Parents' experiences and wishes regarding their role in their child's treatment for a Developmental Language Disorder.

Lisa Verheul

5748372

Applied Cognitive Psychology

Utrecht University

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First assessor: Yentl de Kloe

Second assessor: Nico Romeijn

Supervisor Lectoraat Co-Design: Anita van Essen

Abstract

Parental involvement is essential for the effectiveness of the child's treatment for *Developmental Language Disorder* (DLD). Unfortunately, no studies have investigated parents' wishes and experiences regarding their involvement. This study assessed differences in parents' experiences and wishes regarding their involvement in their child's treatment for DLD, through a survey and semi-structured interviews. Interviews were analysed using a Thematic Network Analysis to give meaning to and identify parental factors. Parents were currently involved in observation of therapy sessions, completing home practice and goal selection, however, more parents wished they were involved in goal selection. Most parents learned to stimulate the child's language and received instructions to complete home practice, but they also wished to learn more about how to change their own language. Four global themes (capability to help the child, responsive to the child's treatment needs, being involved and taking initiative to help the child, emotional impact of the child's disorder) of parental factors were identified and differentiate parents in their involvement. This study gives interpretation to parents' role in the child's treatment and provides Speech and Language Therapists (SLT) with tools to negotiate roles with parents.

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Introduction

With a prevalence of 7%, a *Developmental Language Disorder* (DLD) is the most common developmental disorder among Dutch children aged 0-7 years. DLD is characterized by a delayed and abnormal language development (Tomblin *et al.*, 1997). These children experience difficulties with speaking and understanding their language, which often manifest at a young age (NVLF, 2017). In the Netherlands, children with DLD are treated by a *Speech and Language Therapist* (SLT) for at least half a year (Flinterman *et al.*, 2017). This treatment often consists of a direct treatment (of the child) for 30 minutes per week (EU COST Action Survey, 2017).

Current speech therapy is mostly child-oriented and the collaboration with parents is limited (Klatte *et al.*, 2018). However, many studies confirm the importance of parental involvement in the child’s speech therapy. As parents are the most important role model of children, parental involvement increases language stimulation (Gerrits *et al.*, 2017). By involving parents in the child’s treatment, more parent-child interaction takes place, which is an important variable in the language development of the child (Safwat & Sheikhany, 2014). Furthermore, parents can support the child in transferring learned behaviour – from the speech therapy – into the home-situation, which results in greater effectiveness of therapy (Gerrits *et al.*, 2017; Zwitserlood-Nijenhuis & Wiefferink, 2019).

As mentioned above, parental involvement is essential for the child’s speech and language development and for the effectiveness of the child’s treatment. However, Law *et al.* (2003) suggested that some parents are more suited for parental involvement than others. In this study, children’s treatment responses varied more when the intervention was administrated by parents instead of clinicians. SLTs also mentioned that parents differ in their degree of involvement (Klatte *et al.*, 2019). Therefore, it is important to study what possible underlying factors result in differences in parental involvement.

In literature, several underlying parental factors (parent-related factors) have been proposed to be associated with parental involvement in the child’s treatment – to support speech and language development. The most frequently mentioned factor is parents’ beliefs, expectations and conceptions regarding their own and the SLTs role in the child’s treatment (Watts Pappas *et al*., 2015; Sugden *et al*., 2019; Klatte & Roulstone, 2016; Klatte *et al*., 2019; Watts Pappas *et al*., 2008; Singer *et al*., 2018).

According to parents’ beliefs, it is their responsibility to observe therapy sessions and to complete home assignments with their child. On the other hand, they expect from SLTs to take the lead in the child’s treatment, to ‘fix’ the child and to support parents in their role (Watts Pappas *et al*., 2015; Sugden *et al*., 2019). These studies do not explicitly describe how parents’ beliefs influence parental involvement. Though, when looking at current practice, parents’ beliefs correspond to the way SLTs involve parents in the child’s treatment. SLTs are the primary decision makers for service delivery, goals and the extent of parental involvement in the child’s treatment (Watts Pappas *et al.*, 2008). They give parents limited choice in these aspects and mainly involve them by giving them instructions to perform home assignments with their children (Sugden *et al.*, 2017; Watts Pappas *et al.*, 2008).

