Clinical Psychology and Special Education
2020, vol. 9, no. 3, pp. 34–47.
DOI: 10.17759/cpse.2020090303
ISSN: 2304-0394 (online)

Клиническая и специальная психология
2020. Том 9. № 3. С. 34–47.
DOI: 10.17759/cpse.2020090303
ISSN: 2304-0394 (online)

# Developmental Language Disorder: Considerations for Implementing School-Based Screenings

**Rouzana Komesidou**
*MGH Institute of Health Professions, Boston, Massachusetts, USA*
*ORCID: https://orcid.org/0000-0003-3113-8937, e-mail: rkomesidou@mghihp.edu*

**Rebecca Summy**
*Florida State University, Tallahassee, Florida, USA*
*ORCID: https://orcid.org/0000-0003-1809-8213, e-mail: ssummy@fsu.edu*

Developmental Language Disorder (DLD) is a condition that impacts children's ability to understand and/or use language. DLD is highly prevalent in the school-age population, but it remains misunderstood and underdiagnosed. Along with raising public awareness, there is a need for improved educational practices for identifying children with DLD. Universal language screening in the early grades is a promising solution for improving under-identification of DLD but it requires systematic approaches that consider the heterogeneity of school contexts and their unique challenges. In this paper, we introduce DLD and discuss how frameworks commonly used in implementation science can help with the adoption and maintenance of early language screening.

**Keywords:** Developmental Language Disorder, screening, implementation science.

**Funding.** The research reported here was supported, in part, by the Institute of Education Sciences (Grant No. R305B200020) to the Florida Center for Reading Research at Florida State University. The opinions expressed are those of the authors and do not represent views of the funding agencies or universities.

**Acknowledgements.** The authors thank Dr. Hugh Catts and Dr. Tiffany P. Hogan for their guidance in preparing this article.

**For citation:** Komesidou R., Summy R. Developmental Language Disorder: Considerations for Implementing School-Based Screenings. Klinicheskaia i spetsial'naia psikhologiia=Clinical Psychology and Special Education, 2020. Vol. 9, no. 3, pp. 34–47. DOI: 10.17759/cpse.2020090303

## Introduction

Before learning to read and write, children must first develop the necessary language skills which lay the foundation for those later abilities. Language is the ability to understand and communicate thoughts and ideas in spoken, written, and/or signed form.

For most children, the process of language acquisition is easy, effortless, and rapid. For example, a child moves from babbling to single words, then to two-word phrases, and then to full sentences in the timespan of approximately three years. However, language acquisition for some children is not as easy, effortless, or rapid. These children may present with Developmental Language Disorder (DLD)[1].

DLD is characterized by difficulties in understanding and/or producing spoken language in the absence of other medical conditions, such as hearing loss, traumatic brain injury, or cognitive impairment [36]. DLD is a common condition affecting approximately 7.5% of the school-age population, or about 1 in 15 children [48; 64]. DLD is a life-long condition that persists into late adolescence and adulthood. It often co-occurs with other developmental disorders, such as speech sound disorder (SSD), dyslexia, attention deficit hyperactivity disorder (ADHD), and autism spectrum disorder (ASD) [2; 15; 54–56; 59]. DLD is not associated with one single cause but rather with the interactions of multiple genetic, biological, and environmental risk factors. Some of those factors associated with DLD are family history of language delays, gender (i.e., more common in boys than in girls), prenatal environment, parental education, and socioeconomic status [36].

DLD can have a significant impact on children's educational progress and socio-emotional development. Due to the heavy language demands of academic content areas, children with DLD are six times more likely to have reading disabilities and four times more likely to have math disabilities than children without language disorders [6; 19; 63]. They also struggle with navigating peer relationships and making and maintaining friendships [62]. Research shows that children with DLD are often at a higher risk to experience emotional difficulties, such as decreased self-regulation, symptoms of depression and/or anxiety, low self-esteem, and low self-confidence [16; 17; 25].

Despite being one of the most common developmental conditions, most people do not know about DLD. The lack of awareness means that often children with DLD are left unidentified and they are at higher levels of risk for poor educational and life outcomes. Recent efforts to raise awareness of DLD have brought attention to the need for systematic approaches to school-based identification and prevention of learning difficulties [3]. New research supports the use of universal language screening in the early grades to identify children at risk of DLD [5; 31]. However, the success of implementing and sustaining early screening depends on the capacity and readiness of schools to support such process [30]. In the current article, we discuss the utility of implementation science frameworks to examine contextual factors that can influence implementation and to develop an effective plan for school-based adoption and maintenance of universal screening for DLD. We must clarify that universal screening alone does not solve the problem of under-identification of DLD. Additional steps, such as targeted interventions, continuous progress monitoring, and further assessments are necessary to support children at risk of DLD and to prevent school failure. However, we will only focus on universal screening because we think that it is an

