-esteem, and academic disengagement. Zuppardo et al. (2021) argue that addressing these socio-emotional dimensions is essential to creating a learning environment where students feel understood, supported, and empowered to succeed.

In summary, educational interventions for dyslexia must be both scientifically grounded and contextually responsive. Structured literacy, multimodal tools, supportive legislation, and teacher training together form a comprehensive framework that acknowledges the cognitive, emotional, and institutional dimensions of the disorder. These elements work synergistically to address the root causes of dyslexia while building a path toward academic achievement and personal growth. As research and policy continue to advance, it is vital that educational systems remain flexible and committed to evolving practices that respond to the complex needs of learners with dyslexia.

CONCLUSION

Dyslexia is a complex and multifaceted neurodevelopmental disorder that significantly impairs an individual's ability to acquire fluent reading and writing skills, despite having average or above-average intelligence and adequate educational opportunities. This review, approached from a psycholinguistic perspective, has emphasized how deficits in phonological processing, lexical retrieval, working memory, and broader linguistic competencies—such as morphology and syntax—collectively contribute to the persistent literacy difficulties observed in dyslexic learners. In addition, the review has highlighted the underlying causes of dyslexia, including strong genetic predispositions, atypical neurobiological development, cognitive inefficiencies, and the influence of environmental factors such as language exposure and instructional quality. These interacting domains underscore that dyslexia is not simply a reading

delay, but a deeply rooted processing disorder requiring nuanced understanding and multi-level support.

Given the diversity and persistence of dyslexic manifestations across reading and writing tasks, early identification and sustained intervention are critical. The review supports the implementation of structured literacy approaches grounded in phonics, reinforced by multisensory techniques and technology-enhanced learning tools, as evidence-based strategies that respond to the specific cognitive-linguistic needs of dyslexic students. Furthermore, the role of well-prepared educators—equipped through targeted professional development—and the presence of clear policy frameworks are indispensable in ensuring consistent and effective support. Ultimately, adopting a psycholinguistic lens allows educators, researchers, and policymakers to develop more responsive, individualized, and inclusive educational practices. Such an approach not only addresses the challenges of dyslexia more precisely but also empowers learners to engage confidently with language and achieve their academic potential.

REFERENCES

Alanazi, F., Renaud, K., & Tal, I. (2023). Understanding the impact of dyslexia on online privacy and security. 2023 Cyber Research Conference - Ireland (Cyber-Rci), 1-7. https://doi.org/10.1109/cyber-rci59474.2023.10671480

Alsulami, S. G. (2019). The role of memory in dyslexia. International Journal of Education and Literacy Studies, 7(4), 1. https://doi.org/10.7575/aiac.ijels.v.7n.4p.1

Alt, M., Fox, A. B., Levy, R., Hogan, T. P., Cowan, N., & Gray, S. (2021). Phonological working memory and central executive function differ in children with typical development and dyslexia. Dyslexia, 28(1), 20-39. https://doi.org/10.1002/dys.1699

Amaral, J. d. and Azevedo, B. d. (2021). What research can tell us about the interaction between dyslexia and bilingualism. Letrônica, 14(2), e38695. https://doi.org/10.15448/1984-4301.2021.2.38695

Berninger, V. W., Richards, T. L., & Abbott, R. D. (2015). Differential diagnosis of dysgraphia, dyslexia, and owl ld: behavioral and neuroimaging evidence. Reading and Writing, 28(8), 1119-1153. https://doi.org/10.1007/s11145-015-9565-0

Bishop, D. (2015). The interface between genetics and psychology: lessons from developmental dyslexia. Proceedings of the Royal Society B: Biological Sciences, 282(1806), 20143139. https://doi.org/10.1098/rspb.2014.3139

Bourke, L., & Adams, A.-M. (2003). The relationship between working memory and early writing assessed at the word, sentence and text level. Educational and Child Psychology, 20(3), 19–36.

Bridges, M. S. and Kelley, E. (2023). Experiences and perceptions of school-based speech-language pathologists related to literacy: results from a national survey. Language, Speech, and Hearing Services in Schools, 54(1), 189-197. https://doi.org/10.1044/2022_lshss-22-00010

Brimo, K., Dinkler, L., Gillberg, C., Lichtenstein, P., Lundström, S., & Johnels, J. Å. (2021). The co-occurrence of neurodevelopmental problems in dyslexia. Dyslexia, 27(3), 277-293. https://doi.org/10.1002/dys.1681