Parents’ conception of their role in the child’s treatment determines whether parents adopt a more active role. Davies *et al.* (2016) appointed that parents have a good conception of their role as ‘advocate’ (seeking advice and supporting their child). However, some parents developed a better conception of an ‘intervener’ (support the child’s speech and language development) during therapy – which was associated with a more active role. Other parents mentioned they find it hard to get more involved, not because of their unwillingness, but because of their lack of knowledge and self-efficacy in relation to stimulate the child’s language.

According to Forsingdal *et al.* (2013), parents' knowledge – but also their skills and confidence – influences on what extent parents depend on the therapist, when setting goals in the child's developmental service. Some parents were able to set goals in collaboration with the therapist and were therefore described as 'collaborators'. Other parents let the therapist take the lead in goal setting and were therefore described as 'dependent'. Overall, parents' knowledge seems to be a variable that influences the association between parents' conception of their role & roles described to parents and parental involvement.

Parents' knowledge, skills and expertise (Davies *et al.*, 2016; Marshall *et al*., 2017; Klatte & Roulstone, 2016; Watts Pappas *et al*., 2008; Sugden *et al*., 2016) and their confidence in their ability to support the child's language (Davies *et al.*, 2016; Klatte & Roulstone, 2016; Klatte *et al*., 2019) were also parental factors often mentioned to influence parental involvement in the child's treatment. A lack of both factors can limit parents in playing a greater role in supporting their child's speech and language development (Davies *et al.*, 2016) and being less dependent on the SLT (Forsingdal *et al*., 2013). SLTs can make an important contribution to this; they can train parents to understand the aim of therapy and how to provide therapy themselves (Klatte *et al*., 2019). SLTs can support parental involvement by enabling parents to help their child (Watts Pappas *et al*., 2015). Currently, parents acquire different sorts and amounts of information that do not always fulfil parents' needs in helping their child (Auert *et al*., 2012). However, since no studies have investigated parents' needs about acquiring knowledge and skills to stimulate the child's language, further research is needed.

Besides parents' ability to be involved in the child's treatment – to support speech and language development – parents' motivation and willingness also influences parental involvement (Davies *et al.*, 2016; Sugden *et al*., 2019). However, previous studies provide little details about current parental involvement in intervention tasks. Moreover, no studies have investigated parents’ wishes in relation to parental involvement in the child’s treatment for DLD (Sugden *et al.,* 2016).

SLTs are advised to explicitly negotiate roles with the parents at the start of the child’s treatment (Davies *et al*., 2016; Marshall *et al*., 2017; Goodhue *et al*., 2010). But when it comes to everyday practice, SLTs often do not ask parents about their wishes and personal circumstances (Klatte *et al.*, 2019). Due to this, SLTs do not know how parents want to help their child and they lack knowledge about how to involve parents in the child’s treatment for DLD. To provide SLTs with information to negotiate roles with parents, we need to investigate what parents’ wishes regarding their role in the child’s treatment for DLD.

This study aimed to give interpretation to parents’ role in the child’s treatment for DLD. We intended to do this by 1.) investigating current parental involvement in intervention tasks and parents’ wishes regarding their involvement in the child’s treatment. 2.) We also studied parents’ experiences and wishes regarding acquirement of knowledge and skills. Parents evaluated their experiences and they were asked to provide information about specific practice (since evaluating parental involvement by only gathering satisfaction ratings is not sufficient (McNaughton, 1994)). 3.) At last, we identified and gave meaning to parental factors, to differentiate parents in their role in the child’s treatment for DLD. We hypothesized that most parents are currently involved in completing home assignments and observation of therapy sessions. Moreover, we expected that most parents learned how to stimulate the child’s language and received instructions for home assignments.

