Research Article

Communication in Daily Life of Children With Developmental Language Disorder: Parents' and Teachers' Perspectives

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ABSTRACT

Purpose: This study explores limitations in communication in daily life of children with developmental language disorder (DLD) from their parents' perspective as well as communicative abilities and social functioning in the classroom from their teacher's perspective. Furthermore, differences between children with mixed receptive–expressive disorder and children with expressive-only disorder in communication in daily life and social functioning are studied.
Method: Data were collected through questionnaires completed by parents and teachers of children (5–6 years old) who attended schools for special education for DLD. Language test scores were retrieved from school records. Parents of 60 children answered open-ended questions about situations and circumstances in which their child was most troubled by language difficulties. Teachers of 83 children rated communicative abilities, social competence, and student–teacher relationship.
Results: Parents reported communication with strangers as most troublesome and mentioned the influence of the mental state of their child. Parents considered limitations in expressing oneself and being understood and not being intelligible as core difficulties. Teachers rated the children's communicative abilities in the school context as inadequate, but their scores concerning social competence and the quality of teacher–child relationships fell within the normal range. Children with receptive–expressive disorder experienced limitations in communication in almost all situations, whereas those with expressive disorder faced limitations in specific situations. Children with receptive–expressive disorder were also significantly more limited in their communicative abilities and social competence at school than children with expressive disorder. No differences were found between the two groups in the quality of the teacher–child relationship.
Conclusions: The results confirm that children with DLD face significant challenges in a variety of communicative situations. We found indications that children with receptive–expressive disorder experience more severe limitations than children with expressive disorder. The involvement of parents and teachers in evaluating a child's communicative ability provides valuable and clinically relevant information.

Developmental language disorder (DLD) is a common developmental disorder, estimated to affect 7%–10% of 4- to 5-year-olds (Norbury et al., 2016). Children with DLD show severe difficulties in their language development and experience serious limitations in communication (Bishop et al., 2016). Their ability to use words and sentences to convey messages is limited, and many children have difficulty understanding words and sentences. Consequently, everyday interactions with peers as well as adults can be challenging for children with DLD. DLD has been shown to have consequences for other developmental areas: Children with DLD have been reported to have behavioral, emotional, and social difficulties and poor

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school outcomes (Harrison et al., 2009; St Clair et al., 2011). DLD is a persistent disorder that can have lifelong implications: Adolescents with a history of DLD achieve lower academic qualifications and are more likely to experience emotional and behavioral problems (Conti-Ramsden et al., 2018; Law et al., 2009; Yew & O'Kearney, 2013). Early intervention is highly desirable.

Although the ultimate goal of intervention should be for children to communicate effectively in all situations that arise in their daily lives, until recently, speech and language therapy has focused almost exclusively on remediating deficits and impairments in language domains, such as morphosyntax, semantics, and phonology (Cunningham et al., 2017; Kwok et al., 2022). The assumption was that if children's language disorder was remediated, interactions in daily life would improve as well. Currently, there is agreement among speech-language therapists (SLTs) that the focus of intervention should shift from improvement of language skills (i.e., being able to produce and decode spoken messages) to communication in daily life (Kwok et al., 2022; Singer et al., 2020). Baylor and Darling-White (2020) elucidate this in their proposal for an adjusted version of the International Classification of Functioning, Disability and Health (ICF; World Health Organization, 2001). Communicative participation is central to this model, with language skills, communication environment, and personal perspectives grouped around it as factors that interact with and contribute to communicative participation. Analyzing linguistic deficits and stimulating language skills is still important, but it needs to support the selection of therapy goals that aim at improving communication in daily life. All aspects of Baylor and Darling-White's ICF model, both communicative participation itself and the interacting factors, should be included in diagnostic assessment. This is in line with the holistic approach advocated by the ICF to improve communicative participation.

Communicative participation is defined, in a Delphi study by Singer et al. (2020), as "understanding and being understood in a social context, by applying verbal and nonverbal communication skills." For young children, we do not really know what communicative participation means for them and what difficulties they experience. Their participation in communicative situations often occurs under the guidance of adults who support them and are trying to prepare them to eventually function independently in social contexts. Still, it is clear that DLD has an impact on communication in daily life. We assume that for young children, communication in daily life means being able to take part in interactions in familiar and unfamiliar situations, with familiar and unfamiliar communication partners. The SLT is the professional central to assessment and intervention of children with DLD. The SLT collects information on all dimensions of the

ICF and tries to synthesize it in order to set intervention goals. This is challenging, if only for the simple fact that SLTs are often unable to observe a child's communication in daily life themselves; they have to ask the children and key adults about their experiences. The current study focuses on young children with DLD (5–6 years of age) for whom it is not easy to obtain direct information on their experiences in communication in daily situations (Janik Blaskova & Gibson, 2021; McCormack et al., 2010). Therefore, we turn to their parents and caregivers, as well as their teachers. A complicating factor is that reliable and validated instruments for assessing communicative participation are virtually lacking (Cunningham et al., 2017), in part because it is a broad and multidimensional concept. In this study, we focus on communication in daily life as an aspect of communicative participation and explore the information parents and teachers can provide.

Several sources indicate that parents have a good understanding of their children's speech and language difficulties and the impact they have on their daily lives (Jensen de López, Lyons, et al., 2021; Marshall et al., 2017). However, very few studies have examined parents' views and information. Perhaps this is due to the challenges SLTs face in trying to engage with parents (Davies et al., 2019; Marshall et al., 2017). The present authors' observations suggest that SLTs in educational settings in the Netherlands have little contact with parents. Consequently, input from parents about their children's communicative participation often plays a marginal role in interventions. Roulstone (2015) notes that intervention goals and outcomes of speech and language therapy do not always align with parents' desired goals and outcomes. In the current study, we explored what information on communicative participation would be provided if parents are asked to identify situations in which their children's speech and language difficulties are most troubling and to describe what kind of difficulties the child experiences in these situations. Throughout this article, we refer to this aspect of communicative participation as "limitations in communication in daily life."

As a significant part of children's daily lives takes place at school, teachers are also important informants concerning the communicative participation of children with DLD. To our knowledge, no research has been conducted on teachers' observations of children with DLD's communication in the classroom. Studies on classroom functioning often focus on academic achievement and behavioral and emotional problems. A qualitative study by Dockrell and Lindsay (2001) shows that teachers mainly focused on speech and language difficulties and did not have an eye for limitations in communicative participation. Although in many educational settings SLTs and teachers collaborate and consult on improvement of

communication of the children with whom they are jointly involved, Glover et al. (2015) found indications that this collaboration could be improved. In the current study, we asked teachers to assess their students' communicative abilities and social functioning in the school context. Since no previous research has been conducted on this topic, and no validated measures or instruments exist, we used several questionnaires that, in our opinion, validly address communicative and social functioning in the classroom. We focused on interpersonal interactions and relationships with peers and with the teacher. These are the components of communication that teachers deal with a lot, and we think they are a useful addition to the information parents can provide. We also asked teachers to give an overall assessment of communicative abilities in the school context. We refer to teachers' information as concerning "communicative abilities and social functioning in the school context."

It is often assumed that severity of language impairment and communication in daily life in children with DLD are related, but this is not supported by clinical experience and research (Baylor & Darling-White, 2020; Cunningham et al., 2019). Based on clinical experience, we argue that the association is weak: Some children with DLD are effective communicators, whereas others are not (Singer et al., 2020). The more effectively children use gestures, facial expressions, and social behavior, the better their communication is likely to be. Research on the relation between severity and characteristics of a language disorder on the one hand and communication in daily life on the other is scarce. The few studies that have been done investigated widely divergent aspects of communication in children with diverse ages and disorders. Cunningham et al. (2019) found no significant correlations between vocabulary and consonant inventory and measures of communicative abilities in late-to-talk toddlers whose parents participated in the Hanen Program (Earle & Lowry, 2015). Gerber et al. (2012) found no relations between language deficits and pragmatic abilities in school-age children. Baylor and Darling-White (2020) indicate that there is a weak relationship between language skills and communicative effectiveness, but this is based on sources concerning communication problems in adults. Hart et al. (2004) examined the social behavior of children with DLD, which could also be seen as an aspect of communication in daily life or communicative abilities, particularly from the perspective of teachers. Evidence of a relation between DLD severity and social behavior was found: Children with severe DLD showed less prosocial behavior than children with moderate DLD. The behaviors that were classified as prosocial consisted of helping, sharing, and comforting behaviors in children's social interactions. However, Hart et al. (2004) found no relation between severity of DLD and other aspects of social behavior, such as withdrawn behavior. A recent study on severity of DLD and quality of life, which is determined in part by social functioning, also failed to find a relation (Eadie et al., 2018).

