



Developmental Language Disorder Research Priority Setting Partnership Report

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DLD Research Priority Setting Partnership Report



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by Dorothy Bishop and Courtenay Norbury
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Foreword

For a long time, developmental language disorder (DLD) has been a Cinderella subject. This is reflected in poor public awareness of this condition and a lack of research funding. For instance, a survey (*Bishop, 2010*) found that attention deficit hyperactivity disorder (ADHD) and autism both attracted 15 to 19 times as much research funding as DLD, resulting in a major imbalance in the number of research publications for DLD relative to ADHD and autism. As a result, practitioners have lacked a strong evidence base as a foundation for DLD diagnosis, prognosis and intervention.

We are pleased to see that things are changing – with the support of the RCSLT, new criteria and terminology are helping to raise awareness of DLD. Practitioners are becoming more confident and consistent in how they apply the diagnosis and how they can use diagnosis to support self-advocacy for children and young people. Furthermore, there is growing awareness of DLD as a lifelong condition affecting adolescents and adults as well as children. The time is ripe to call for increased funding to help us understand more about this common but often hidden condition.

With this report, the RCSLT is performing a valuable function by ensuring that research priorities in this area focus on issues that are important to people with DLD and their families. For this research strategy to work, we need the active involvement of speech and language therapists (SLTs) in research studies, and a strong commitment from researchers to engage with clinicians, educators and families at every stage of the research process. Research directed towards the top 10 priorities identified in this publication is sorely needed to put DLD on the same footing as other common conditions affecting development, and to improve both communication and quality of life outcomes for individuals with DLD.

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'The RCSLT is ensuring that research priorities in this area focus on issues that are important to people with DLD and their families'

The RCSLT research priority setting partnership

The mission of the RCSLT is ‘To enable better lives for people with communication and swallowing needs’.

One way we hope to achieve this is by supporting quality practice among SLTs and other professionals. Such practice should be evidence-based, with practitioners using their clinical expertise to draw upon the best available research evidence, and upon service-user preferences, to provide a responsive, expert, needs-led service. A growing body of evidence is helping SLTs, service-users and other professionals to understand speech, language, communication and swallowing needs, and to plan and develop approaches to treat them and minimise their impact. However, there are many gaps in our knowledge when it comes to these needs. In such cases, how do we know which of these gaps to research first?

The RCSLT’s DLD research priorities partnership aims to address this issue with regard to developmental language disorder (DLD), a common, lifelong condition affecting the ability to produce and/or understand spoken language. We have asked people with DLD, their parents and carers, SLTs, other professionals, charitable organisations and research funders which areas of DLD we most urgently need to know about. They have responded, and their voices are powerful. This multi-stakeholder approach has enabled us to identify the top 10 research priorities in DLD. Please join us in supporting research into these vitally important areas – research that is imperative if we are going to enable the best possible lives for people with this impactful, lifelong condition.

#DLDResearchPriorities



THE TOP 10

DLD research priorities

- 1** Outcomes for individuals with DLD across settings (e.g. language provision, mainstream school) in relation to curriculum access, language development and social skills
- 2** Specific characteristics of evidence-based DLD interventions which facilitate progress towards the goals of an individual with DLD
- 3** Effectiveness of a face-to-face versus indirect approach to intervention for individuals with DLD
- 4** Effective interventions targeting receptive language for individuals with DLD
- 5** Impact of including speech, language and communication needs DLD in teacher training course curriculums on referral rates and level of support for children with DLD
- 6** Impact of SLT interventions for adolescents and adults with DLD on wider functional outcomes (e.g. quality of life, access to the curriculum, social inclusion, mental health)
- 7** Implementation of SLT recommendations in the classroom by teaching staff: confidence levels, capacity, capability and levels of success
- 8** Effective ways of teaching self-help strategies to children and young people with DLD
- 9** Impact of targeted vocabulary interventions on curriculum access for individuals with DLD
- 10** Impact of teacher training (on specific strategies/language support) on academic attainment in adolescents with DLD in secondary schools

What is DLD?