Methods

Study design

In this study, we assessed differences in parents’ experiences and wishes regarding their involvement in their child’s speech therapy and acquirement of knowledge and skills to stimulate the child's language. This study followed a descriptive research design, using mixed methods to collect both quantitative (survey) and qualitative (interviews) data.

Participants

The target population of this study were parents of children with DLD. For this study, parents had to meet the following inclusion criteria: 1.) they must have a child with a diagnosis of (suspected) DLD; 2.) the child must (have been) treated for this by a SLT in a practice; and 3.) the child is aged 2-6 years. Parents were invited to fill in a survey and participate in an interview via a recruitment message. One message was directed to parents (Appendix A) and was sent to: 1.) members of the parent panel (a group of parents who are actively involved in studies with regard to improving cooperation between parents and SLTs); 2.) board member of the FOSS (Federation Parents of Deaf, Hearing Impaired Children/Children with Speech Language Difficulties) parent association; and 3.) Facebook pages for parents of children with DLD. Parents were also indirectly recruited via SLTs (Appendix B).

Twenty-seven parents of children with DLD started the survey. Ten parents did not complete the survey and were therefore excluded from the study. The final sample consisted of seventeen parents in total: sixteen mothers and one father. Limited biographical data (to preserve the parents' anonymity) are presented in table 1. These include the following parents' demographics: first language spoken at home, highest level of education and work status. Of the parents who completed the survey, four parents – three mothers and one father – also participated in the interview.

Table 1

Parents' demographics.

	n		*n*
First language spoken at home		Work status	
Dutch	17	Part-time	12

English	1	Full-time	3
Polish	1	Unemployed	2
Turkish	1		
Highest level of education			
VMBO	1		
MBO	6		
HBO	7		
WO or higher	3		

Note. Parents’ demographics (*n* = 17) regarding first language spoken at home, highest level of education and work status. The first spoken language of all parents was Dutch. 1 parent spoke an additional first language at home (English) and 1 parent spoke two additional languages at home (Polish and Turkish).

Procedure

The recruitment message contained a referral link which parents could click on to fill in the survey. The first page of the survey consisted of a brief explanation of the survey, privacy regulations and a referral link to receive a more detailed description of the study (Appendix C). After reading this, parents signed an informed consent to attest their willingness to participate voluntarily and their understanding of the study protocol. Parents could withdraw at any time without the need giving an explanation. Parents were not granted any compensation.

The interview aimed to further explore the answers given by parents in the survey, therefore parents could only participate in the interview if they completed the survey. At the end of the survey, parents could express their interest in the interview by leaving their email address. An information letter was sent to parents, which contained an explanation of the interview and privacy regulations (Appendix D). At the start of the interview, parents gave oral permission to attest their willingness to participate voluntarily and their understanding of the study protocol (Appendix E). Due to COVID-19, the interview was held over the phone.

Parents were interviewed for about 30 minutes about their experiences and wishes regarding their role in the child’s treatment.

Survey. The survey aimed to describe the number of parents involved in intervention tasks, or acquired knowledge and skills, including parents’ satisfaction ratings. It also described the number of parents, who were not involved in intervention tasks or did not acquired knowledge and skills but wished to have this opportunity. Since a research instrument – designed for this targeted population – did not yet exist, we customized a survey (Australian survey of parent involvement in intervention for childhood speech sound) measuring the same variables for a different targeted population (Sudgen *et al*., 2017). This survey contained questions regarding parental involvement, parent training and home practice (Appendix F).

The survey was adapted in collaboration with a group of experienced speech scientists, who also had experience on speech therapy in practice. The following adjustments were made to establish the current survey. First, we selected questions that were: (1) consistent with the aim of the study; (2) relevant for the target population; and (3) relevant for speech therapy in the Netherlands. After we selected suitable questions, we translated them in Dutch because the target population were Dutch citizens.