The aim of the present study is to get insight in communication in daily life of a large group of young children with DLD. In addition, we explore whether there is a relation between the severity of DLD and communication in daily life by differentiating between two categories from the *International Classification of Diseases, Eleventh Revision* (ICD-11) classification in our group of participants: (a) DLD with impairment of mainly expressive language and (b) DLD with impairment of receptive and expressive language (World Health Organization, 2021). The classification "impairment of mainly expressive language" is used when a child's expressive language is markedly below the expected level for their age but receptive language is relatively intact. Throughout this article, we refer to this subgroup of DLD as "expressive disorder." "Impairment of receptive and expressive language" is used when a child's receptive language is markedly below the expected level for their age and is accompanied by impairments in expressive language. We refer to this subgroup as "receptive–expressive disorder." Although Bishop (2017) qualifies this categorization as "rather gross" and emphasizes that it is not stable over time, the categories are widely used in practice. For the current study, the classification is useful for exploring the relation between severity of DLD and communication in daily life because it is often assumed that children with receptive–expressive disorder are more severely impaired than children with expressive disorder (Leonard, 2014). Hardly any research has been done on differences in communication in daily life between children with receptive–expressive disorder and children with expressive disorder. Lisa et al. (2019) indicate that mothers of children with receptive–expressive disorder are more concerned about their children than mothers of children with expressive disorder, but they did not examine the children's communication in daily life. In a small-scale study by Liiva and Cleave (2005) on the abilities of children with DLD to access and participate in an ongoing interaction between two unfamiliar peer partners, a positive relation was found between expressive language skills and the extent to which the children were able to have equal participation in the interaction. A relation between receptive language levels and the ability to participate in the interaction was not attested. Snowling et al. (2006) found that among adolescents with a history of speech-language impairment, those with social difficulties were more likely to have receptive–expressive disorder, whereas those with attention deficits were more likely to have expressive disorder. It remains unclear if there are differences between children with receptive–expressive language disorder and children with

expressive disorder regarding their communication in daily life. If such differences can be demonstrated, this would provide more insight into the subgroups of children with DLD than a classification based solely on language levels relative to peers. It might be necessary to take the subgroup into account in approaches and guidance to improve communicative participation. In addition to the comparison of children with receptive–expressive disorder and expressive disorder, we also examine the relation between delays in language domains and communicative abilities and social functioning according to teachers.

The study brings together parents' information on communication in daily life, teachers' information on communicative abilities and social functioning in the school context, and information on language skills from SLTs with the goal of gaining more insight into communicative participation in different situations for children with receptive–expressive and expressive language disorders.

Research questions are as follows.

1. What do parents consider to be the main limitations in communication in the daily lives of their child with DLD (ages 5–6 years)?

2. How do teachers perceive the communicative abilities and social functioning of children with DLD in the classroom?

3. What are the differences between children with DLD with receptive–expressive disorder and children with DLD with expressive disorder in parents' and teachers' reported communication in daily life and social functioning?

4. What is the relation between delays in language domains and communicative abilities and social functioning in the school context?

Method

We used a cross-sectional observational study in a special education setting for children with DLD. Data were collected through questionnaires completed by parents and teachers and from school records.

Participants and Setting

We asked parents and teachers of a cohort of children with DLD (5–6 years old, $N = 154$) in a longitudinal study we previously reported on to participate (Bruinsma et al., 2022). The children were all visiting the first and second grades in schools for special education for children with DLD, 18 schools in total, geographically spread across the Netherlands, from both urban and rural areas.

All children met standard criteria for eligibility to schools for special education for children with DLD, as follows:

- scores of at least 1.5 SDs below the mean at standardized language (sub)tests addressing at least two out of four speech-language domains (speech sound production, auditory processing, receptive and expressive morphosyntactic development, and receptive and expressive lexical–semantic development) or a score of 2 SDs or more below the mean on a standardized approved general language test;

- normal hearing; and

- nonverbal IQ of at least 70.

Special schools for children with DLD in the Netherlands aim at the same attainment levels as mainstream schools, with a curriculum that is adjusted to the communicative needs of the children and which entails individualized educational goals (Simea, 2014). The teachers are trained in language and reading education, adapted instructing, and enhancing social relations and well-being. Classes have a maximum of 15 children, and in each class, a teacher and a teaching assistant are present all day. All children receive speech and language therapy by an SLT at school, individually and in small groups.

Parents gave informed consent on the use of data from their child's school record and on the collection of information through a survey sent by e-mail (see Appendix A). Teachers were also informed about study goals and data processing before they decided to participate and were then sent a questionnaire by e-mail (see Appendix B). Ethical approval was obtained from the Ethical Review Board of HU University of Applied Sciences Utrecht. For detailed information on the cohort and its recruitment, see Bruinsma et al. (2022).

Outcomes and Measures

Data on three outcomes, (a) communication in daily life, (b) communicative abilities in the school context, and (c) social functioning in the school context, were collected with questionnaires, which were different for parents and teachers. For language scores and nonverbal IQ, we used data from the school records of the children.

Communication in Daily Life

We used a written survey with two open-ended questions to get information on communication in daily life from parents. Open-ended questions fit the exploratory nature of study. Because the survey was anonymous, parents could freely describe their experiences and ideas in their own words. Developing the open-ended questions involved several steps. The first author drafted the questions after having consulted with experts and discussed

them with the second and third authors. This led to minor changes to clarify the text. The revised version was presented to experts in DLD and speech-language therapy research. They found the questions to be valid and clear. The questions were as follows:

- At what times and in what situations are the language difficulties troubling your child the most?

- What kind of difficulties does your child experience at the times and in the situations that you have mentioned?

We started with a question on times and situations, in order to focus as much as possible on communication in daily life. The second question aimed to get more detail about the specific limitations in communication.

Communicative Abilities in the School Context

Since there are no existing instruments to measure communicative abilities in the school context, we developed a 10-point rating scale for teachers. The authors formulated a definition of communicative abilities in the school context based on guidelines for professionals in Dutch special education (Simea, 2014). They also formulated anchors for the extremes of the rating scale. The definition and anchors were discussed with experts in DLD and speech-language therapy research. The definition was fine-tuned, and examples were added. The definition ran as follows: "Communicative abilities can be considered as the capacity to communicate functionally and adequately in agreement with the developmental level and capabilities of the child. Communication can take the form of spoken words, gestures or symbols." We illustrated the definition with examples, such as "make yourself clear to other children," "respond to questions," "take the initiative to communicate," and "show that you didn't understand." Finally, we emphasized that communicative abilities are only partly related to language level and that some children with language delays can be effective communicators if they are able to express themselves by supplementing spoken language with gestures, facial expressions, and social behavior and by not giving up easily if communication fails. The anchor for 1 point on the rating scale was, "this child cannot cope with communicative situations at all," and for 10 points, it was, "this child functions very well in communicative situations." In pilot testing with two teachers, it was found that the definition and anchors were clear and that the rating scale could be completed easily.

Social Functioning in the School Context

To get an impression of teachers' perception of social functioning in the school context, we focused on social competence and the quality of the teacher's relationship with the child. As a measure of social competence, we used a selection of items from the Competencies scale of the Brief Infant-Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan & Carter, 2001), which was developed to assess young children's problem behaviors and competencies. The Competencies scale consists of positively phrased items on various competencies of young children, such as compliance, empathy, and prosocial peer relations. Teachers have to judge if items are applicable on a 5-point scale *(definitely untrue–untrue–not untrue, not true–true–definitely true)*. We based our selection of items on a large-scale cohort study on typically developing children in the Netherlands (Pre-COOL cohort study; Driessen, 2017; Veen et al., 2012). The selected items concern empathy (one item), compliance (one item), imitation/play (one item), social relatedness (three items), and prosocial behavior (one item). Factor analysis in the Pre-COOL study showed that the selected items all loaded on the factor "social competence," explaining 44% of variance. The internal consistency of the seven items of social competence is .78.

To examine the quality of teachers' relationship with children with DLD, we used a short version of the Student–Teacher Relationship Scale (STRS; Pianta, 2001). This scale was translated and adapted for use in the Netherlands by Koomen et al. (2007). The STRS represents child–teacher relationship by three different subscales, which are referred to as the Closeness, Conflict, and Dependency subscales. Closeness reflects the degree of affection, warmth, and open communication the teacher experiences in the relation with a child; conflict reflects the degree to which a teacher perceives the relation as negative, as unpleasant, and in an atmosphere of conflict; and dependency assesses the developmentally appropriate degree of reliance and possessiveness of the child in the relationship, as perceived by the teacher. The items were scored on the same 5-point scale as the items from BITSEA. We used the short version of the STRS, as constructed for the Pre-COOL study by selecting five items for each subscale on the basis of the highest factor loadings reported in an earlier study (Koomen et al., 2012). Factor analysis of the short version yields the same three factors, explaining 35% of the variance for dependency, 20% for conflict, and 14% for closeness. Internal consistency values in the Pre-COOL study were .88 for dependency, .89 for conflict, and .86 for closeness.