DLD is a lifelong condition characterised by difficulties with understanding and/or using spoken language.

It has no single known cause and is likely a result of a number of biological, genetic and environmental risk factors. DLD may be diagnosed if a child's language difficulties are likely to persist throughout childhood and into adolescence and adulthood. DLD affects every individual differently and there are a wide variety of ways in which language problems may present and evolve over time (RCSLT, 2017). Two children in every class of 30, or 7.58% of children, start school with DLD. A further 2.34% of children start school with a language disorder associated with another condition, such as autism, brain injury, Down's syndrome, cerebral palsy, hearing impairment or learning disability (Norbury et al, 2016).

People with DLD can have difficulties with:

- listening, attention, memory and language processing, particularly when lots of information is being given orally;
- following instructions, understanding questions and narratives;
- understanding and using vocabulary;
- expressing what they want to say, including difficulties with word-finding, grammar and sequencing their thoughts;
- social interaction, including difficulties joining in conversations, understanding jokes and non-literal language; and
- using language to express their thoughts and feelings and to regulate their behaviour and their interactions with other people.

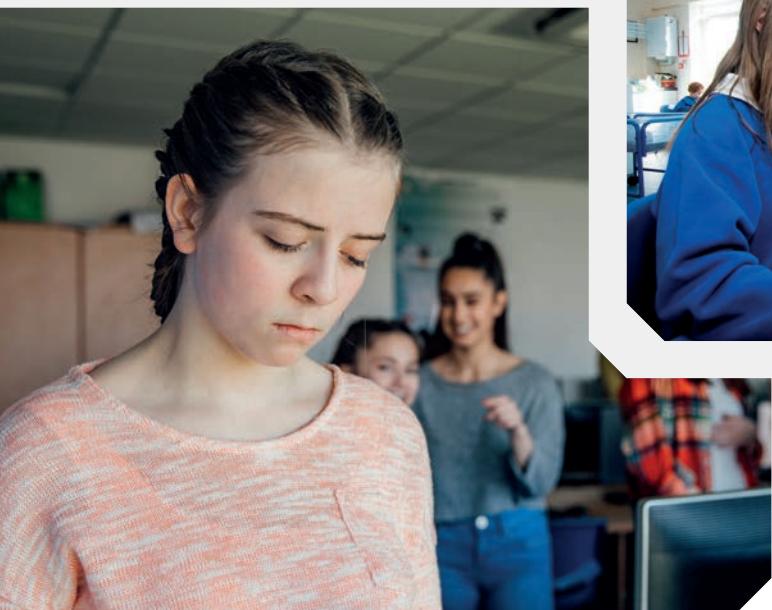
(Bishop, 2014)

What is the impact of DLD?

The impact of DLD can be mitigated if people with DLD have their needs identified and appropriately supported. Without this support, people may face challenges with their mental health and wellbeing, relationships, personal development, education, employment, quality of life and financial situation (Bishop, 2014).



'DLD is a lifelong condition characterised by difficulties with understanding and/or using spoken language'



Mental health and wellbeing

- Children with language disorders are at risk of psychological and social wellbeing difficulties (Lyons & Roulstone, 2018).
- Adolescents and young adults with DLD are more likely to experience anxiety and depression than their peers (Conti-Ramsden & Botting, 2008; Botting et al, 2016).
- Young adults with DLD face greater challenges to their wellbeing. This vulnerability is related to a range of factors, including social relationships, health and employment (Conti-Ramsden et al, 2016).

Relationships

- Adolescents and young adults with DLD are more likely than their peers to have difficulties forming and maintaining relationships (Durkin et al, 2007; Mok et al, 2014; Wadman et al, 2011).

Personal development

- People with DLD often have lower self-esteem in adolescence and adulthood. They also have lower social confidence (Durkin et al, 2017; Wadman et al, 2008).