The original survey was targeted for SLTs, therefore we removed questions specifically intended for SLTs. We rewrite remaining questions so they could be answered by parents, using the following steps. First, we replaced speech therapy jargon for language in which SLT’s communicate with parents. It was required that translated terminology was also used in speech therapy in the Netherlands and that questions retained their original meaning. Secondly, genetic factor may play a role in DLD, particularly parents of the child with DLD reported significantly more speech, stuttering, reading and language disorders (51.1%) (Neils

& Aram, 1986). Due to this, we limited the reading and wrote questions in 'simple Dutch' (e.g. simple language, short sentences); we removed questions that were too difficult.

Textual responses, to answer a question 5-point Likert scale, were replaced by an 'emojiscore'. Research shows that people who indicated to speak their language not well (because it was not their native tongue), preferred an emoji-based survey (Neils & Aram, 1986). This emoji scale offered five facial emojis on a scale from positive through neutral to negative (figure1). At last, we piloted the survey with a parent of a child with DLD who also has DLD himself on understandability, legibility, length, and content of the survey and the 'emojiscore'.

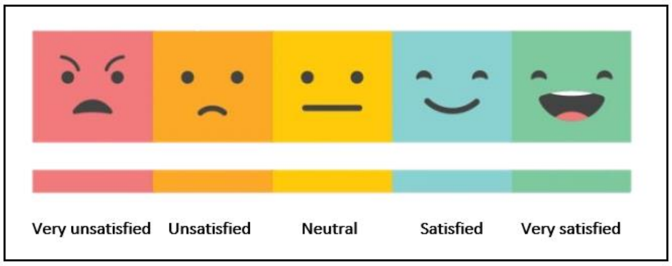

Figure 1. Five- scale emoji.

The current survey was generated using Qualtrics Online Survey Software (Qualtrics, 2019). It consisted of three parts: (1) seven demographic questions; (2) nine questions regarding parental involvement in intervention tasks; and (3) twelve question regarding acquirement of knowledge and skills (Appendix G). Part two and three ended with the opportunity to add intervention tasks, knowledge and skills not mentioned in the questionnaire. Parents confirmed if they were involved or acquired the knowledge and skills or not, by answering the question with 'yes' or 'no'. If parents answered 'yes' to the question, they rated their involvement or acquired knowledge and skills on satisfaction by giving an emojiscore that ranged from 1 (*very unsatisfied*) to 5 (*very satisfied*). If parents answered 'no' to the question, they confirmed if they wish to have this opportunity. The following questions were asked: “Did you get the opportunity to think along with intervention task X?”, “Can you indicate how satisfied you were with this?” and “Would you have liked to think along with this?”.

Semi-structured interview. The semi-structured interview aimed to: (1) describe and interpret parents’ experiences and wishes regarding parental involvement; and (2) identify and give meaning to parental factors, on which parents differ, that could influence their role in the child’s treatment (Appendix H). If parents were involved in an intervention task or acquired knowledge and skills, they had to explain this experience by giving an example from their own experience and they were asked to explain their level of satisfaction. If parents were not involved in an intervention task or did not acquired knowledge and skills, they were asked to explain why they would have liked to receive this opportunity. The audio during the interviews was recorded and transcribed afterwards.

Data analysis.

Survey. The survey data was exported to SPSS statistics for Windows (IBM Corp., 2016) to calculate descriptive statistics – percentages, means and standard deviations. We calculated percentages for 1.) current and wished involvement in intervention tasks and 2.) current and wished acquirement of knowledge and skills. Means and standard deviations were calculated for satisfaction ratings for 1.) involvement in intervention tasks; and 2.) acquirement of knowledge and skills. ‘Emojiscores’ were converted to a numerical scale (1= *very unsatisfied* to 5= *very satisfied*).

Semi-structured interview. The data from the set of interviews was analysed using NVivo qualitative data analysis software (QSR International, 2010). First, we gave meaning to parents’ satisfaction ratings and wishes. We did so by examining the interview data of the parents’ explanation for their satisfaction ratings and their wishes regarding their involvement in intervention tasks and acquirement of knowledge and skills.