[1] DLD is a new term recommended by the CATALISE group to refer to children who were previously labeled as having Specific Language Impairment (SLI) [12; 13; 36]. McGregor et al. provide a thorough discussion on the similarities and differences of the terms DLD and SLI, including diagnostic implications, consideration of co-occurring conditions, and nonverbal IQ criteria [41]. While many of the research studies referenced in this paper were based on the term SLI, we will use the term DLD in line with recent efforts to raise awareness about this condition and to improve clinical and educational practices.

important first step toward the early identification of children at risk of DLD and the appropriate use of school resources for their remediation. In the remainder of this article, we will: (1) describe oral and written language difficulties in DLD that affect learning and educational progress, (2) discuss under-identification of DLD and recent efforts to address it, with a focus on early language screenings, and (3) discuss how frameworks from implementation science can guide uptake of evidence-based screening practices in elementary schools.

## The Impact of DLD on Learning

DLD is a heterogeneous disorder and children demonstrate difficulties with various aspects of spoken language. Difficulties with morphology and syntax are very common and they include omission of markers for tense and agreement (e.g., regular past tense inflection -ed and third person singular inflection -s), omission of articles (i.e., a, an, the), omission of the auxiliary and copula forms of be (e.g., am, is, are), difficulty understanding passive sentences (e.g., the boy was pushed by the girl), difficulty understanding pronominal sentences (e.g., "Mowgli says Baloo Bear is tickling himself"), difficulty using adverbial and relative clauses, and difficulty with wh-question formation [8; 9; 36; 44; 61]. Overall, children with DLD use fewer complex sentences in conversation and expository discourse compared to their age-matched peers [38; 47].

Along with deficits in morphology and syntax, children with DLD often demonstrate deficits in vocabulary and phonological acquisition. Compared to age-matched peers, children with DLD have smaller vocabularies, have difficulty naming objects, and instead use words that lack specificity (e.g., thing, stuff), and require more exposures to learn new words [29; 42; 56; 57]. Problems with phonological acquisition include slower acquisition of consonants and complex syllable structures and use of simplification processes (e.g., cluster reduction or omission of unstressed syllable) for a longer time than their age-matched peers [5; 49].

Deficits in written language are also common in children with DLD. In order to be a successful reader, one must be able to accurately decode letter strings into pronounceable words and derive meaning from spoken language. This is the premise behind the Simple View of Reading, defining reading comprehension as the product of word decoding and language comprehension [28; 34]. Word decoding depends on children's ability to appreciate and manipulate sounds in spoken syllables and words (i.e., phonological awareness) and to connect sounds with letters [11; 26]. Language comprehension depends on foundational language skills, such as vocabulary and grammar, higher level language skills, such as inferencing, comprehension monitoring, and text structure knowledge, and background knowledge [32; 33]. According to the Simple View of Reading, poor reading comprehension results from deficits in either or both domains. Thus, it is not surprising that many children with DLD are at risk for reading comprehension problems [14; 46]. Additionally, it is estimated that about 50% of children with DLD have co-occurring word decoding problems or dyslexia [39].

Studies of the spelling outcomes of children with DLD indicate that they generally struggle with spelling more than their age-matched peers; however, the presence of a concomitant reading disability (i.e., dyslexia) increases the severity of their spelling deficits

[35; 40]. In terms of writing, children with DLD tend to produce shorter stories that contain fewer complex sentences, less diverse vocabulary, and many grammatical errors [10; 22; 37; 58].

## Removing Barriers to the Under-Identification of DLD

In general, people have limited understanding of language, how language develops, and what language disorders look like. DLD is often referred to as the "common but hidden" condition because often parents and teachers do not understand early signs of language difficulties and they might misinterpret them as shyness, laziness, or disinterest. Thus, many children with DLD are left unidentified and without appropriate intervention. An epidemiological study on the prevalence of DLD in kindergarten children found that the number of unidentified children can go up to 70% [64]. Interestingly, the presence of co-occurring conditions in children with DLD (e.g., ADHD, speech articulation problems) can function as a protective factor as it increases the likelihood for earlier identification and intervention relative to cases with DLD only. For example, the presence of ADHD in children with DLD appears to be a strong predictor of earlier referral and service provision, because unlike the "hidden" symptoms of DLD, behavioral difficulties associated with ADHD are fairly noticeable by practitioners [55; 69].

The good news is that over the last few years, we have witnessed increasing efforts to raise awareness of DLD [12; 13]. Awareness campaigns have brought together multidisciplinary teams to (1) help the general public understand the what, why, and how of DLD, (2) disseminate evidence-based resources for parents, educators, and researchers, (3) influence legislative efforts at the state and national levels and (4) establish accountability for communication rights and service provision. Formal organizations, such as DLDandMe (dldandme.org), Raising Awareness of Developmental Language Disorder (RADLD; radld.org), and National Association of Professionals concerned with Language Impairment in Children (NAPLIC; naplic.org), are at the forefront of such efforts.