Education

- Children and young people with DLD obtain lower academic and vocational qualifications and have been found to have left education significantly earlier than their peers (Conti-Ramsden et al, 2018).

Employment

- People with DLD have been found to be much more likely to be in non-professional occupations. Young adults with DLD have been found to be unemployed four times longer than their peers. A higher proportion of people with DLD were in part-time employment and more of their peers were in full-time employment (Conti-Ramsden et al, 2018).

Quality of life

- Children with DLD have a lower quality of life than their typical peers at age nine. Co-occurring social-emotional problems appear to play an important role in contributing to this lower quality of life (Eadie et al, 2018).
- Research has also shown that secondary difficulties in social-emotional competence in children with DLD make them more vulnerable to victimisation (van den Bedem et al, 2018).

'Children with DLD have a lower quality of life than their typical peers at age nine'

How did we identify these priorities?

- RCSLT members were asked to list their ‘uncertainties’ about any aspect of speech and language therapy.
- Members frequently commented that they were uncertain about the evidence base for clinical practice relating to language disorders, so DLD was selected as a focus area.
- A literature search was then undertaken, to identify whether existing DLD research might clarify any of the uncertainties. For a few areas there was some evidence, but for a lot of the uncertainties there was no high-level, quality research addressing them.
- The ‘unanswered’ uncertainties were reviewed and summarised, and developed into loose research topics.
- The topics were themed, giving rise to 11 categories: identification, assessment/diagnosis, bilingualism, lifelong impact, service provision (primary school age), service provision (secondary age), service provision (adults), intervention, working with others, raising awareness and technology.
- These high-level categories were taken to seven mini focus groups with children and young people with DLD. They told us, in their opinion, which were the most important categories that we should ‘find out more about’.
- Eight small workshops were held with parents of children with DLD, who also prioritised the categories in terms of what they would like to see more research on, and provided any further uncertainties.
- Analysis of this data showed the children and young people with DLD and their parents felt all 11 categories were important to explore; hence all the uncertainties were taken forward to the next stage of the prioritisation process.
- Here, we invited 80 individuals to two multi-stakeholder workshops, which brought together a wide range of voices including SLTs, parents, teachers, teaching assistants, psychologists, third-sector representatives and other health and education professionals.
- Workshop attendees looked back at the individual topics across each category, and turned them into more specific research areas by thinking about whether they related to specific populations, interventions or outcomes.
- The output of the workshop was a list of 60 research areas. These were put into an online card-sorting activity, which required participants to sort topics into those that they thought were a priority and those that weren’t. This activity was completed 501 times, representing the views of 546 individuals.
- We also developed a more accessible ‘easy-read’ version of the card-sorting activity, which was targeted at individuals with DLD. This, again, used the 11 categories rather than the list of 60 areas. An additional 15 participants completed this version.
- The results from both activities and the earlier work with children with DLD and their parents were combined by ascribing a point to a research area every time it was either identified as a priority, or the theme to which it belonged was identified as a priority.
- This gave an overall ranking for each research area – the topic that came in number one was identified as a priority 382 times.
- The final result was the top 10 highest scoring research areas: the top 10 research priorities for DLD.



What's next and how can you get involved?

Further research is urgently needed to fully understand DLD, the lives of people with DLD, and the ways in which we can work together to ensure the best possible support systems are put in place.

Through our priority-setting partnership, we have identified the top 10 areas that should be tackled first and foremost in research.

The next step is for research in these areas to be funded and carried out, and the results of this research disseminated and implemented in everyday practice. This can only happen with a system-wide, collaborative push from all key stakeholders.

The RCSLT is committed to this process and will:

- disseminate the top 10 priorities, and discuss them with, all relevant stakeholders;
- work with key research funders who may be interested in supporting research in these areas;
- engage key research centres and researchers who may be interested in carrying out research in these areas;
- collaborate with researchers to support their proposals, projects, and the dissemination of their findings related to the top 10; and
- facilitate clinicians to implement new research evidence into practice.