Secondly, Thematic Networks Analysis (TNA) (Braun & Clarke, 2006) was used to 1.) identify new parental factors; 2.) give meaning to parental factors both identified in this study and proposed in literature; and 3.) rapport patterns between parental factors. The first step of TNA is identifying and producing codes (Braun & Clarke, 2006). Codes are here identified as the most basic and characteristic segments of the interview data, meaningful for a phenomenon. In this study, codes represented the parental factors which were meaningful for parents' role in the child's treatment, which in this case was the phenomenon. After this, codes were collated and grouped into organizing themes, which are more abstract principles clustering similar issues (Attride-Stirling, 2001). For example, the codes 'possessing background knowledge and skills', 'having experience with speech therapy', and 'having knowledge of the child', were similar issues since they all relate to parents' knowledge, skills and experience. Therefore, these issues were clustered into the organizing theme 'background knowledge, skills and/or experience'. Finally, organizing themes were grouped into super-ordinate global themes, which are the core of a TNA (Attride-Stirling, 2001). Results of the TNA are shown in table 2.

Two sorts of TNA analysis were used to give meaning to and identify parental factors. (Braun & Clarke, 2006). First, we used an inductive – data-driven – analysis to identify parental factors. For example, a parental factor not mentioned before in literature was 'having knowledge of the child'. Secondly, a theoretical analysis - driven by our theoretical an analytical interest in parental factors – was used to give meaning to parental factors. For example, parents' knowledge, skills and expertise were proposed as parental factors influencing parental involvement (Davies *et al.*, 2016; Marshall *et al.*, 2017; Klatte & Roulstone, 2016; Watts Pappas *et al.*, 2008; Sugden *et al.*, 2016). We gave meaning to this parental factor by explaining how parents differed on this factor and how these differences were associated with differences in parental involvement.

Results

The first section describes results from the survey data regarding 1.) current involvement in intervention tasks; 2.) parents' satisfaction ratings of their involvement; and 3.) parents' wishes regarding involvement in intervention tasks. The second section describes results from the survey data regarding 1.) current acquirement of knowledge and skills; 2.) parents' satisfaction ratings of acquirement of knowledge and skills; and 3.) parents' wishes regarding acquirement of knowledge and skills. Throughout these two sections, verbatim quotations from the interview data were used to explain parents' satisfactions rating and wishes regarding involvement in intervention tasks and acquirement of knowledge and skills. The third section describes four global themes regarding parental factors, identified by analysing the interview data. Verbatim quotations were used to give meaning to parental factors.

Parental involvement in intervention tasks

Percentages of current parental involvement in intervention tasks are shown in figure 2. Most parents were currently involved in both observation of therapy sessions (88.2%) and completing home practice (88.2%), followed by goal selection (76.5%). Current involvement was the least for thinking about the amount (23.4%) and duration of therapy sessions (11.8%). Items listed under 'other' included participating in group therapy and talking about DLD related problems.

Parents who indicated they were involved in intervention tasks, rated their involvement overall high on satisfaction (Appendix I). Thinking about the amount of therapy sessions was rated highest on satisfaction ($n = 4$, $M = 5$). Some parents mentioned in the interview they involved themselves, by making an alternative proposal for the amount of therapy sessions which was – according to them – more in line with the child's treatment needs. As one parent explained: 'After a couple of months, we expanded this to speech therapy twice a week. We suggested this because we noticed that he liked it and it helped his speech development'. Parents were satisfied with their involvement in this intervention task, because the SLT accepted their proposal.