Brown-Chidsey, R., Scott, A., Hauerwas, L. B., & Nalls, A. J. (2024). Understanding dyslexia guidance for parents and teachers: a review of states' handbooks. Learning Disabilities Research &Amp; Practice, 39(3), 146-161. https://doi.org/10.1177/09388982241245483

Campen, C. K., Segers, E., & Verhoeven, L. (2018). How phonological awareness mediates the relation between working memory and word reading efficiency in children with dyslexia. Dyslexia, 24(2), 156-169. https://doi.org/10.1002/dys.1583

Duff, D., Hendricks, A. E., Fitton, L., & Adlof, S. M. (2021). Reading and math achievement in children with dyslexia, developmental language disorder, or typical development: achievement gaps persist from second through fourth grades.. https://doi.org/10.35542/osf.io/vsxmn

Estivalet, G. L. (2021). Bilingualism: how different languages sculpt our mental lexicon. Journal of Anthropological and Archaeological Sciences, 5(3). https://doi.org/10.32474/jaas.2021.05.000214

Folegatti, A., Pia, L., Berti, A., & Cubelli, R. (2015). Stress assignment errors in surface dyslexia: evidence from two italian patients with a selective deficit of the orthographic input lexicon. Behavioural Neurology, 2015, 1-8. https://doi.org/10.1155/2015/769013

Gialluisi, A., Andlauer, T. F. M., Mirza-Schreiber, N., Moll, K., Becker, J., Hoffmann, P., … & Schulte-Körne, G. (2020). Genome-wide association study reveals new insights into the heritability and genetic correlates of developmental dyslexia. Molecular Psychiatry, 26(7), 3004-3017. https://doi.org/10.1038/s41380-020-00898-x

Gostić, M., Martinelli, A., Tucker, C. S., Yang, Z., Gasparoli, F. M., Ewart, J., … & Paracchini, S. (2019). The dyslexia susceptibility kiaa0319 gene shows a specific expression pattern during zebrafish development supporting a role beyond neuronal migration. Journal of Comparative Neurology, 527(16), 2634-2643. https://doi.org/10.1002/cne.24696

Gray, S., Fox, A. B., Green, S. B., Alt, M., Hogan, T. P., Petscher, Y., … & Cowan, N. (2019). Working memory profiles of children with dyslexia, developmental language disorder, or both. Journal of Speech, Language, and Hearing Research, 62(6), 1839-1858. https://doi.org/10.1044/2019_jslhr-l-18-0148

Güven, S. and Friedmann, N. (2019). Developmental letter position dyslexia in turkish, a morphologically rich and orthographically transparent language. Frontiers in Psychology, 10. https://doi.org/10.3389/fpsyg.2019.02401

Hall, C., Dahl-Leonard, K., Cho, E., Solari, E. J., Capin, P., Conner, C., … & Kehoe, K. F. (2022). Forty years of reading intervention research for elementary students with or at risk for dyslexia: a systematic review and meta-analysis. Reading Research Quarterly, 58(2), 285-312. https://doi.org/10.1002/rrq.477

Huettig, F. and Brouwer, S. (2015). Delayed anticipatory spoken language processing in adults with dyslexia—evidence from eye-tracking. Dyslexia, 21(2), 97-122. https://doi.org/10.1002/dys.1497

Kunwar, R. (2024). Fostering student success: a prevailing provision for dyscalculia and dyslexia in the school curriculum and strategies for support. Nepal Journal of Neuroscience, 21(1), 29-35. https://doi.org/10.3126/njn.v21i1.63381

Lallier, M., Molinaro, N., Lizarazu, M., Bourguignon, M., & Carreiras, M. (2016). Amodal atypical neural oscillatory activity in dyslexia. Clinical Psychological Science, 5(2), 379-401. https://doi.org/10.1177/2167702616670119

Law, J. and Ghesquière, P. (2021). Morphological processing in children with developmental dyslexia: a visual masked priming study. Reading Research Quarterly, 57(3), 863-877. https://doi.org/10.1002/rrq.450

Lim, W. W., Yeo, K. J., & Handayani, L. (2022). The perception of special education teacher in teaching students with dyslexia. International Journal of Evaluation and Research in Education (IJERE), 11(2), 979. https://doi.org/10.11591/ijere.v11i2.22476

Lyytinen, H., Semrud-Clikeman, M., Hong, L., Pugh, K. R., & Richardson, U. (2021). Supporting acquisition of spelling skills in different orthographies using an empirically validated digital learning environment. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.566220

Martin, A., Kronbichler, M., & Richlan, F. (2016). Dyslexic brain activation abnormalities in deep and shallow orthographies: a meta-analysis of 28 functional neuroimaging studies. Human Brain Mapping, 37(7), 2676-2699. https://doi.org/10.1002/hbm.23202