Below are some ideas for how you can contribute to different parts of this process:

- Publicise the top 10 priorities.
- Cascade the top 10 through your own networks. Share the report, start conversations, and make use of social media (using the hashtag #DLDResearchPriorities).
- Let us know who you have spoken to, or put us in touch with them if you think they may be interested in supporting the research priorities in some way.
- Carry out or support research into the priority areas.
- Tailor your funding calls to take account of these co-produced priorities.
- Use the top 10 to inform your research strategy.
- Support recruitment to research projects aiming to address the priorities.
- Take part in the research, whether as a co-investigator, a supervisor or a participant.
- Help disseminate research findings.
- Refer to this new evidence when planning your DLD services.

If you are planning research into any of the top 10 priority areas, please get in touch with us at info@rcslt.org to let us know. We would love to hear about your plans, and may be able to offer support. Working together, we can help enable better lives for people with this complex, impactful, lifelong disorder.



DLD: long list of research priorities

(*denotes those in the top 10)

Identification

1. Language screening for children with behaviour that challenges.
2. Rates of co-occurring DLD and low mood or anxiety.
3. Incidence of co-occurring DLD and attachment difficulties in looked-after children.

Assessment and diagnosis

4. Effective ways to assess the language skills of individuals within the youth justice sector and impact on identification of DLD.
5. Parent experiences at various stages of the care pathway including diagnostic process.
6. Reliability, validity and effectiveness of dynamic assessment compared to traditional assessment tools for identification of DLD (including in looked-after children and bilingual populations).
7. Effective ways to support SLTs to use dynamic assessment with individuals with DLD in terms of developing competence and confidence.
8. SLT and parent perspectives on benefits and drawbacks of using dynamic assessment to diagnose DLD.
9. Assessment for DLD which can track progress: a) across time and b) across different environments.
10. Confidence and competence of SLTs in assessing and diagnosing DLD and recommendations for development.

11. Assessing education outcomes, social inclusion and mental health in relation to DLD presentation.
12. Effective tools to assist accurate diagnosis of DLD in early years children with significant SLCN.

Bilingualism

13. Exploring interventions for bilingual children with DLD.

Lifelong impact

14. Outcomes for individuals with DLD across settings (e.g. language provision, mainstream school), in relation to curriculum access, language development and social skills*.
15. Impact of SLT interventions for adolescents and adults with DLD on wider functional outcomes (e.g. quality of life, access to the curriculum, social inclusion and mental health)*.
16. Life trajectories of adults with DLD, who did and did not access speech and language therapy services as a child, from their own perspective.
17. Impact of programmes aimed at developing self-awareness and self-esteem of adolescents with DLD (e.g. 'DLD and me').
18. Challenges experienced by individuals with DLD in the youth justice sector.
19. Relationship between awareness and understanding of DLD (by self,

parents or education staff) and impact on mental health.

20. Most meaningful targets for individuals with DLD from the parent perspective.
21. Impact of early parent support (e.g. training, networks) from the outset of diagnosis on the later outcomes of children with DLD from the parent/carer perspective.
22. Effective ways of teaching self-help strategies to children and young people with DLD*.

Service provision: primary school age

23. Effective service delivery models in language resource provisions.
24. Parental satisfaction of different speech and language therapy service delivery models for DLD (e.g. independent sector, NHS, education) and recommendations for improvement.
25. Perspectives from children with DLD on barriers and facilitators to having support needs met.
26. Effectiveness of a face-to-face versus indirect approach to intervention for individuals with DLD*.
27. Impact of universal services on the speech, language and communication skills of individuals with DLD.
28. Effectiveness of therapy provided by a DLD specialist compared to that of a generalist SLT.

Service provision: secondary school age and service provision: adults

29. The current landscape of speech and language therapy services for adolescents and adults with DLD, in the context of the SEND code of practice (2014).

