

Differentiating Between Dysgraphia And Dysorthographia

Abdullajonova Madina To'lanboy qizi

PhD student, Tashkent State University of Uzbek Language and Literature, Uzbekistan

Received: 31 July 2025; **Accepted:** 28 August 2025; **Published:** 30 September 2025

Abstract: Writing disorders constitute an essential subset of specific learning disabilities that affect both academic outcomes and cognitive development. This paper examines dysgraphia and dysorthographia as two closely related but distinct phenomena, with particular focus on their differential features, etiological factors, and implications for diagnosis and intervention. Drawing on international classifications (ICD-11, DSM-5), cross-linguistic perspectives, and scholarly contributions, the study highlights how motor-based and orthographic-linguistic deficits shape the nature of writing impairments. The paper emphasizes the importance of distinguishing between the two conditions for accurate assessment and effective remediation, while acknowledging the variations in terminology and classification across different linguistic and cultural contexts.

Keywords: Dysgraphia; Dysorthographia; Specific learning disorder; ICD-11; DSM-5; Orthographic transparency; Writing impairments.

Introduction: Writing disorders are a significant subset of specific learning disabilities, with implications for both academic achievement and cognitive development. Among these, dysgraphia and dysorthographia represent two closely related but distinct phenomena that impact written expression. Dysgraphia is primarily characterized by difficulties in the motor execution and cognitive organization of handwriting, resulting in illegible or poorly structured written output. In contrast, dysorthographia predominantly manifests as persistent spelling errors and violations of orthographic conventions, reflecting deficits in phonological processing and linguistic competence rather than motor skills.

Despite their conceptual distinction, dysgraphia and dysorthographia are frequently conflated in educational and clinical contexts, leading to challenges in accurate diagnosis and effective intervention. A precise understanding of the underlying cognitive, linguistic, and neuropsychological mechanisms is therefore critical for educators, clinicians, and researchers. This paper aims to delineate the differential characteristics of dysgraphia and dysorthographia, examine their etiological factors, and

highlight the implications for assessment and remedial strategies in diverse educational settings.

METHOD

In the ICD-11 developed by the World Health Organization (WHO), dysgraphia is classified under Developmental Learning Disorder (DLD) within the With Impairment in Written Expression category (World Health Organization, 2022, p.10). This disorder manifests in children as significant difficulties in several aspects of writing skills, including spelling accuracy, correct application of grammar and punctuation rules, as well as organizing ideas and ensuring text coherence. According to the ICD-11 classification, this disorder is characterized by written expression performance that is significantly below the expected level for the child's age and intellectual development, leading to substantial challenges in academic or professional activities. Furthermore, this condition is not attributable to intellectual disability, sensory impairments (visual or auditory), neurological or motor disorders, insufficient educational exposure, lack of adequate academic language knowledge, or psychological difficulties.

In the DSM-5, dysgraphia is included under Specific

Learning Disorder within the With Impairment in Written Expression category (American Psychiatric Association, 2013, p. 67). This disorder presents in children as difficulties in multiple aspects of written expression, including spelling accuracy, correct application of grammar and punctuation rules, and the clarity and organization of written expression. According to the DSM-5, identifying and assessing this disorder serves as a fundamental diagnostic criterion for developing individualized pedagogical and therapeutic interventions.

It should be noted that dysorthographia is not classified as a separate disorder in international diagnostic systems such as the ICD-11 or DSM-5. Unlike dysgraphia, which is clearly recognized and categorized, dysorthographia primarily involves persistent spelling errors and incorrect application of orthographic rules, reflecting deficits in phonological awareness and linguistic processing rather than motor coordination.

There are significant differences in the terminology and classification of written language disorders across countries. For example, in the speech therapy practice of Russia and the CIS region, dysgraphia is interpreted as a general disorder of writing activity. This condition may manifest in various forms, such as letter substitutions, omissions, grammatical errors, or motor difficulties. Dysorthographia, on the other hand, is characterized by the inability to master spelling and grammatical rules, in particular, the incorrect use of affixes or violations of orthographic conventions. Therefore, in this approach, dysorthographia is often regarded as a specific subtype of dysgraphia.

In contrast, in European and American practice, another perspective prevails: in line with DSM-5 and ICD-11 classifications, the term dysgraphia is widely used, while the term dysorthographia is rarely employed. All types of difficulties in written expression – including motor skills, spelling, and grammar – are generally subsumed under the category “Specific Learning Disorder with impairment in written expression.”