Along with raising awareness, it is important to improve school-based practices for identifying and supporting children with DLD. In the US, DLD is diagnosed by a speech-language pathologist (SLP) after a parent, a teacher, or other professional (e.g., pediatrician) raises concerns about a child's language development. However, this approach might fail to address the under-identification problem, for two reasons. First, children with DLD might go unnoticed for a long time before someone raises concerns about their language, resulting in missed opportunities for early remediation. Second, only children with severe DLD are likely to be noticed by parents or teachers and referred for assessment, leaving out a large proportion of children with moderate language delays who may not qualify for special education services but who still show poor academic achievement [14; 52].

Recent publications have argued that universal screening of oral language in the early grades (as early as preschool and kindergarten) is a promising solution for improving under-identification of DLD [3; 4; 31]. As with any other type of health screening (e.g., diabetes, hypertension, breast cancer), language screening can identify risk of DLD or in other words, the likelihood that a child will have DLD. Screening measures are usually brief and focus on early risk factors associated with a condition. For example, some

commercially available language screeners focus on children's ability to understand and use grammatical structures (e.g., past tense), to repeat sentences, and to follow multi-step directions (for a review of available screeners and specifications, see the open-source document created by Bao and Hogan, [7]). Preventative interventions and progress monitoring are necessary next steps to mitigate early learning difficulties and reduce the number of children who are referred for special education services [24]. Such systematic approaches might especially benefit children with moderate language delays who are often missed in the traditional referral process.

The concept of universal screening is not new to schools in the US. Elementary schools commonly use universal screening within a multi-tier approach, such as Response to Intervention (RtI), to identify students with reading and math difficulties [27; 65]. RtI allows schools to identify students at risk of poor learning outcomes early and to provide different levels of instructional interventions, based on their needs. In addition, most states in the US have recently passed laws mandating early screening to identify children with dyslexia [67; 68]. Similar models can be created to assess for oral language difficulties and improve under-identification of DLD. To this end, frameworks commonly used in implementation science can guide school teams in developing a deliberate process for the successful adoption and maintenance of language screening in the early grades.

## Implementing Universal Screening for DLD

In recent years, there has been growing interest in using implementation science to understand and improve the conditions affecting delivery of evidence-based programs in education [18; 30]. Implementation science is defined as "the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice" [21, p. 1]. Implementation science differs from traditional research as it focuses on the process of implementation and contextual characteristics that influence the likelihood of an innovation to be adopted and maintained in everyday practice. It is not enough for an innovation to have robust empirical evidence to be successfully implemented in a particular context. The context itself must be ready to accept the innovation. This latter prerequisite is often overlooked in traditional research, which explains in part why there is a considerable gap between what we know works and what actually works. The same problem applies to universal language screening for DLD. Having appropriate language measures to identify children at risk of DLD is only one part of the equation. We must also ensure that schools have the necessary infrastructure to systematically administer language screenings.

There are numerous frameworks in implementation science and, in general, they delineate the process by which we can examine contextual barriers and facilitators and apply relevant strategies to improve implementation of an innovation [45; 66]. The process of implementation usually begins with the exploration phase, during which teams explore the makeup of the context, understand strengths and weaknesses and interactions across system levels (i.e., inner context, outer context), determine specific needs, and find evidence-based resources to match those needs [1; 20; 23; 43; 53]. Before implementing language screenings, the exploration phase allows us to address important questions, such as student demographics (e.g., number of English Language Learners), resources (e.g., personnel, materials, data management systems), and capacity to conduct school- or

district-wide screenings. This initial information can guide the selection of appropriate language measures. For example, for a district with a large population of English Language Learners, language assessments that can distinguish language disorder from language difference should be preferred [50; 51]. Additional factors to consider during exploration are quality of existing service delivery for students with DLD, staff characteristics (e.g., knowledge, skills, attitudes, buy-in), interprofessional collaboration, readiness for change, and administrative/leadership support. Finally, we must understand how elements of the outer context, such as advocacy groups (e.g., DLDandMe), policies (e.g., Individuals with Disabilities Education Act or IDEA), funding, and networks with local and national organizations (e.g., American Speech-Language-Hearing Association or ASHA) influence the way schools operate. For example, funding opportunities and educational policies must align to support schools in their efforts to serve children with DLD, which brings us back to the importance of advocating and educating the general public about DLD [3]. The exploration phase allows implementation teams to become intimately familiar with school contexts and create individualized implementation plans that match to their language screening needs.