Language and Nonverbal Cognition

Data on delays in language domains were available in the children's school records. We used recent scores from standardized tests on language comprehension, expressive vocabulary, and expressive grammar (Schlichting Test for Language Comprehension [Schlichting & Lutje Spelberg, 2010a] and Schlichting Expressive Language Test

[Schlichting & Lutje Spelberg, 2010b]). Nonverbal intelligence was assessed using the Revised Snijders–Oomen Nonverbal Intelligence Test (2.5–7; Tellegen et al., 2005). The language tests and the nonverbal IQ test yield quotient scores as age-referenced standard scores, with a mean of 100 and an *SD* of 15. All tests were administered by the children's own SLT in Dutch, so multilingual children were assessed in their second language. Detailed information about the tests can be found in Bruinsma et al. (2022).

Procedure

The study design and participant flow chart are presented in Figure 1. We sent questionnaires to parents and teachers of 154 children. For 114 children, at least one questionnaire was completed (74%). We had to exclude three children because recent scores on language tests were missing in their school records. Of the remaining group, questionnaires were completed by parents of 60 children (54%) and teachers of 83 children (73%). For 32 children (29%), both parent and teacher questionnaires were completed.

Analysis

Open-Ended Questions

The answers of the parents to the open-ended questions were analyzed qualitatively. To this end, all answers were entered in Atlas.ti (2022). The answers varied in length and completeness: Some parents provided a narrative description of the situations and circumstances that troubled their child the most and the limitations in communication they noticed in their children, with several examples. Others used short descriptions, in telegraphic style.

Figure 1. Participant flow. DLD = developmental language disorder.

We used content analysis to interpret the text data. *Content analysis* is frequently used to analyze answers to open-ended questions and can be defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). We used a conventional approach, meaning that coding categories are derived directly from the text data, which fits well to the explorative character of our study. This is also called inductive coding (Elo & Kyngäs, 2008). As written responses to open-ended questions had not previously been used to obtain information from parents about communication in daily life, we were not sure what information this would actually generate. Inductive coding seems the best method beforehand to get as close as possible to parents' experiences.

The first author (G.I.B.) carried out the analysis. The children with DLD and their parents were unknown to her, and she had no contact with them. This enhances confirmability, which refers to the neutrality of the data, an important criterion in qualitative research (Polit & Beck, 2004). G.I.B. is an SLT and PhD student, with clinical expertise in children with DLD. Analysis started by reading the answers repeatedly, to get familiar with the data. Subsequently, a word count was used to get a better sense of the words and terminology parents used. There appeared to be a variety of descriptions and terminology. The next phase was initial open coding, with labels derived directly from the answers of the parents. An example of an initial code is, "the child is not understood," because several parents mentioned that their child was not understood by others. The initial codes were grouped together in an iterative process: For each new code group, the underlying answers were read again, to make sure they would all fit into the new code group. Also, some answers that did not belong to the code group were read and evaluated again, to ensure that the code group exclusively covered the underlying experiences and views. Eventually, the code groups were organized into subcategories and main categories, again in an iterative process. When parents clearly described multiple situations or problems, their answers were assigned to multiple subcategories. Thus, there was no mutual exclusive coding. All phases in the analysis were done through Atlas.ti (2022). We saved records of each step we took in the analysis, that is, the generation of codes, code groups, categories, and subcategories to ensure transparent reporting and clear derivation of findings from the data.

Another important quality criterion is credibility: confidence in an accurate interpretation of the meaning of the data (Polit & Beck, 2004). To enhance credibility, we used investigator triangulation: The coding was discussed with an independent researcher with expertise in DLD.
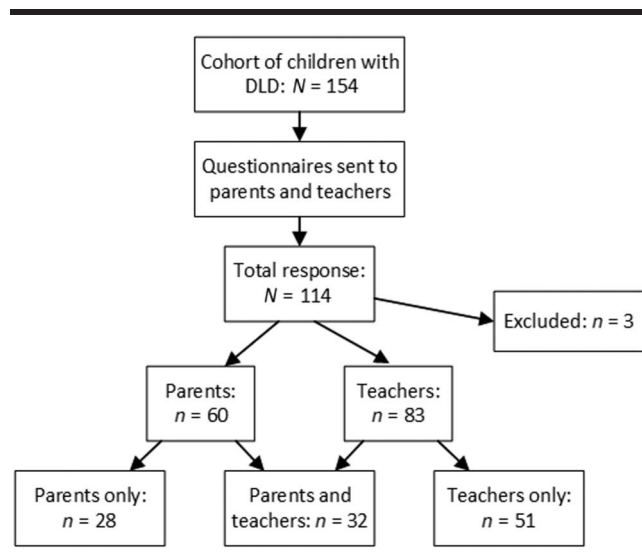
The independent researcher coded a selection of 25% of the participant responses. For this independent coding process, we selected responses that were difficult to code for various reasons: (a) The participant's response did not directly answer the survey question, (b) the participant answered the two survey questions in one response, and (c) responses were key word only. We supplemented them with a random sample of the remaining responses. The codes that were generated by the two researchers independently were discussed during a face-to-face meeting and adapted where necessary. An example of a discussion point was the coding of adults that are not total strangers to the child but also are not yet familiar, for instance, neighbors or staff in a store. We decided to include them into the subcategory "with strangers." Another example was the adding of a new subcategory, "the child needs a lot of time," in communication. The supervision of the overall process of analyzing the open questions was done by the second (F.W.) and third (E.G.) authors, both senior researchers.

Scale Questions

We used descriptive statistics to analyze teachers' answers on the scales. The data were not normally distributed, so we calculated median scores and ranges of scores. We used the Mann–Whitney U test to compare scores of the subgroups of children with receptive–expressive disorder and expressive disorder.

Receptive–Expressive and Expressive Disorders

We divided our sample into two subgroups: children with receptive–expressive disorder and children with expressive disorder. Children with quotient scores of more than 1 SD below the mean (i.e., quotient score < 85) on the Schlichting Test for Language Comprehension (Schlichting & Lutje Spelberg, 2010a) were considered to have a receptive–expressive disorder, and children with scores of 85 or higher (i.e., receptive skills within the normal range) were considered to have an expressive disorder (Conti-Ramsden & Botting, 1999; Law et al., 2008). In cases where data on the Schlichting Test for Language Comprehension were missing, we used imputed data (see Bruinsma et al., 2022).

Since we wanted to see if parent reports on limitations in communication in daily life differed for the two types of disorder, we used the subcategories from the qualitative analysis of parents' answers to open questions for a quantitative analysis (Morgan, 1993). We counted the subcategories for both groups and used the percentages of total subcategories to compare them. Interrater reliability of the categories was assessed by having 20% of the questions coded by a second reviewer (another independent researcher). The agreement between raters was 82%.

Results

Participant Characteristics

Table 1 shows the characteristics of the total group for whom at least one questionnaire was completed and separately the characteristics of the children for whom the parents filled in the questionnaire and the children for whom the teachers filled in the questionnaire. These groups partly overlap. A total of 23 children were raised in a multilingual environment (21%), which was defined as having at least one parent or caregiver who has another native language than Dutch and uses this language at home. Although the percentage of multilingual children seems representative compared to that of children with a migrant background in the general population (24%; Statistics Netherlands, 2015), response was relatively low for parents of multilingual children ($n = 8$, 13.3%). Educational level is classified according to the International Standard Classification of Education (UNESCO, 2012) into low, middle, and high. The educational level of parents in our study is lower than in the general population (low: 18.8%, middle, 41.1%; high, 40.1%; Statistics Netherlands, 2015). Scores of the children on language tests show that expressive morphosyntax is significantly more delayed than expressive vocabulary and language comprehension (see also Bruinsma et al., 2022).

Parents' Perspective on Their Child's Communication in Daily Life

Parents of 60 children with DLD answered the two open questions on times and situations in which the language difficulties were troubling their child the most and the difficulties the child experienced in these situations. We categorized their answers into "situations and circumstances" and "limitations in communication." Within these two main categories, we identified a number of subcategories. We elaborate on the subcategories in the next section.

Situations and Circumstances

In parents' descriptions of times and situations in which the language difficulties were troubling their child the most, we found several subcategories of situations and circumstances. These were partly related to conversation partners, but parents also mentioned emotions and other psychological factors, such as "when he is angry" or "when she experiences pressure." In the next paragraphs, we explain the subcategories, illustrated with parents' answers.

Almost all circumstances. Parents indicated that their child was limited by language difficulties in almost all

Table 1. Participant characteristics.