Intervention

- 30.** Effectiveness of language interventions for adolescents and adults with DLD.
- 31.** Talking therapies for mental health difficulties experienced by individuals with DLD.
- 32.** The SLT's role in literacy development.
- 33.** Impact of SLT or specialist teacher input on literacy outcomes for children with DLD.
- 34.** Involvement of parents in planning and delivering interventions and the impact of an individualised approach.
- 35.** Effective interventions targeting receptive language for individuals with DLD*.
- 36.** Impact of targeted vocabulary interventions on curriculum access for individuals with DLD*.
- 37.** Effective ways of teaching self-help strategies to children with DLD.
- 38.** Specific characteristics of evidence-based interventions for individuals with DLD which facilitate progress towards the goals of an individual with DLD*.
- 39.** Developing meta-linguistic skills in individuals with DLD.
- 40.** Impact of local context (e.g. socio-economic status) on initial intervention choice by SLTs for children with DLD.
- 41.** Active ingredients of successful interventions for individuals with DLD.
- 42.** Clinical decision-making processes of SLTs when working with individuals with DLD.

Working with others

- 43.** Facilitating confidence and competency of teaching assistants to follow speech and language therapy programmes set by an SLT for children with DLD.
- 44.** Impact of collaborative working when supporting individuals with DLD, in terms of cost and time effectiveness.
- 45.** Effectiveness of outreach visits by language resource provision staff (SLT and teacher) to local mainstream schools on language outcomes of children with DLD.
- 46.** Impact of teacher training (on specific strategies/language support) on academic attainment in adolescents with DLD in secondary schools*.
- 47.** Impact of including speech, language and communication needs/DLD in teacher training course curriculums on referral rates and level of support for children with DLD*.
- 48.** Effectiveness of training on DLD for professionals in the youth justice sector.
- 49.** Strategies to improve SLTs' confidence and understanding of emotional, behavioural and mental health issues in children with DLD.
- 50.** Effective strategies to improve understanding of DLD among mental health professionals.
- 51.** Implementation of SLT recommendations in the classroom by teaching staff: confidence levels, capacity, capability and levels of success*.
- 52.** Factors of training packages for teaching assistants, contributing to successful implementation of SLT programmes in the education setting.
- 53.** Multi-professional perspectives on the validity and use of auditory processing disorder as a distinct diagnosis.

Raising awareness

- 54.** Using components of successful awareness-raising campaigns for health disorders (e.g. autism) to inform a DLD strategy.
- 55.** Level of knowledge and awareness of DLD and the SLT's role among relevant (e.g. health and education) professionals and effective ways of increasing this.

Technology

- 56.** Effectiveness of speech and language therapy intervention for children with DLD when delivered using technology: current practice and parent perspectives.
- 57.** Using technology to gather information (e.g. case history, feedback on therapy) from individuals with DLD and their families.
- 58.** SLT perspectives on using apps in therapy with individuals with DLD.
- 59.** Generalisation of skills learnt by children with DLD via speech and language therapy apps on activities of daily living, and impact on wellbeing.
- 60.** Effectiveness of hearing loops in the classroom setting for children with DLD.