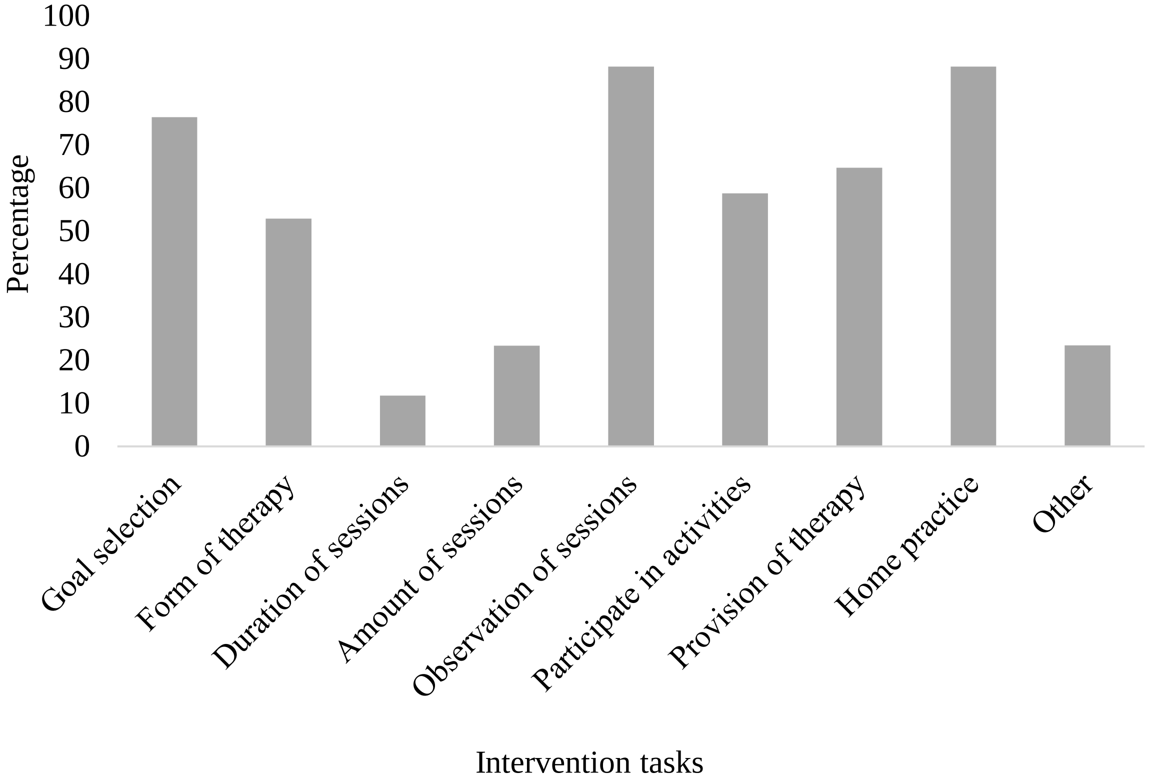

Figure 2. Percentage of current involvement in intervention tasks (y-axis). Bars depict the percentage of parents who indicated that they were involved in the intervention tasks (x-axis).

Parents were also satisfied with thinking about the form of therapy (*n* = 9, *M* = 4.56). However, while interviewing parents, we noticed that parents interpreted this item differently (they though it was about the amount or structure of therapy sessions) than how we meant it (one to one treatment, group therapy or treatment at home). Participating in activities during the therapy sessions was also rated high on satisfaction (*n* = 10, *M* = 4.5). In the interview, one parent explained why she was satisfied with participating in activities: 'You also get a grip on the situation so you can help your child … that is a wonderful feeling'.

Figure 4 shows the percentage of parents who were not involved in intervention tasks (not involved) and the percentage of parents who were not involved, but wished they were involved (wished involvement). In relation to the percentage of ‘not involved’ parents, the percentage of ‘wished involvement’ was highest for goal selection (23.5%). One parent explained in the interview, her child sometimes experienced different language problems at home, which were not in line with the treatment goal. Therefore, she would have liked to adjust in the treatment goal, since the SLT did not made these adjustments.

To summarize this, most parents were currently involved in (1) observation of therapy sessions; (2) completing home practice; and (3) goal selection. Parents were overall satisfied with their involvement in intervention tasks. Most of the ‘not involved’ parents wished they were involved in goal selection, therefore SLTs should involve more parents in this task. Current and wished involvement were the least for the duration and amount of therapy sessions.