Variable	Total (n = 111 children)	Parent questionnaire completed (n = 60 children)	Teacher questionnaire completed (n = 83 children)
Age in months, M (SD; range)	70.1 (6.00; 59–80)	69.8 (6.17; 59–79)	70.2 (5.83; 59–80)
Female children, n (%)	35 (31.5)	19 (31.7)	27 (32.5)
Multilingual children,[a] n (%)	23 (20.7)	8 (13.3)	18 (21.7)
The Netherlands as country of origin–child,[b] n (%)		59 (98.3)	
The Netherlands as country of origin -parents (for both parents, n = 116),[c] n (%)		103 (88.8)	
Parental education[d]		Low: 26.8% Middle: 39.3% High: 33.9%	
Questionnaire completed by		Father: 21.9% Mother: 78.1%	
Nonverbal IQ, mean quotient score (SD; range)[e]	100.0 (12.34; 72–129)	101.9 (10.64; 80–129)	99.6 (13.04; 72–129)
Language comprehension,[f] mean quotient score (SD; range)	83.7 (12.85; 58–112)	87.1 (12.63; 58–112)	82.1 (12.44; 58–109)
Expressive vocabulary,[f] mean quotient score (SD; range)	86.8 (15.71; 55–130)	89.9 (15.66; 57–130)	84.5 (14.05; 55–115)
Expressive morphosyntax,[f] mean quotient score (SD; range)	75.5 (6.64; 64–99)	76.0 (6.56; 67–98)	75.3 (6.44; 64–99)

Note. Quotient scores are standardized scores with a population mean of 100, a standard deviation of 15, and lower and upper limits of 55 and 145, respectively.

[a]Languages: Turkish, Arabic, Berber, Kurdish, various Chinese languages, Russian, Ukrainian, Farsi, Polish, English, Brazilian-Portuguese, Spanish, Romanian, Thai, Somali, and Fula. [b]Other country: Brazil. [c]Other countries: Aruba, Surinam, Indonesia, Morocco, Poland, Russia, Thailand, Romania, Spain, Turkey, and Brazil. [d]Low = lower secondary education; middle = upper secondary education and post–secondary education; high = higher education. [e]Nonverbal IQ measured with Revised Snijders–Oomen Nonverbal Intelligence Test 2.5–7 (Tellegen et al., 2005). [f]Schlichting Test for Language Comprehension (Schlichting & Lutje Spelberg, 2010a) and Word Development (expressive vocabulary) and Sentence Development (expressive morphosyntax) subtests of the Schlichting Expressive Language Test (Schlichting & Lutje Spelberg, 2010b) were used.

situations and circumstances. Some parents specifically mentioned social situations or situations in which language is important.

In social situations in particular. (Child 26)

All situations in which language plays a(n) (important) role. (Child 132)

With own family. Parents considered the presence of specific interlocutors relevant. For some children, communicating at home, in their own family, was troublesome.

As soon as he had to make himself clear, both at home and at kindergarten. (Child 16)

With peers. For other children, language difficulties were most noticeable in peer contact.

When communicating with other children. (Child 17)

With strangers. Parents often mentioned that children were most troubled by their language difficulties in contact with strangers. The subcategory "strangers"

includes all adults who are not (yet) known or familiar to the child, as well as unfamiliar environments, public places, and situations outside the family.

When communicating with other children. When communicating with people outside our own family. Less so within our family. (Child 17)

Within our family we understand him well because we are used to him and we know him well. He experiences problems outside the home: shop, with strangers, public spaces, etc. (Child 142)

At school. This subcategory refers to specific circumstances. School or the teacher was most frequently mentioned in this subcategory, but also swimming lessons and talking on the phone. This subcategory also includes large groups.

If he had to explain something new to us or the teacher. (Child 126)

He mainly suffered from language problems in a larger group. Or when he was tired. (Child 28)

In certain mental states. Parents mentioned several circumstances that could be considered as stressful, such as unexpected situations or if there was pressure to perform well, for instance, during an assessment. Pressure could also occur when the child is not able to express himself or herself clearly. The subcategory also involves emotional states as a result of circumstances other than the communicative situation: Being enthusiastic, angry, or tired was often reported to worsen limitations due to language difficulties. Parents sometimes noted several situations causing stress for their child. We considered this as one code, with several examples.

> He mainly suffered from language problems in a larger group. Or when he was tired. (Child 28)

> At times when he really wanted to make something clear, and he was not understood (not even by acquaintances). (Child 78)

> If he gets nervous, and if he knows he's going to be tested. (Child 179)

Almost no circumstances. There was only one parent that reported that there were no situations in which his child was troubled by their language difficulties.

> Never really very bad. She just couldn't talk, but gestures greatly helped her along the way to make things clear. (Child 148)

Situations and circumstances unclear. Some responses were unclear, or they indicated problems with communication but did not include specific situations or circumstances. This was the case for parents of 11 children.

> Unintelligible for the interlocutor who really has no idea what it is about. B. then found it difficult to describe it differently so that it was indeed understood. (Child 32)

In the analysis, we used a code from the category "situations and circumstances" 77 times for the 60 participants, so some parents mentioned more than one situation or circumstance. As shown in Table 2, some parents mentioned two or three different subcategories, for instance, as below "in certain mental states" and "with strangers."

> At times when she could not express herself well [in certain mental states]. She also did not dare talk in strange environments [with strangers]. (Child 48)

Figure 2 shows that circumstances most frequently mentioned were "with strangers" and "in certain mental states."

Limitations in Communication

The category "limitations in communication" comprises parents' descriptions of their child's communication problems in daily life. To describe the difficulties their child was facing, parents used a variety of expressions and terms. The next paragraphs provide an explanation of the subcategories, illustrated with parents' answers.

Limitations in expressing oneself. To this subcategory, we assigned general indications of difficulties a child experiences in expressing themselves. Parents used various terms to indicate limitations. Descriptions include "has difficulty making clear what he means" and "cannot explain it." Especially, "unable to get the words out" was mentioned a lot. This category also includes references to expressing emotions or desires.

> Unable to get the words out. (Child 28)

> He knew it but couldn't explain it properly, which caused communication to get stuck. (Child 173)

Table 2. Situations and circumstances: percentage of parents mentioning one subcategory or more subcategories.

Situations and circumstances	Total (N = 60)	Receptive–expressive (n = 28)	Expressive (n = 32)
Almost all circumstances	18.3%	25.0%	12.5%
Almost no circumstances	1.7%	3.6%	0.0%
Other categories:			
One subcategory	42.7%	39.3%	43.8%
Two different subcategories	15.0%	10.7%	18.8%
Three different subcategories	6.7%	3.6%	9.4%
Situations or circumstances unclear	18.3%	17.9%	18.8%

Note. Parents' answers were classified into one or more subcategories of situations and circumstances. In some answers, this subcategory was "almost all circumstances" or "almost no circumstances." The other answers contained one or more other subcategories.

Figure 2. Parents' report on situations and circumstances in which language difficulties are troubling the child the most. Situations and circumstances as percentage of total situations and circumstances mentioned, without the categories "all circumstances" and "no circumstances."
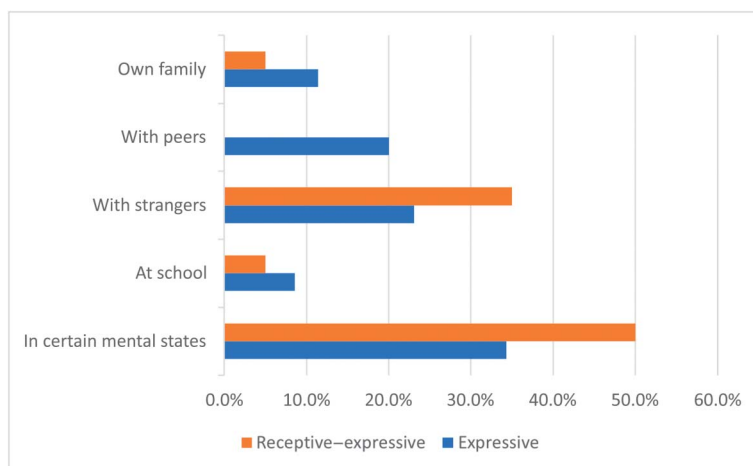
Expressing wishes, emotions. (Child 24)

Child's message is not understood by others. This subcategory is quite similar to "expressing oneself," with the difference that parents here took the point of view of the conversation partner. Descriptions do not focus on limitations of the child but indicate that the conversation partner does not get the message. The failure of communication is emphasized, rather than the child's inability. This subcategory was sometimes used to complement "limitations in expressing oneself."