In the next phase, teams use various strategies to prepare for implementation, such as acquiring necessary resources (e.g., language screeners), building capacity, training personnel, developing and implementing tools for data management and quality monitoring, and setting up meetings with stakeholders (e.g., school administrators, teachers, clinicians, parents) to discuss implementation plans [23; 53]. Training and coaching personnel (e.g., teachers, SLPs) is an important part of the preparation phase [60] and should concentrate on theoretical foundations of language development, DLD, and administration and interpretation of language screenings. Moreover, training should increase competence in data management to facilitate collection and processing of screening data. Finally, the preparation phase should involve the development of systematic processes to evaluate implementation of language screening and to identify unanticipated barriers and solutions. For example, the administration of a particular language screener might take longer than expected so implementation teams must examine whether this is due to training gaps or it is truly an issue with time allocation. Rapid problem-solving cycles are necessary to prevent delays in the implementation process and re-emergence of the same problems [23; 43].

In the final phase, all systems and processes are expected to be in place to support implementation efforts. During implementation, school personnel should consider the fidelity of administration of the chosen DLD screener and the overall effectiveness of the process [20; 23]. In addition, new barriers must be accounted for to inform the nature and extent of necessary adjustments in the preparation phase [20; 23]. Some examples of barriers are longer administration times than expected, misunderstandings among staff about certain administration rules (e.g., some teachers provide more prompts than what is allowed), scoring errors, difficulties with class management during the screening of individual students, absent students, and unresponsive students. Finally, school personnel should be given opportunities to share their feedback and perceptions of the implementation process [23]. In general, the more information schools have about what went well and what did no go well during the implementation of early language screening, the better they can use it to make improvements. The implementation of universal screening for DLD is a complex process and its success depends on appropriate and

context-specific adjustments, continuous evaluation and improvement, and clear communication between stakeholders.

**Conclusion**

DLD is a common but unknown condition affecting children's educational and life opportunities. Universal language screenings can improve identification of DLD in the early grades, but we must carefully consider contextual factors that are likely to influence the implementation process. We discussed the utility of implementation science frameworks in evaluating school contexts and facilitating the uptake of universal screening for DLD. More work is needed to extend the application of such frameworks in schools to identify children with DLD and help them access learning in the classroom.

## References

1. Aarons G.A., Hurlburt M., Horwitz S.M. Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, 2011. Vol. 38, no. 1, pp. 4–23. DOI: 10.1007/s10488-010-0327-7

2. Adlof S.M., Hogan T.P. Understanding dyslexia in the context of developmental language disorders. *Language, Speech, and Hearing Services in Schools*, 2018. Vol. 49, no. 4, pp. 762–773. DOI: 10.1044/2018_LSHSS-DYSLC-18-0049

3. Adlof S.M., Hogan T.P. If we don't look, we won't see: Measuring language development to inform literacy instruction. *Policy Insights from the Behavioral and Brain Sciences*, 2019. Vol. 6, no. 2, pp. 210–217. DOI: 10.1177/2372732219839075

4. Adlof S.M., Scoggins J., Brazendale A. et al. Identifying children at risk for language impairment or dyslexia with group-administered measures. *Journal of Speech, Language, and Hearing Research,* 2017. Vol. 60, no. 12, pp. 3507–3522. DOI: 10.1044/2017_JSLHR-L-16-0473

5. Aguilar-Mediavilla E.M., Sanz-Torrent M., Serra-Raventós M. A comparative study of the phonology of pre-school children with specific language impairment (SLI), language delay (LD) and normal acquisition. *Clinical Linguistics & Phonetics*, 2002. Vol. 16, no. 8, pp. 573–596. DOI: 10.1080/02699200210148394

6. Alt M., Arizmendi G.D., Beal C.R. The relationship between mathematics and language: Academic implications for children with specific language impairment and English language learners. *Language, Speech, and Hearing Services in Schools,* 2014. Vol. 45, no. 3, pp. 220–233. DOI: 10.1044/2014_LSHSS-13-0003

7. Bao X., Hogan T.P. A review of commercially available screening tests used to identify risk of Developmental Language Disorder (DLD). Manuscript in preparation, 2020. URL: https://docs.google.com/spreadsheets/d/1o5U6QSztiJb0qE_a0wjzPeWg7_816GmquEagQi0XPpo/edit#gid=1925966314 (Accesssed: 17.09.2020).

8. Bedore L.M., Leonard L.B. Specific language impairment and grammatical morphology: A discriminant function analysis. *Journal of Speech, Language, and Hearing Research*, 1998. Vol. 41, no. 5, pp. 1185–1192. DOI: 10.1044/jslhr.4105.1185

9. Bedore L.M., Leonard, L.B. Grammatical morphology deficits in Spanish-speaking children with specific language impairment. *Journal of Speech, Language, and Hearing Research,* 2001. Vol. 44, no. 4, pp. 905–924. DOI: 10.1044/1092-4388(2001/072

10. Bishop D.V.M., Clarkson B. Written language as a window into residual language deficits: A study of children with persistent and residual speech and language impairments. *Cortex*, 2003. Vol. 29, no. 2, pp. 215–237. DOI: 10.1016/s0010-9452(08)70106-0