Majerus, S. and Cowan, N. (2016). The nature of verbal short-term impairment in dyslexia: the importance of serial order. Frontiers in Psychology, 7. https://doi.org/10.3389/fpsyg.2016.01522

Matsuura, Y. and Jaeah, C. (2024). Dyslexia articles unboxed: analyzing their readability level. Journal of Developmental &Amp; Behavioral Pediatrics, 45(3), e211-e216. https://doi.org/10.1097/dbp.0000000000001274

Mengisidou, M. and Marshall, C. (2019). Deficient explicit access to phonological representations explains phonological fluency difficulties in greek children with dyslexia and/or developmental language disorder. Frontiers in Psychology, 10. https://doi.org/10.3389/fpsyg.2019.00638

Olulade, O. A., Napoliello, E. M., & Eden, G. F. (2013). Abnormal visual motion processing is not a cause of dyslexia. Neuron, 79(1), 180-190. https://doi.org/10.1016/j.neuron.2013.05.002

Pennington, B. F., Santerre-Lemmon, L. E., Rosenberg, J., MacDonald, B., Boada, R., Friend, A., … & Olson, R. K. (2012). Individual prediction of dyslexia by single versus multiple deficit models.. Journal of Abnormal Psychology, 121(1), 212-224. https://doi.org/10.1037/a0025823

Peterson, R. L. and Pennington, B. F. (2012). Developmental dyslexia. The Lancet, 379(9830), 1997-2007. https://doi.org/10.1016/s0140-6736(12)60198-6

Ramus, F., Marshall, C., Rosen, S., & Lely, H. K. J. v. d. (2013). Phonological deficits in specific language impairment and developmental dyslexia: towards a multidimensional model. Brain, 136(2), 630-645. https://doi.org/10.1093/brain/aws356

Rijthoven, R. v., Kleemans, T., Segers, E., & Verhoeven, L. (2018). Beyond the phonological deficit: semantics contributes indirectly to decoding efficiency in children with dyslexia. Dyslexia, 24(4), 309-321. https://doi.org/10.1002/dys.1597

Rivero-Contreras, M., Engelhardt, P. E., & Saldaña, D. (2021). An experimental eye-tracking study of text adaptation for readers with dyslexia: effects of visual support and word frequency. Annals of Dyslexia, 71(1), 170-187. https://doi.org/10.1007/s11881-021-00217-1

Shofiah, N. and Putera, Z. F. (2023). Important for early literacy intervention children with dyslexia. Advances in Social Science, Education and Humanities Research, 42-56. https://doi.org/10.2991/978-2-38476-032-9_6

Smith-Spark, J. H., Henry, L. A., Messer, D., & Zięcik, A. P. (2017). Verbal and non-verbal fluency in adults with developmental dyslexia: phonological processing or executive control problems?. Dyslexia, 23(3), 234-250. https://doi.org/10.1002/dys.1558

Snowling, M. and Melby-Lervåg, M. (2016). Oral language deficits in familial dyslexia: a meta-analysis and review.. Psychological Bulletin, 142(5), 498-545. https://doi.org/10.1037/bul0000037

Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. Journal of Business Research, 104, 333-339.

Stella, M. and Engelhardt, P. E. (2021). Comprehension and eye movements in the processing of subject- and object-relative clauses: evidence from dyslexia and individual differences. Brain Sciences, 11(7), 915. https://doi.org/10.3390/brainsci11070915

Torrance, M., Rønneberg, V., Johansson, C., & Uppstad, P. H. (2016). Adolescent weak decoders writing in a shallow orthography: process and product. Scientific Studies of Reading, 20(5), 375-388. https://doi.org/10.1080/10888438.2016.1205071

Viersen, S. v., Bree, E. d., & Jong, P. F. d. (2019). Protective factors and compensation in resolving dyslexia. Scientific Studies of Reading, 23(6), 461-477. https://doi.org/10.1080/10888438.2019.1603543

Wong, A. M., Ho, C. S., Au, T. K., Kidd, J. C., Ng, A. K., Yip, L. P., … & Lam, C. (2015). (dis)connections between specific language impairment and dyslexia in chinese. Reading and Writing, 28(5), 699-719. https://doi.org/10.1007/s11145-015-9546-3

Zuppardo, L., Serrano, F., Pirrone, C., & Fuentes, A. R. (2021). More than words: anxiety, self-esteem, and behavioral problems in children and adolescents with dyslexia. Learning Disability Quarterly, 46(2), 77-91. https://doi.org/10.1177/07319487211041103