Other children have difficulty understanding her immediately. (Child 7)

Our son had trouble expressing himself, to make sentences [limitations in expressing oneself]. It was difficult for an outsider to comprehend and understand him [message is not understood]. (Child 68)

Children do not understand him and therefore do not listen to his input into the game. (Child 139)

Poor intelligibility. Whereas the "expressing oneself" and "understood by others" categories refer to being understood in general, this subcategory concerns more specifically limitations in intelligibility due to speech problems.

Some letters he cannot pronounce well, so he is sometimes unintelligible. (Child 30)

That she is not understood and therefore gets frustrated. (Child 75)

No one can understand him. (Child 138)

Not able to have conversations. A few parents specifically mentioned that having conversations was problematic for their child, often in addition to other problems in communication. It seems that the problems could be caused by the interlocutor not understanding the child but also by the child not understanding the interlocutor well.

Also having a conversation without any visual support is difficult for him. (Child 132)

Because he talked badly, you couldn't really have a conversation. (Child 155)

Problems with storytelling. Another communicative skill that parents explicitly mentioned is storytelling. Sometimes they specifically indicated that it refers to narrating about events the child has experienced. It can also refer to storytelling in general or explaining how something works. This subcategory was often used in addition to the subcategories related to expressing oneself and intelligibility.

J. has difficulty in telling people about an experience. He wants to talk very fast and then he gets stuck. (Child 146)

Limitations in asking questions. A few parents mentioned that their child was not able to ask questions. This was often mentioned together with other communication problems.

If something suddenly happened that was different from what she was used to and she could not make clear what she thought of it or she could not ask why, she became angry and sometimes became physical. (Child 91)

Needs a lot of time. Two parents indicated that their child's speaking took a long time. They link the slowness to difficulty expressing themselves, not slowness of comprehension.

Talking takes a lot of time because his words do not come easily and he is difficult to follow. (Child 71)

Poor understanding of spoken messages. This is the only subcategory that is about language comprehension. Two parents mentioned that their child was not able to understand messages of others.

Explaining something or understanding an assignment needs more attention. (Child 133)

No limitations in communication. None of the parents reported that their child did not experience limitations in communication. The parent of Child 148, who indicated that there were no situations or circumstances in which the language difficulties troubled their child, nevertheless mentioned limitations in communication, namely, expressing feelings (coded as "expressing oneself").

(At which times and in which situations are the language difficulties troubling your child the most?)

Never really very bad. She just couldn't talk, but gestures greatly helped her along the way to make things clear. (Child 148)

(What are the difficulties your child experiences at the times and in the situations you mentioned?)

She had difficulty expressing her feelings. (Child 148)

Limitations in communication unclear. There were also responses without a clear description of the limitations in communication. We suspect that some parents found it difficult to describe them or had problems with the (Dutch) language themselves. The answers indicated communication problems that were not explicitly mentioned. There were also parents mentioning specific situations or circumstances, but no description of limitations in communication. Answers of parents of 10 children were unclear.

He still has a problem with Polish language. But every day is much better. He understands very better. (Child 9)

(At which times and in which situations are the language difficulties troubling your child the most?)

He is improving in large groups. (Child 35)

(What are the difficulties your child experiences at the times and in the situations you mentioned?)

Shy. (Child 35)

We used a code from the category "limitations in communication" 83 times. Parents often mentioned more than one limitation. As shown in Table 3, in some answers, we coded with two or three different subcategories, for instance, as below "expressing oneself" and "storytelling."

If he needs to explain something new to us or the teacher [expressing oneself]. He doesn't know how

Table 3. Limitations in communication: percentages of parents mentioning one subcategory or more subcategories.

Limitations in communication	Total (*N* = 60)	Receptive–expressive (*n* = 28)	Expressive (*n* = 32)
No limitations	0.0%	0.0%	0.0%
One subcategory	46.7%	46.4%	46.9%
Two different subcategories	30.0%	17.9%	40.6%
Three different subcategories	6.7%	10.7%	3.1%
Limitations in communication unclear	16.7%	25%	9.4%

Note. Parents' answers were classified into one or more subcategories of limitations in communication.

to tell it, simply put, too few words [storytelling]. (Child 126)

Figure 3 shows that the subcategory "expressing oneself" was mentioned most often. Also, "being understood" and "intelligibility" were frequently mentioned.

Other Categories

Besides "situations and circumstances" and "limitations in communication," parents mentioned other aspects of their child's communication. Although they do not directly address the research question, we would like to mention them. We distinguished three other main categories in parents' answers, namely, "consequences," "speech and language impairments," and "compensation used or needed." Parents noticed emotional reactions as a consequence of not being able to express oneself, such as frustration and withdrawal. We categorized these answers as "consequences." The category "speech and language impairments" was used when parents mentioned specific speech and language domains that were problematic, mostly pronunciation, finding words, and grammar. Some parents described these symptoms in their own words, for example, "flawed speech," but professional terminology was also used ("grammatically incorrect sentences"). A few parents described adaptations and alternative modes of communication their child or they themselves used to compensate for limitations in speech and language, such

as gesturing, repeating, speaking slowly, or acting as interpreter. These descriptions were categorized as "compensation used or needed." These categories were mentioned less frequently than "situations and circumstances" and "limitations in communication."

Teachers' Report on Communicative Abilities

Teachers' ratings of the communicative abilities of the children on a 10-point scale resulted in a mean score of 4.5 ($SD = 2.17$, $n = 83$). This indicates insufficient competence to communicate in the school context.

Teachers' Reports on Social Competence and Teacher–Child Relationship

Table 4 shows the judgment of teachers of social competence on the BITSEA (Briggs-Gowan & Carter, 2001). We calculated the mean score on the seven items for each child and subsequently the group median score. The median was 3.7 on a 5-point scale (range: 2.4–5.0) so teachers judged social competence as sufficient. The items of BITSEA were also administered in a large population study in the Netherlands using a 3-point scale (Veen et al., 2012). This resulted in a mean score of 2.53 ($SD = 0.4$, $N = 1,283$). A conversion of our 5-point scale to a 3-point scale leads to a median score of 2.36 (range: 1.7–3.0), indicating that our results are not markedly different.

Figure 3. Parents' report on limitations in communication. Limitations as percentage of total limitations mentioned.
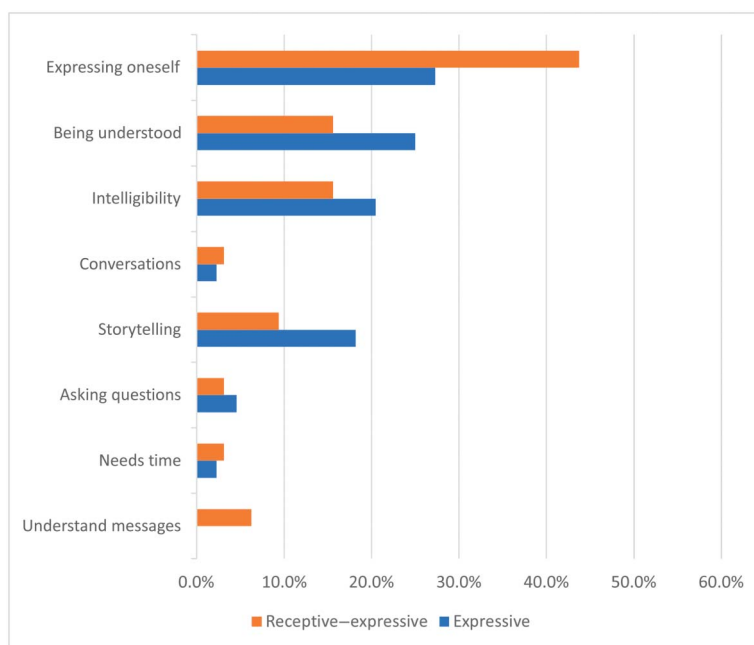
Table 4 also shows the judgment of the quality of the relationship with the child for the three factors of the STRS (Pianta, 2001): closeness, conflict, and dependency. Mean scores on the items of individual children led to group medians of 3.8 (range: 2.2–5.0) for closeness, 2.0 (range: 1.0–3.5) for conflict, and 2.6 (range: 1.2–4.6) for dependency on a 5-point scale. The same short version of the STRS was also administered in a large population study in the Netherlands (Veen et al., 2012). Findings (mean scores) were as follows: closeness: $M = 3.9$, $SD = 0.66$; conflict: $M = 1.5$, $SD = 0.67$; and dependency: $M = 2.2$, $SD = 0.75$ ($N = 1,283$). Our results indicate adequate closeness and no extreme levels of conflict and dependency.

Comparing Receptive–Expressive and Expressive Disorders: Parents

There were parent data for 28 children with receptive–expressive disorder (47%) and 32 children with expressive disorder (53%). As shown in Table 2, parents of children with receptive–expressive disorder more frequently answered that their child experienced problems due to their language disorder in almost all circumstances. Parents of children with expressive disorder more frequently mentioned two or three specific situations.