11. Bishop A.G., League M.B. Identifying a multivariate screening model to predict reading difficulties at the onset of kindergarten: A longitudinal analysis. *Learning Disability Quarterly,* 2006. Vol. 29, pp. 235–252. DOI: 10.2307/30035552

12. Bishop D.V.M., Snowling M.J., Thompson P.A. et al. CATALISE: A multinational and multidisciplinary Delphi consensus study. Identifying language impairments in children. *PLOS one,* 2016, vol. 11, no. 7, pp. 1–26. DOI: 10.1371/journal.pone.0158753

13. Bishop D.V.M., Snowling M.J., Thompson P.A. et al. Phase 2 of CATALISE: A multinational and multidisciplinary Delphi consensus study of problems with language development: Terminology. *Journal of Child Psychology and Psychiatry*, 2017. Vol. 58, no. 10, pp. 1068–1080. DOI: 10.1111/jcpp.12721

14. Catts H.W., Adlof S.M., Weismer S.E. Language deficits in poor comprehenders: A case for the simple view of reading. *Journal of Speech, Language, and Hearing Research,* 2006. Vol. 49, no. 2, pp. 278–293. DOI: 10.1044/1092-4388(2006/023)

15. Catts H.W., Hogan T.P., Adlof S.M. Developmental changes in reading and reading disabilities. In H.W. Catts, A.G. Kamhi (Eds.), *Connections between language and reading disabilities*. Mahwah, NJ: Erlbaum Associates, 2005, pp. 2025–2040. DOI: 10.4324 /9781410612052-9

16. Conti-Ramsden G., Botting N. Emotional health in adolescents with and without a history of specific language impairment (SLI). *Journal of Child Psychology & Psychiatry*, 2008. Vol. 49, no. 5, pp. 516–525. DOI: 10.1111/j.1469-7610.2007.01858.x

17. Conti-Ramsden G., Mok P.L.H., Pickles A. et al. Adolescents with a history of specific language impairment (SLI): Strengths and difficulties in social, emotional and behavioral functioning. *Research in Developmental Disabilities*, 2013. Vol. 34, no. 11, pp. 4161–4169. DOI: 10.1016/j.ridd.2013.08.043

18. Cook B.G., Odom S.L. Evidence-based practices and implementation science in special education. *Exceptional Children*, 2013. Vol. 79, no. 3, pp. 135–144. DOI: 10.1177/001440291307900201

19. Cross A.M., Joanisse M.F., Archibald L.M. Mathematical abilities in children with developmental language disorder. *Language, Speech, and Hearing Services in Schools*, 2019. Vol. 5, no. 1, pp. 150–163. DOI: 10.1016/j.ridd.2013.08.043

20. Damschroder L.J., Aron D.C., Keith R.E. et al. Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, 2009. Vol. 4, no. 1, pp. 1–15. DOI: 10.1186/1748-5908-4-50

21. Eccles M.P., Mittman, B.S. Welcome to implementation science. *Implementation Science*. Vol. 1, no. 1, pp. 1–3. DOI: 10.1186/1748-5908-1-1

22. Fey M.E., Catts H.W., Proctor-Williams K. et al. Oral and written story composition skills of children with language impairment. *Journal of Speech, Language, and Hearing Research*, 2004, vol. 47, no. 6, pp. 1301–1318. DOI: 10.1044/1092-4388(2004/098)

23. Fixsen D.L., Blase K.A., Van Dyke M.K. Implementation practice and science. Chapel Hill, NC: Active Implementation Research Network, 2019.

24. Fletcher J.M., Vaughn S. Response to intervention: Preventing and remediating academic difficulties. *Child Development Perspectives*, 2009. Vol. 3, no. 1, pp. 30–37. DOI: 10.1111/j.1750-8606.2008.00072.x

25. Gallagher T.M. Interrelationships among children's language, behavior, and emotional problems. *Topics in Language Disorders*, 1999. Vol. 19, no. 2, pp. 1–15. DOI: 10.1097/00011363-199902000-00003

26. Georgiou G., Parrila R., Kirby J. Rapid naming speed components and early reading acquisition. *Scientific Studies of Reading*, 2006. Vol. 10, pp. 199–220. DOI: 10.1207/s1532799xssr1002_4

27. Gersten R., Beckmann S., Clarke B. et al. Assisting students struggling with mathematics: Response to intervention (RtI) for elementary and middle schools. Institute of Education Sciences Practice Guide, U.S. Department of Education, 2009. 98 p. URL: https://docplayer.net/7119437-Assisting-students-struggling-with-mathematics-response-to-intervention-rti-for-elementary-and-middle-schools.html (Assessed: 12.09.2020).