At the same time, in some French and Spanish literature, a narrower differential use of terminology can be observed. Specifically, *dysgraphie* (French) or *disgrafía* (Spanish) tends to be associated with writing technique and graphomotor impairments, whereas *dysorthographie* (French) or *disortografía* (Spanish) is used to denote a tendency toward spelling and orthographic errors.

Dysgraphia is often described as a disorder of “writing technique” associated primarily with graphomotor and motor aspects; it encompasses the production of letter

forms, the consistent reproduction of graphemes, as well as writing speed and accuracy. Berninger and colleagues emphasized the multi-component nature of dysgraphia, highlighting motor–graphomotor processes, orthographic encoding, and sequential coordination of finger movements (Berninger, 2011, p. 169).

Dysorthographia, by contrast, is mainly related to orthographic and grammatical errors, disruptions in phoneme–grapheme correspondences, and incorrect application of morphological rules. Its underlying mechanisms are frequently rooted in deficits of phonological and orthographic encoding (INSERM, 2007, p. 20).

Until the mid-1990s, dysorthography was not distinguished as a separate type of written language disorder; its manifestations were classified as agrammatic dysgraphia. The need to differentiate between dysgraphia and dysorthography was first emphasized by scholars such as R.I. Lalaeva, A.N. Kornev, I.V. Prishchepova, and G.M. Sumchenko. These researchers pointed out that the nature of writing errors in the two disorders is not identical. At present, dysorthography represents the least explored category of writing disorders. Until quite recently, instances of writing impairments manifested in the form of numerous spelling errors in children – even when such errors exhibited a persistent character – were interpreted as nonspecific manifestations and, consequently, did not receive the status of an independent object of systematic scientific inquiry (Kornev, 1997. p.137).

Dysorthography is defined as a persistent and specific impairment in acquiring orthographic knowledge and skills. It arises from underdevelopment of certain non-verbal functions (such as operational components of verbal-logical thinking, verbal-auditory memory, attentional stability, and the ability to shift between activities or develop orthographic algorithms) as well as linguistic functions (including limited vocabulary and retrieval, low cognitive engagement with the formal aspects of speech, difficulty comparing phonological units, insufficient differentiation of lexical and grammatical meanings, and poor mastery of grammatical rules).

The specific characteristics of a language play a decisive role in the identification of dysgraphia and dysorthographia. First, the degree of phoneme–grapheme correspondence, often referred to as orthographic transparency, is a crucial factor influencing the nature of spelling errors. In transparent orthographies, such as Spanish or Italian, where the mapping between phonemes and graphemes is highly

consistent, errors are more strongly associated with phonological processes. In contrast, in opaque orthographies such as English, errors tend to arise from lexical memory and the complexity of orthographic patterns. Research by Borleffs and colleagues (2019) has demonstrated that orthographic transparency serves as a determining factor in the manifestation of both dyslexia and dysorthographia (Borleffs et al., 2019, pp. 3–4).

Morphological complexity is another important factor shaping orthographic errors. In morphologically rich languages, particularly Slavic languages, dysorthographic manifestations are often related to the incorrect application of morphemes and affixes. Experimental studies reveal that children frequently fail to apply grammatical rules and morphological units consistently in words with high morphological load, which results in systematic spelling and grammatical errors. Breadmore and colleagues (2023), in their study, showed how morphological processes unfold temporally in writing, highlighting the differences in the distribution of morphological errors between children and adults (Breadmore et al., 2023, pp. 408–411).

In addition, graphic and visual factors also play a significant role in writing impairments. Optical-graphic errors, which occur due to the visual similarity of letters, constitute a notable type of disruption in written expression. For example, in Russian, graphemes such as “ш/щ” or “п/т” frequently lead to optical dysgraphia-type errors. Khomutskaya (2017) has provided a detailed analysis of these processes, describing the substitution of visually similar letters, the occurrence of mirror writing, and the omission of graphic elements as characteristic manifestations (Khomutskaya, 2017, pp. 3–4).

RESULTS AND DISCUSSION

In educational and clinical practice, these disorders are often mistakenly conflated, which can compromise accurate diagnosis and the design of effective interventions. Misinterpreting motor-based errors in dysgraphic children as orthographic difficulties may lead to inappropriate remedial strategies, while failing to recognize subtle spelling deficits in children with dysorthographia can result in insufficient support for their writing challenges.