To take a closer look at the subcategories, we calculated the percentages of the total situations and circumstances mentioned for children with receptive–expressive and expressive disorders (see Figure 2). In this figure, the category "almost no circumstances" is left out because it is not relevant. The category "almost all circumstances" is also left out because it overlaps with the other categories. Parents of children with expressive disorder more often reported that their child was limited in situations with their own family and with peers. In both groups, parents frequently reported that language difficulties troubled the child in communication with strangers and in certain mental states.

Regarding limitations in communication, parents of children with expressive disorder were more likely to report two specific limitations than parents of children with receptive–expressive disorder. In the responses of parents of children with receptive–expressive disorder, it was more often unclear what the limitations in communication were (see Table 3).

A closer look at the subcategories (see Figure 3) reveals that parents of children with receptive–expressive disorder more often mentioned "expressing oneself," whereas parents of children with expressive disorder more often used "being understood," "intelligibility," and "storytelling." "Understanding messages" was only mentioned by parents of children with receptive–expressive disorder.

Comparing Receptive–Expressive and Expressive Disorders: Teachers

Teachers' questionnaires were completed for 49 children with receptive–expressive disorder (59%) and 34 children with expressive disorder (41%). For the comparison of children with receptive–expressive disorder and children with expressive disorder, we used the Mann–Whitney U test because of the nonnormal distribution of the data. Teachers rated the communicative abilities of children with receptive–expressive disorder ($Mdn = 4$, $n = 49$) as significantly lower than those of children with expressive disorder ($Mdn = 6$, $n = 34$, $U = 490$, $z = -3.198$, $p = .001$). Furthermore, as shown in Table 4, teachers rated children with expressive disorder as having significantly better social competence than children with receptive–expressive disorder. There are no significant differences between the groups on all factors of teacher–child relationship.

Table 4. Teachers' judgment of social competence and teacher–child relationship for children with receptive–expressive disorder and children with expressive disorder.

Subscale	Total ($N = 83$)		Receptive–expressive disorder ($n = 49$)		Expressive disorder ($n = 34$)	
	Mdn	Range	*Mdn*	Range	*Mdn*	Range
Social competence	3.7	2.4–5.0	3.6	2.7–5.0	3.9*	2.4–4.9
Teacher–child relationship:						
Closeness	3.8	2.2–5.0	3.8	2.2–5.0	3.8	2.4–4.8
Conflict	2.0	1.0–3.5	2.0	1.0–3.5	1.9	1.0–2.8
Dependency	2.6	1.2–4.6	2.6	1.2–4.6	2.5	1.8–4.4

Note. Social competence is measured by the BITSEA questionnaire (Briggs-Gowan & Carter, 2001). Teacher–child relationship is measured by the STRS questionnaire (Pianta, 2001). For social competence and closeness, higher scores indicate better social competence and adequate closeness. For conflict and dependency, higher scores indicate more conflicts and more dependency. BITSEA = Brief Infant-Toddler Social and Emotional Assessment; STRS = Student–Teacher Relationship Scale.

*$p < .05$.

Relations Between Language Domains and Teachers' Ratings

As shown in Table 5, there are significant correlations between the scores on the test for language comprehension, expressive vocabulary, and expressive morphosyntax and teachers' ratings of communicative abilities, indicating that higher language test scores are related to better communicative abilities. There are no significant correlations between language test scores and teacher's ratings of social competence and teacher–child relationship. There are, however, significant correlations between communicative abilities and social competence on the one hand and dependency in student–child relationship on the other hand but not between communicative abilities and closeness and conflict. There are also significant correlations between social competence and closeness and conflict.

Discussion

This study focused on communication in different situations in the daily lives of children with DLD aged 5–6 years. We studied limitations in communication in daily life from parents' perspective and communicative abilities and social functioning of the children in the classroom according to teachers. We also looked at relations between delays in language domains and communication in daily life and social functioning in the classroom and compared results of children with receptive–expressive disorder and children with expressive disorder.

We asked parents to mention the situations and times when their child's language difficulties are most troubling and to describe what their child is struggling with in these situations. Parents' answers were categorized into "situations and circumstances" and "limitations in communication." Within the "situations and circumstances" category, many parents reported that their child experiences most difficulties in communicating with strangers or in certain mental states, for instance, stress, fatigue, or emotional states. For the core communication problems, parents most frequently mentioned limitations in expressing oneself and being understood and not being intelligible.

Teachers rated the children's communicative abilities in the school context with a mean score of 4.5 on a 10-point scale, so they consider the communicative abilities inadequate. However, the results on a social competence scale were not deviant. Also, scores on three dimensions of the quality of teacher–child relationship (closeness, conflict, and dependency) were not different from scores of a large cohort study of typically developing children in the Netherlands. This indicates that the children with DLD in our study did not have limitations in social relations with their classmates and their teacher.

To obtain a better picture of the relation between language deficits and communication in daily life, we looked at the results for children with receptive–expressive disorder and children with expressive disorder separately. The results indicate that children with receptive–expressive disorder experience more severe limitations. Parents in this group more often mentioned that the children are troubled by their language disorder in almost all situations, whereas parents of children with expressive disorder more often mentioned a limited number of specific situations. Also, the parents of children with receptive–expressive disorder more often used generic terms to describe their children's communicative difficulties such as "expressing themselves," whereas parents of children with expressive disorder used more specific terms such as "being understood" and "intelligibility." Teachers rated children with receptive–expressive disorder as significantly more limited in their communicative abilities and social competence than children with expressive disorder. There are no differences between the two groups of children in the teacher-reported quality of the relationship between themselves and the child.

Table 5. Correlations between language tests and teachers' ratings of communicative abilities, social competence, and teacher-child relationship.

Variable	1	2	3	4	5	6	7	8
1. Language comprehension	—							
2. Expressive vocabulary	.726**	—						
3. Expressive morphosyntax	.508**	.475**	—					
4. Communicative abilities	.334**	.343**	.236*	—				
5. Social competence	.157	.064	.009	.222*	—			
Teacher—child relationship:								
6. Closeness	−.045	.062	−.009	.091	.611**	—		
7. Conflict	.102	.134	.199	−.078	−.435**	−.314**	—	
8. Dependency	−.061	−.077	.178	−.393**	−.037	.173	.060	—

*$p < .05$. **$p < .01$.

Limitations in Communication According to Parents

Parents provided detailed information on what they see as their child's main limitations in communication and in which communicative situations their child is most affected by the language difficulties. This is consistent with Jensen de López, Lyons, et al. (2021), who concluded that "parents demonstrated contextualized understandings of their children's speech and language (dis)abilities, along with the everyday functional implications of the disorders" (p. 1739). In our study, parents provided clear information in written response to questions about the impact of language impairment.

Parents' information provides an insight into the aspects of communicative participation that children with DLD struggle with in their daily lives. If we place the information next to the ICF, we see that the subcategories in parents' answers align with ICF categories for activities and participation. They are clearly related to the category "communicating–producing" of the ICF, but only marginally to "communicating–receiving." This is consistent with the findings of Singer et al. (2020) and Chan et al. (2022): Limitations in the ICF category of "communicating–receiving" are difficult to detect, and parents express few concerns about the understanding of messages. Still, children might be troubled by these limitations, so it is important to talk about comprehension problems with caregivers and teachers and include comprehension in shared decisions on the prioritization of goals on communicative participation.

The subcategories parents mentioned also relate to the ICF categories "particular interpersonal relationships," the life area "education," and "community life." Evident in our results but not distinguished in the ICF is the subcategory "in certain mental states." This subcategory is umbrella for the emotions or state the child is in, such as enthusiasm, anger, and fatigue, and emotions caused by circumstances surrounding communication, such as when the child feels that they are asked something difficult or in situations that cause stress. The issues parents mentioned for "in certain mental states" could be considered as part of the ICF component "personal factors," which is distinguished as an important contextual factor but is not detailed in the ICF. The mental states are not constantly present and do not always manifest in the same way. They arise in the interaction between personal characteristics of a child and circumstances and expectations in the environment and can be a major barrier to communication.

Thus, parents' answers concerning the circumstances in which communication problems arise certainly represent daily life problems. It is important for SLTs to ask such questions because it provides information they cannot gather themselves. However, the answers to these questions alone may not provide the full picture. Parents' information may be colored by recent events or situations with large impact. In clinical practice, structured observation instruments are used mostly to obtain parents' report on the ICF components activities and participation. The Focus on the Outcomes of Communication Under Six (FOCUS; Thomas-Stonell et al., 2010) is frequently used. This instrument consists of 50 statements on speech, language, and communication, which parents can score on a 7-point scale. It is constructed to identify changes in communicative functioning as a result of an intervention. Some themes in our data (being intelligible and understandable, storytelling, conversations, and situations with peers and strangers) overlap with outcomes of the FOCUS, but our data provide more detailed and child-specific descriptions of limitations in communication. The type of questions we used is an addition to already existing instruments for communicative participation and can be a starting point for a conversation with caregivers.