28. Gough P.B., Tunmer W.E. Decoding, reading, and reading disability. *Remedial and Special Education*, 1986. Vol. 7, no. 1, pp. 6–10. DOI: 10.1177/074193258600700104

29. Gray S. Word-learning by preschoolers with specific language impairment. *Journal of Speech, Language, and Hearing Research*, 2003. Vol. 46, no. 1, pp. 56–67. DOI: 10.1044/1092-4388(2003/005)

30. Halle T., Metz A., Martinez-Beck I. Applying implementation science in early childhood programs and systems. Baltimore, MD: Paul H. Brookes Publishing Company, 2013. 360 p.

31. Hendricks A.E., Adlof S.M., Alonzo C.N. et al. Identifying children at risk for developmental language disorder using a brief, whole-classroom screen. *Journal of Speech, Language, and Hearing Research*, 2019. Vol. 62, pp. 896–908. DOI: 10.1044/2018_JSLHR-L-18-0093

32. Hogan T.P., Adlof S.M., Alonzo C.N. On the importance of listening comprehension. *International Journal of Speech-Language Pathology*, 2014. Vol. 16, no. 3, pp. 199–207. DOI: 10.3109/17549507.2014.904441

33. Hogan T.P. Bridges M.S., Justice L. et al. Increasing higher level language skills to improve reading comprehension. *Focus on Exceptional Children*, 2011. Vol. 44, no. 3, pp. 1–20. DOI: 10.17161/fec.v44i3.6688

34. Hoover W.A., Gough P.B. The simple view of reading. *Reading and Writing*, 1990. Vol. 2, no. 2, pp. 127–160. DOI: 10.1007/BF00401799

35. Joye N., Brocb L., Olive T. et al. Spelling performance in children with developmental language disorder: A meta-analysis across European languages. *Scientific Studies of Reading*, 2019. Vol. 23, no. 2, pp. 129–160. DOI: 10.1080/10888438. 2018.1491584

36. Leonard L.B. Children with specific language impairment. 2nd ed. Cambridge, MA: MIT Press, 2014.

37. Mackie C, Dockrell J.E. The nature of written language deficits in children with SLI: Research note. *Journal of Speech, Language & Hearing Research*, 2004. Vol. 47, no. 6, pp. 1469–1483. DOI: 10.1044/1092-4388(2004/109)

38. Marinellie S.A. Complex syntax used by school-age children with specific language impairment (SLI) in child–adult conversation. *Journal of Communication Disorders*, 2004. Vol. 37, no. 6, pp. 517–533. DOI: 10.1016/j.jcomdis.2004.03.005

39. McArthur G.M., Hogben J.H., Edwards V.T. et al. On the "specifics" of specific reading disability and specific language impairment. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 2000. Vol. 41, no. 7, pp. 869–874. DOI: 10.1111/1469-7610.00674

40. McCarthy J.H., Hogan T.P., Catts H.W. Is weak oral language associated with poor spelling in school-age children with specific language impairment, dyslexia or both? *Clinical Linguistics & Phonetics*, 2012. Vol. 26, no. 9, pp. 791–805. DOI: 10.3109/02699206. 2012.702185

41. McGregor K.K., Goffman L., Van Horne A. et al. Developmental Language Disorder: Applications for advocacy, research, and clinical service. *Perspectives of the ASHA Special Interest Groups*, 2020. Vol. 5, no. 1, pp. 38–46.

42. McGregor K.K., Oleson J., Bahnsen A. et al. Children with developmental language impairment have vocabulary deficits characterized by limited breadth and depth. *International Journal of Language & Communication Disorders*, 2013. Vol. 48, no. 3, pp. 307–319. DOI: 10.1111/1460-6984.12008

43. Metz A., Halle T., Bartley L. The key components of successful implementation. In T. Halle, A. Metz, I. Martinez-Beck (Eds.), *Applying Implementation Science in Early Childhood Programs and Systems*. Baltimore, MD: Paul H. Brookes Publishing Company, 2013. Pp. 21–42.

44. Montgomery J.W., Evan, J.L. Complex sentence comprehension and working memory in children with specific language impairment. *Journal of Speech, Language, and Hearing Research,* 2009. Vol. 52, no. 2, pp. 269–288. DOI: 10.1044/1092-4388(2008/07-0116)

45. Moullin J.C., Sabater-Hernández D., Fernandez-Llimos F. et al. A systematic review of implementation frameworks of innovations in healthcare and resulting generic implementation framework. *Health Research Policy and Systems*, 2015. Vol. 13, no. 1, pp. 1–11. DOI: 10.1186/s12961-015-0005-z

46. Nation K., Clarke P., Marshall C.M. et al. Hidden language impairments in children: Parallels between poor reading comprehension and specific language impairment? *Journal of Speech, Language, and Hearing Research*, 2004. Vol. 47, no. 1, pp. 199–211. DOI: 10.1044/1092-4388(2004/017)