References

- Bishop, D. V. M. (2010).** Which neurodevelopmental disorders get researched and why? *PLOS One*, 5(11), e15112. doi:10.1371/journal.pone.0015112
- Bishop D. V.M. (2014).** Ten questions about terminology for children with unexplained language problems. *International journal of language & communication disorders*, 49(4), 381-415. doi:10.1111/1460-6984.12101
- Botting, N., Toseeb, U., Pickles, A., Durkin, K. & Conti-Ramsden, G. (2016).** Depression and anxiety change from adolescence to adulthood in individuals with and without language impairment. *PloS one*, 11(7), 1-13.
- Conti-Ramsden, G. & Botting, N. (2008).** Emotional health in adolescents with and without a history of specific language impairment (SLI). *Journal of Child Psychology and Psychiatry*, 49(5), 516-525.
- Conti-Ramsden, G., Durkin, K., Mok, P. L., Toseeb, U. & Botting, N. (2016).** Health, employment and relationships: Correlates of personal wellbeing in young adults with and without a history of childhood language impairment. *Social Science & Medicine*, 160, 20-28.
- Conti-Ramsden, G., Durkin, K., Toseeb, U., Botting, N. & Pickles, A. (2018).** Education and employment outcomes of young adults with a history of developmental language disorders. *International Journal of Language and Communication Disorders*, 53(2), 237-255.
- Cronin, P. A. (2017).** The economic impact of childhood developmental language disorder, OPUS. Available at: opus.lib.uts.edu.au/handle/10453/123261
- Cronin, P., Reeve, P., Mccabe, P., Viney, R. & Goodall, S. (2017).** The impact of childhood language difficulties on healthcare costs from 4 to 13 years: Australian longitudinal study. *International Journal of Speech-Language Pathology*, 19(4), 381-391. DOI: 10.1080/17549507.2016.1216599
- Durkin, K. & Conti-Ramsden, G. (2007).** Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child Development*, 78(5), 1441-1457.
- Durkin, K., Toseeb, U., Botting, N., Pickles, A. & Conti-Ramsden, G. (2017).** Social confidence in early adulthood among young people with and without a history of language impairment. *Journal of Speech, Language, and Hearing Research*, 60, 1635-1647.
- Eadie, P., Conway, L., Hallenstein, B., Mensah, F., McKean, C. & Reilly, S. (2018).** Quality of life in children with developmental language disorder. *International Journal of Language and Communication Disorders*, 53(4), 799-810.
- Lyons, R. & Roulstone, S. (2018).** Well-being and resilience in children with speech and language disorders. *Journal of Speech, Language and Hearing Research*, 61, 324- 344.
- Mok, P. L., Pickles, A., Durkin, K. & Conti-Ramsden, G. (2014).** Longitudinal trajectories of peer relations in children with specific language impairment. *Journal of Child Psychology and Psychiatry*, 55(5), 516-527.
- Norbury, C. F., Gooch, D., Wray, C., Baird, G., Charman, T., Simonoff, E., Vamvakas, G. & Pickles, A. (2016).**
- The impact of nonverbal ability on prevalence and clinical presentation of language disorder: evidence from a population study. *Journal of Child Psychology and Psychiatry*, 57(11), 1247-1257.
- Royal College of Speech & Language Therapists (2017).** RCSLT briefing paper on Language Disorder with a specific focus on Developmental Language Disorder. Available at: rcslt.org/-/media/Project/RCSLT/language-disorder-briefing-paper.pdf
- van den Bedem, N. P., Dockrell, J. E., van Alphen, P. M., Kalicharan, S. V. & Rieffe, C. (2018).** Victimization, Bullying, and Emotional Competence: Longitudinal Associations in (Pre) Adolescents With and Without Developmental Language Disorder, *Journal of Speech, Language and Hearing Research*, 61, 2028-2044.
- Wadman, R., Durkin, K. & Conti-Ramsden, G. (2008).** Self-esteem, shyness, and sociability in adolescents with specific language impairment (SLI). *Journal of Speech, Language, and Hearing Research*, 51(4), 938-952.
- Wadman, R., Durkin, K. & Conti-Ramsden, G. (2011).** Close relationships in adolescents with and without a history of specific language impairment. *Language, Speech, and Hearing Services in Schools*, 42(1), 41-51.
- Winstanley, M., Durkin, K., Webb, R. T. & Conti-Ramsden, G. (2018).** Financial capability and functional financial literacy in young adults with developmental language disorder, *Autism & Developmental Language Impairments*, 3, 1-11.

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It is this collaborative approach that makes the results of this priority setting partnership meaningful.

About the RCSLT

The Royal College of Speech and Language Therapists (RCSLT) is the professional body for speech and language therapists in the UK. As well as providing leadership and setting professional standards, the RCSLT facilitates and promotes research into the field of speech and language therapy, promotes better education and training of speech and language therapists, and provides its members and the public with information about speech and language therapy.

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