Communicative Abilities and Social Functioning According to Teachers

Our study is the first to investigate teachers' opinions on communicative abilities and social functioning of a large group of children with DLD. Teachers rated the children's overall communicative abilities as largely insufficient, with 4.5 on a 10-point scale. Social competence, however, was rated with a median of 3.8 on a 5-point scale, which we do not consider deviant. This finding is contrary to previous studies that have found that children with language difficulties have poorer social skills than their typically developing peers (Irwin et al., 2002; Stanton-Chapman et al., 2007).

The teachers in our study did not judge the quality of their relationship with the child as markedly different from what has been reported for the population of typically developing children. Our participants received higher-than-average scores on the Conflict subscale of the STRS, but these are not strongly deviant. McCormack et al. (2011) also reported deviant scores on the Conflict subscale of the STRS, but not on the Closeness subscale in a group of children whose parents had indicated that they had language difficulties at an early age compared to typically developing children (aged 7–9 years). Rhoad-Drogalis et al. (2018) found similar scores for teacher-reported closeness as in our study, but lower levels of conflict. Possibly the setting plays a role in the different results on the Conflict scale of the STRS in different studies: Our participants take part in special education, with small groups and a favorable student–teacher ratio. In Rhoad-Drogalis et al., the children received special education in an inclusive setting, and

McCormack et al. used a large cohort in a variety of educational settings. The age of the children may also play a role: At young ages, language problems are obvious, and adults will take them into account more naturally, especially in a special education setting.

Viewed from an ICF perspective, the information we collected on social competence and quality of teacher–child relationship represents two important aspects from the "interpersonal interactions and relationships" category: relating with peers and relating with persons in authority (in this case, teachers). To get a complete picture of communicative participation in the classroom, however, more information on limitations in communication is needed. Until now, no instruments or protocols exist to gather this information. We used a score on a 10-point scale as an indication of communicative abilities, which is easy to fill in for teachers, but does not provide detailed information. As with information from parents, information from teachers is likely to require a combination of structured observation and open-ended questions.

Relations Between Language and Communication

We found differences between children with receptive–expressive disorder and children with expressive disorder. Parents of children with receptive–expressive disorder more often indicated that their children were limited by their language difficulties in almost all circumstances than parents of children with expressive disorder. Parents of children with receptive–expressive disorder therefore less often mentioned specific situations or circumstances. If they did, it was more often "with strangers" and "in certain mental states" than for children with expressive disorder. In contrast, parents of children with expressive disorder more often mentioned "own family" and "peers" as the most problematic situations. When describing limitations in communication, parents of children with receptive–expressive disorder more often mentioned the category "expressing themselves" and parents of children with expressive disorder more often mentioned "being understood" and "intelligibility." It appears that parents of children with receptive–expressive disorder were more likely to use general terms and parents of children with expressive disorder were more likely to be specific about the problem. Perhaps the greater complexity of receptive–expressive disorder makes it difficult for parents to disentangle the different aspects of the limitations in communication, whereas for children with expressive disorder, it may be easier to distinguish different aspects. The findings of Chan et al. (2022) support this hypothesis. They found that parents were more likely to express concerns about a clearly visible and distinct problem, such as difficulty reading words, than they were about problems with understanding what is being said.

According to teachers, communicative abilities were significantly lower in children with receptive–expressive disorder than in children with expressive disorder. Children with receptive–expressive disorder also scored lower on social competence than children with expressive disorder. There were no differences in the quality of teacher–child relationship.

There is agreement in parent and teacher observations: Both indicate that communication in daily life is more problematic for children who have a receptive–expressive disorder. This is in line with assumptions of researchers and experiences of SLTs that these children are more severely limited in their communicative participation than children with expressive disorder. We suspect that the combination of language domains that are deviant from typical development plays an important role: The more language domains with delays and deviance, the larger the limitations in communication are.

Lower language test scores were related to lower teacher ratings of communicative abilities. In contrast to what has been reported in previous studies, this suggests a relation between severity of language impairment and limitations in communicative abilities. We found no correlation between language test scores and social competence. This finding is consistent with that of Eadie et al. (2018), who found no relation between severity of DLD and ratings on the Social Functioning subscale of a quality-of-life instrument. Because Hart et al. (2004) did find relations between severity of language impairment and teacher's ratings of social behavior, further, more thorough investigation into the relations between language skills on the one hand and communicative and social functioning on the other is warranted. It is also important to include what is meant by social competence and social functioning from teachers' perspectives. Further investigation should also be done into the teacher–child relationship: Rhoad-Drogalis et al. (2018) found correlations between Core Language scores on the Clinical Evaluation of Language Fundamentals (CELF) test and scores on the subscales Conflict and Closeness of the STRS, but this is not supported by our results.

Strengths and Limitations

Because we had a large group of participants, both parents and teachers, our study provides rich insights into communication in daily life of children with DLD from the perspectives of key stakeholders. In designing the study and collecting and analyzing the data, we considered criteria of trustworthiness and rigor for both qualitative and quantitative research, using existing reliable and

valid questionnaires wherever possible, supplemented by questions that were carefully developed together with experts in DLD and speech-language therapy research. The cross-sectional design allowed us to relate communication in daily life to language skills. With this design, it was not possible to continue recruiting participants until we were sure that we had reached saturation regarding communication in daily life from parents' perspective. In the last five responses we coded, we found no new subcategories and no new codes. Therefore, we believe we have come close to data saturation and have identified many aspects of limitations in communication in daily life for young children with DLD. Regarding generalizability and transferability, we observe that the group of parents who completed the survey might not be totally representative of the entire cohort of children with DLD in the Netherlands. We expect, however, the impact of language difficulties on communication in daily life to be largely universal and independent of demographic characteristics (Jensen de López, Feilberg, et al., 2021).

Because we used a written survey, we did not have the opportunity to ask further questions or support parents in answering the open-ended questions. Partly because of this, many responses were concise and sometimes difficult to interpret, also because some of the parents seemed to have difficulty formulating. This is a threat to the credibility of the study. We have tried to minimize this by analyzing the data with two researchers, adding quotes to the description of the results, and providing examples of expressions that were difficult to analyze. A recommendation for future research is to collect information from parents orally.

The results provide insights into communication in daily life according to parents and teachers, but it is only a first exploration. We had wanted to apply data triangulation by comparing information from each child's parents and teacher, but this was not possible because data from both parents and teachers are available for only part of the participants and because different questionnaires were used. When considering the teachers' information, it is important to keep in mind that the children are being taught in schools for special education, exclusively for children with DLD and children with hearing impairment. They spend all day with other children with limitations in communication and receive a lot of support in language and communication from teachers and school SLTs. This may explain the teachers' relatively favorable assessment of the social competence and quality of teacher–child relationship. As to the generalizability of our findings, teachers in our study may have had more knowledge on DLD and the language deficits of the children in their class than teachers in mainstream education. An important way to address this in future research would be to ask the teachers to reflect on the way they scored children

in their class. The participants are representative for teachers in special education in the Netherlands. We expect the information provided by the teachers to be generalizable to special education in other countries but to a lesser extent to children in inclusive settings. Inclusive settings should be an important focus for future research.

Finally, within the scope of our study, it was not possible to talk to the children. Consequently, we do not know how the children themselves regard the challenges they experience. It is also not yet entirely clear how best to obtain information on how young children with DLD perceive their communication (Lyons et al., 2022). Their insights should of course be included to get a more complete picture of limitations in communication and decide on main goals in improving communicative participation, especially because children have a right to do so (McLeod, 2018). Previous research has also shown that there can be a difference in perception of the speech-language problem between the child themselves and the environment (McCormack et al., 2010).

Implications

Our study sheds new light on the communication of children with DLD both in their home environment and at school, and it provides information on aspects of communicative participation. We agree wholeheartedly with previous studies that collaboration with key informants in the home and school environments of a child with DLD is crucial for identifying problems with communicative participation and determining what is needed in intervention (Kwok et al., 2022; Singer et al., 2022). Parents' and teachers' perspectives are invaluable.

In our study, a helpful way of getting information from parents was to ask what the main limitations in communication were. It is important to keep in mind that what the parents think is most troubling the child is not necessarily what the parents would want to be remedied first, or what the child's most important needs are. For instance, we found that parents seldom mentioned problems in understanding language, even for children who were found to have receptive difficulties. Consequently, a more in-depth interview with parent and child would seem to be needed, and we should search for means to facilitate this. Our question, "At what times and in what situations are the language difficulties troubling your child the most?" seems to be a good starting point for such a conversation. This could be combined with relevant parts of the FOCUS instrument. The items that apply may vary from child to child. An item bank with computerized adaptive testing such as that being developed for patient-reported outcome measures (Patient-Reported Outcomes Measurement Information System; Alonso et al., 2013)

could also be useful for conversations with parents of children with DLD about communication in daily life, just as could the ENGAGE conversation tool (Singer et al., 2022).