47. Nippold M.A., Mansfield T.C., Billow J.L. et al. Expository discourse in adolescents with language impairments: Examining syntactic development. *American Journal of Speech-Language Pathology*, 2008. Vol. 17, no. 4, pp. 356–366. DOI: 10.1044/1058-0360(2008/07-0049)

48. Norbury C.F. Gooch D., Baird G. et al. Younger children experience lower levels of language competence and academic progress in the first year of school: Evidence from a population study. *Journal of Child Psychology and Psychiatry,* 2016. Vol. 57, pp. 65–73. DOI: 10.1111/jcpp.12431

49. Orsolini M., Sechi E., Maronato C. et al. Nature of phonological delay in children with specific language impairment. *International Journal of Language & Communication Disorders,* 2001. Vol. 36, no. 1, pp. 63–90. DOI: 10.1080/13682820150217572

50. Petersen D.B., Spencer T.D. The narrative language measures: Tools for language screening, progress monitoring, and intervention planning. *Perspectives on Language Learning and Education*, 2012. Vol. 19, no. 4, pp. 119–129. DOI: 10.1044/lle19.4.119

51. Petersen D.B., Spencer T.D. CUBED. Language Dynamics Group, 2016. URL: www.languagedynamicsgroup.com (Accessed: 20.09.2020)

52. Petscher Y., Justice L.M., Hogan T.P. Modeling the early language trajectory of language development when the measures change and its relation to poor reading comprehension. *Child Development*, 2018. Vol. 89, pp. 2136–2156. DOI: 10.1111/cdev.12880

53. Powell B.J., Waltz T.J., Chinman M.J. et al. A refined compilation of implementation strategies: Results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, 2015. Vol. 10, no. 1, pp. 21–35. DOI: 10.1186/s13012-015-0209-1

54. Redmond S.M. Language impairment in the attention-deficit/hyperactivity disorder context. *Journal of Speech, Language, and Hearing Research*, 2016. Vol. 59, no. 1, pp. 133–142. DOI: 10.1044/2015_JSLHR-L-15-0038

55. Redmond S.M., Ash A.C., Hogan T.P. Consequences of co-occurring attention-deficit/hyperactivity disorder on children's language impairments. *Language, Speech, and Hearing Services in Schools*, 2015.Vol. 46, no. 2, pp. 68–80. DOI: 10.1044/2014_LSHSS-14-0045

56. Rice M.L. Specific language impairment, nonverbal IQ, attention-deficit/hyperactivity disorder, autism spectrum disorder, cochlear implants, bilingualism, and dialectal variants: Defining the boundaries, clarifying clinical conditions, and sorting out causes. *Journal of Speech, Language, and Hearing Research*, 2016. Vol. 59, no. 1, pp. 122–132. DOI: 10.1044/2015_JSLHR-L-15-0255

57. Rice M.L., Oetting J.B., Marquis J. et al. Frequency of input effects on word comprehension of children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, 1994. Vol. 37, no. 1, pp. 106–122. DOI: 10.1044/jshr.3701.106

58. Scott C.M., Windsor J. General language performance measures in spoken and written narrative and expository discourse of school-age children with language learning disabilities. *Journal of Speech, Language, and Hearing Research,* 2000. Vol. 43, no. 2, pp. 324–339. DOI: 10.1044/jslhr.4302.324

59. Shriberg L.D., Tomblin J.B., McSweeny J.L. Prevalence of speech delay in 6-year-old children and comorbidity with language impairment. *Journal of Speech, Language, and Hearing Research,* 1999. Vol. 42, no. 6, pp. 1461–1481. DOI: 10.1044/jslhr.4206.1461

60. Snyder P.A., Hemmeter M.L., Fox L. Supporting implementation of evidence-based practices through practice-based coaching. *Topics in Early Childhood Special Education*, 2015. Vol. 35, no. 3, pp. 133–143. DOI: 10.1177/0271121415594925

61. Stavrakaki S. Comprehension of reversible relative clauses in specifically language impaired and normally developing Greek children. *Brain and Language*, 2001. Vol. 77, no. 3, pp. 419–431.

62. St Clair M.C., Forrest C., Goh Kok Yew S. et al. Early risk factors and emotional difficulties in children at risk of developmental language disorder: A population cohort study. *Journal of Speech, Language, and Hearing Research*, 2019. Vol. 62, no. 8, pp. 2750–2771. DOI: 10.1044/2018_JSLHR-L-18-0061

63. Stoeckel R.E., Colligan R.C., Barbaresi W.J. et al. Early speech-language impairment and risk for written language disorder: A population-based study. *Journal of Developmental and Behavioral Pediatrics*, 2013. Vol. 34, no. 1, pp. 38–44. DOI: 10.1097/DBP.0b013e 31827ba22a

64. Tomblin J.B., Records N.L., Buckwalter P. et al. Prevalence of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research*, 1997. Vol. 40, no. 6, pp. 1245–1260. DOI: 10.1044/jslhr.4006.1245

65. Vellutino F.R., Scanlon D.M., Small S. et al. Response to intervention as a vehicle for distinguishing between reading disable and non-reading disabled children: Evidence for the role of kindergarten and first grade intervention. *Journal of Learning Disabilities*, 2006. Vol. 38, no. 6, pp. 157–169.