A nuanced understanding of the cognitive, linguistic, and neuropsychological mechanisms underpinning each disorder is essential for developing targeted assessment and intervention plans. Evidence-informed approaches – such as individualized occupational therapy for dysgraphia and focused phonological and spelling exercises for dysorthographia – demonstrate higher efficacy when guided by these differential

profiles.

CONCLUSION

Early identification and careful distinction between dysgraphia and dysorthographia are critical for minimizing long-term academic and psychosocial consequences. By elucidating the specific manifestations and underlying mechanisms of each condition, educators, clinicians, and researchers can implement strategies that optimize learning outcomes and foster the overall development of children experiencing writing difficulties.

REFERENCES

1. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.
2. Berninger, V. W., & O'Malley May, M. (2011). Evidence-based diagnosis and treatment for specific learning disabilities involving impairments in written and/or oral language. *Journal of Learning Disabilities*, 44(2), 167–183. <https://doi.org/10.1177/0022219410391189>
3. Borleffs, E., Maassen, B. A. M., Lyytinen, H., & Zwarts, F. (2019). Cracking the code: The impact of orthographic transparency and morphological-syllabic complexity on reading and developmental dyslexia. *Frontiers in Psychology*, 10, 2534. <https://doi.org/10.3389/fpsyg.2019.02534>
4. Breadmore, H. L., Côté, E., & Deacon, H. (2023). The timing tells the tale: Multiple morphological processes in children's and adults' spelling. *Scientific Studies of Reading*, 27(5), 407–421. <https://doi.org/10.1080/10888438.2022.2163463>
5. Breadmore, H. L., Hayiou-Thomas, M. E., Kirkby, J. A., & Snowling, M. J. (2016). Morphological spelling in spite of phonological deficits: Evidence from children with dyslexia. *Applied Psycholinguistics*, 37(5), 1201–1223. <https://doi.org/10.1017/S0142716415000552>
6. Caravolas, M., Hulme, C., & Snowling, M. (2005). Effects of orthographic consistency, frequency, and letter position on spelling development. *Journal of Experimental Child Psychology*, 92(4), 307–321. <https://doi.org/10.1016/j.jecp.2005.06.001>
7. Döhla, D., & Heim, S. (2015). Developmental dyslexia and dysgraphia: What can we learn from the one about the other? *Frontiers in Psychology*, 6, 2045. <https://doi.org/10.3389/fpsyg.2015.02045>
8. Friedmann, N., & Gvion, A. (2023). Two types of developmental surface dysgraphia: To bee but not

- to bea. *Cognitive Neuropsychology*, 40(3–4), 119–147.
<https://doi.org/10.1080/02643294.2023.2280220>
9. INSERM Collective Expertise Centre. (2007). *Dyslexia, dysorthography, dyscalculia: Review of the scientific data (Short report)*. Paris: Institut national de la santé et de la recherche médicale.
 10. Khomutskaya, E. Yu. (2017). *Proyavleniya opticheskoy disgrafii pri izuchenii russkogo i inostrannogo yazykov* [Manifestations of optical dysgraphia in learning Russian and foreign languages]. *Vestnik of Moscow State Linguistic University*, 3(1), 3–9.
 11. Kornev, A. N. (1997). *Narusheniya chteniya i pis'ma u detey: Uchebno-metodicheskoe posobie* [Reading and writing disorders in children: A teaching manual]. Saint Petersburg: MiM Publishing.
 12. Treiman, R., & Cassar, M. (1997). The beginnings of orthographic knowledge: Children's knowledge of double letters in words. *Journal of Educational Psychology*, 89(4), 631–644.
<https://doi.org/10.1037/0022-0663.89.4.631>
 13. Tsesmeli, S. N., & Seymour, P. H. K. (2009). Derivational morphology and spelling in dyslexia: Effects of training morphological structure on spelling derived words. *Dyslexia*, 15(3), 257–281.
<https://doi.org/10.1002/dys.368>
 14. Velichenkova, O. A. (2024). Specific developmental disorders of school skills and phonological deficit: The problems of comorbidity. *RUDN Journal of Language Studies, Semiotics and Semantics*, 15(3), 1000–1020. <https://doi.org/10.22363/2313-2299-2024-15-3-1000-1020>
 15. World Health Organization. (2022). *International classification of diseases (11th ed.)*. Geneva: World Health Organization.