The questionnaires we used in our study to gather information from teachers provide a global picture of a child's communicative abilities and social functioning in the classroom, but more fine-grained and efficient instruments to record communicative participation in the classroom are needed. Existing questionnaires and observational instruments, such as Children's Communication Checklist (Bishop, 2003), the Observational Rating Scale and Pragmatic Profile of the CELF-5 (Wiig et al., 2013), and the Pragmatics Observational Measure (Cordier et al., 2014) mostly focus on pragmatic skills and checking whether children deviate from norms. They are also mostly not designed to be completed by teachers, but by SLTs.

Communicative participation should be central in the diagnostic speech-language therapy assessment to get a better understanding of the severity of limitations in communication and to develop a treatment plan in joint consultation with parents and teachers. In line with what Baylor and Darling-White (2020) and Kwok et al. (2022) advocate, the focus should not only be on the child with DLD: Adaptations in the environment can also improve communicative participation. For example, with regard to the role that a child's mental state can play in communication, intervention should start with raising awareness of unfavorable conditions regarding mental state in the communication environment and cooperate with parents and teachers to adjust those conditions. Regarding comprehension problems in daily life, it is important to get insight in what the child can understand and adjust language complexity or use alternative ways of communicating.

Involving the environment is not an obvious approach for SLTs who work with children with DLD. For SLTs who work in schools, the classroom situation is often involved in the intervention (although it is not usually the primary focus), but not the home environment. Also, in speech-language therapy practices, parents are involved (often primarily to do "homework"), but usually school professionals are not. The persistence of DLD and the life-long consequences it can have should urge professionals to cooperate and focus on supporting communicative participation. If children are better able to participate in communication in daily life, serious long-term consequences such as academic underachievement, difficulties in relationships, and psychological consequences might be reduced.

The relation we found between the severity of the language disorder and problems in communicative abilities in the school context warrants further research. This also applies to the relation we found between the nature of the language disorder, that is, whether there are only expressive problems or also problems in language comprehension, and the limitations in communication and communicative abilities in the school context. Our results provide a basis for studies on the possibility of tailoring interventions to language profiles. The combination of language profile, severity of the disorder, and communicative participation should also play a role in future severity classification. Currently, there is no international agreement on severity measures for DLD. It is important to develop these to enhance transparency in diagnostics, appropriate interventions, and determining clinically relevant effects of scientific research.

Conclusions

This study confirms that children with DLD face major communication difficulties, which manifest in many domains, both at home and at school. The problems seem to be more severe in children with receptive–expressive disorder than in children with expressive disorder. Interestingly, while teachers find the children's communicative abilities inadequate, they do not rate social competence and teacher–child relationship as abnormal. Collaboration with the child's environment is crucial to identify problems in daily functioning and determine what is needed in intervention. Our study has contributed to the exploration of communicative participation of young children with DLD with questions to start a conversation with parents and instruments that can be used by teachers, but there is still a lot of work to be done.

Data Availability Statement

Due to privacy and ethical concerns, neither the data nor the source of the data can be made available.

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Thank you very much for your willingness to complete this survey!

One of the parents is supposed to fill out the survey. By "your child" we always mean the child participating in our study.

We will ask about:
- Information about you and your partner
- The languages you are using with your child
- Your child's language difficulties

Some questions are about you and your partner.
- **You**: this is you when you fill out the questionnaire.
- **Your partner**: this is your spouse of the man or woman you are living with.

Of course, if you have no partner, you do not need to fill in the questions.

Part I. Information about you and your partner

1. Are you a man or a woman?
   - ○ a man
   - ○ a woman

2. Please check what is applicable:
   - ○ I am married / I live together
   - ○ I live alone

3. What is the highest level of education you have completed? If you have a partner, what is the highest level of education your partner has completed?

	You	**Your partner**
No education	O	O
Primary school (1–3 years)	O	O
Primary school (4–6 years)	O	O
Pre–vocational secondary education	O	O
Post–secondary vocational education	O	O
Senior general secondary education	O	O
Pre-university education	O	O
Higher professional education	O	O
University	O	O
Other, namely:		

In which country were you born?
   - ○ The Netherlands
   - ○ Other, namely: _____

In which country was your child born?
   - ○ The Netherlands
   - ○ Other, namely: _____

In which country was your partner born?
   - ○ The Netherlands
   - ○ Other, namely: _____

Part II. Different languages

Most families speak more than one language. We would like to know what languages you use with your child.

4.   What languages do you speak regularly at home? You can give more than one answer.

	You	**Your partner**
Dutch	O	O
Frisian	O	O
Dutch regional language or dialect	O	O
Arabic	O	O
Berber	O	O
Chinese	O	O
German	O	O
English	O	O
Farsi	O	O
French	O	O
Javanese	O	O
Croatian	O	O
Kurdish	O	O
Papiamento	O	O
Polish	O	O
Serbian	O	O
Sranan Tongo	O	O
Sarnami Hindustani	O	O
Turkish	O	O
Flemish	O	O
Other, namely:		

Language difficulties

Your child has a language disorder. That is why he/she attends special education. The language disorder causes difficulties with speaking and understanding. Can you describe the situations in which the language difficulties are troubling your child the most? What problems does your child experience then?

5.   At what times and in what situations are the language difficulties troubling your child the most?

6.   What kind of difficulties does your child experience at the times and in the situations that you have mentioned?

Thank you very much for your willingness to complete this survey!
    Please complete a separate questionnaire for each student participating.

We will ask you about:

*   The student's social competence

*   The relationship and contact between the student and you

Finally, we will ask you to rate communicative abilities.

Social competence
1.   What is applicable to the student?

The student:	Definitely untrue	Untrue	Not untrue, not true	True	Definitely true
tries to help when someone is hurt (e.g., gives a toy)	O	O	O	O	O
follows rules	O	O	O	O	O
hugs or feeds dolls or stuffed animals	O	O	O	O	O
is affectionate with loved ones	O	O	O	O	O
looks for you (or other adult in the classroom) when upset	O	O	O	O	O
looks right at you when you say his/her name	O	O	O	O	O
plays well with other children	O	O	O	O	O

Items originate from the Brief Infant Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan & Carter, 2001) and are used with permission. This is a sample copy, do not use without permission. BITSEA contact information and permission to use: Mapi Research Trust, Lyon, France. https://eprovide.mapi-trust.org.

Student–teacher relationship
2.   What is applicable to the student?

This student:	Definitely untrue	Untrue	Not untrue, not true	True	Definitely true
needs to be continually confirmed by me	O	O	O	O	O
fixes his/her attention on me the whole day long	O	O	O	O	O
reacts strongly to separation from me	O	O	O	O	O
is overly dependent on me	O	O	O	O	O
asks for my help when he/she really does not need help	O	O	O	O	O
This student and I always seem to be struggling with each other	O	O	O	O	O
This student feels that I treat him/her unfairly	O	O	O	O	O
When this student is in a bad mood, I know we're in for a long and difficult day	O	O	O	O	O
This student's feelings toward me can be unpredictable or can change suddenly	O	O	O	O	O
Dealing with this student drains my energy	O	O	O	O	O
If upset, this student will seek comfort from me	O	O	O	O	O
I share an affectionate, warm relationship with this student	O	O	O	O	O
This student seems to feel secure with me	O	O	O	O	O
My interactions with this student make me feel effective and confident	O	O	O	O	O
This student openly shares his/her feelings and experiences with me	O	O	O	O	O

Items originate from the Student–Teacher Relationship Scale (STRS; Pianta, 2001) and are used with permission from the author.

Communicative abilities

3.   Finally, how would you rate the student's communicative abilities?

   Communicative abilities can be considered as the capacity to communicate functionally and adequately in agreement with the developmental level and capabilities of the child. Communication can take the form of spoken words, gestures or symbols.

Communicative abilities include:

-      make yourself clear to other children

-      take the initiative to communicate

-      respond when asked to say something again (when not understood)

-      communicate in a socially appropriate way

-      respond to questions

-      contribute to a classroom circle discussion

-      show that you didn't understand

-      dare to speak

   Communicative abilities are only partly related to language level. Some children with language delays can be effective communicators if they are able to express themselves by supplementing spoken language with gestures, facial expressions, and social behavior and by not giving up easily if communication fails.

Please indicate on the scale below how you rate this student's communicative abilities.

This child cannot cope with communicative situations at all	○	○	○	○	○	○	○	○	○	○	This child functions very well in communicative situations