66. Villaboros Dintrans P., Bossert T., Sherry J. et al. A synthesis of implementation science frameworks and application to global health gaps. *Global Health Research and Policy*, 2019. Vol. 4, no. 1, pp. 25–36. DOI: 10.1186/s41256-019-0115-1

67. Ward-Lonergan J., Duthie J. The state of dyslexia: Recent legislation and guidelines for serving school-age children and adolescents with dyslexia. *Language, Speech, and Hearing Services in Schools*, 2018. Vol. 49, no. 4, pp. 810–816. DOI: 10.1044/2018_LSHSS-DYSLC-18-0002

68. Youman M., Mather N. Dyslexia laws in the USA: An update. *Perspectives on Language and Literacy*, 2015. Vol. 41, no. 4, pp. 10–18.

69. Zhang X., Tomblin J.B. The association of intervention receipt with speech-language profiles and social-demographic variables. *American Journal of Speech-Language Pathology*, 2000. Vol. 9, no. 4, pp. 345–357. DOI: 10.1044/1058-0360.0904.345

# Расстройство развития речи: рекомендации по применению школьных скринингов

**Рузана Комесиду**
*Институт медицинских профессий MGH, Бостон, Массачусетс, США*
*ORCID: https://orcid.org/0000-0003-3113-8937, e-mail: rkomesidou@mghihp.edu*

**Ребекка Самми**
*Государственный университет Флориды, Талахасси, Флорида, США*
*ORCID: https://orcid.org/0000-0003-1809-8213, e-mail: ssummy@fsu.edu*

---

Расстройство развития речи (Developmental Learning Disorder) – это состояние, которое влияет на способность детей понимать и/или использовать речь. Расстройство развития речи широко распространено среди детей школьного возраста, однако оно все еще не имеет единых диагностических критериев и часто диагностируется неверно. Наряду с повышением осведомленности общества существует потребность в совершенствовании образовательных и диагностических практик для выявления детей с расстройствами развития речи. Перспективным решением для своевременного выявления расстройств развития речи у детей, обучающихся в младших классах, является Универсальный речевой скрининг. Скрининг требует систематизированного проведения и учета неоднородности школьной среды, уникальности возникающих в этой среде задач и проблем. В данной статье приведено описание расстройств развития речи, а также

обсуждаются практики проведения раннего речевого скрининга и его потенциал в сфере адаптации детей с расстройствами речи.

**Ключевые слова:** расстройства развития речи, скрининг, прикладная наука.

**Финансирование.** Данное исследование было частично поддержано Институтом Наук об Образовании (Грант No. R305B200020), выданным Флоридскому Исследовательскому Центру Изучения Чтения в Государственном университете Флориды. Мнения, высказанные авторами публикации, могут не совпадать с позициями грантодателей и университетов.

**Благодарности.** Авторы благодарят доктора Хью Кэттс и доктора Тиффани П. Хоган за их руководство в подготовке этой статьи.

**Для цитаты:** Комесиду Р., Самми Р. Расстройство развития речи: рекомендации по применению школьных скринингов [Электронный ресурс] // Клиническая и специальная психология. 2020. Том 9. № 3. С. 34–47. DOI: 10.17759/cpse.2020090303

## Information about the authors

*Rouzana Komesidou,* PhD (Philosophy), Postdoctoral Research Fellow, Department of Communication Sciences and Disorders, MGH Institute of Health Professions, Boston, Massachusetts, USA, ORCID: https://orcid.org/0000-0003-3113-8937, e-mail: rkomesidou@mghihp.edu

*Rebecca Summy,* MA, Doctoral Student, School of Communication Science and Disorders, Florida State University, Tallahassee, Florida, USA, ORCID: https://orcid.org/0000-0003-1809-8213, e-mail: ssummy@fsu.edu

## Информация об авторах

*Рузана Комесиду,* PhD (философия), постдокторант, департамент изучения коммуникативных расстройств, Институт медицинских профессий MGH, Бостон, Массачусетс, США, ORCID: https://orcid.org/0000-0003-3113-8937, e-mail: rkomesidou@mghihp.edu

*Ребекка Самми,* магистр гуманитарных наук, аспирант, департамент изучения коммуникативных расстройств, Государственный университет Флориды, Талахасси, Флорида, США, ORCID: https://orcid.org/0000-0003-1809-8213, e-mail: ssummy@fsu.edu

*Received: 30.04.2020*

*Accepted: 10.09.2020*

*Получена: 30.04.2020*

*Принята в печать: 10.09.2020*