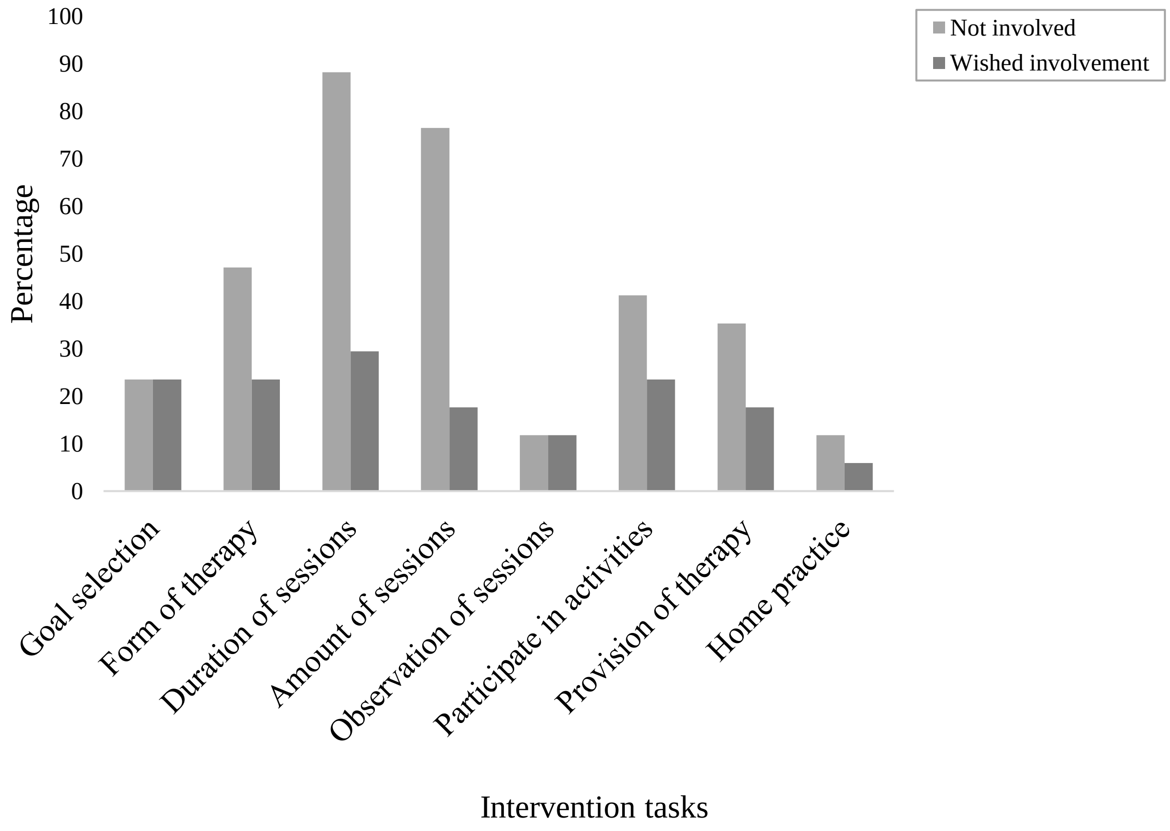

Figure 4. Percentage of parents not involved and wished involvement in intervention tasks (y-axis). Bars depict 1.) the percentage of parents who indicated they were not involved in the intervention tasks and 2.) the percentage of parents who indicated they were not involved in the intervention tasks, but wished they were involved. (x-axis).

Acquirement of knowledge and skills to stimulate the child’s language

Percentages of current acquirement of knowledge and skills to stimulate the child’s language are shown in Appendix J. Most parents (82.4%) learned how to stimulate the child’s language and they acquired instructions to complete home practice (82.4%). Current acquirement was the least for ‘other’ knowledge and skills (41.2%). Under ‘other’, parents listed the following items: 1.) use sign language, pictograms, pictures and games to stimulate the child’s language; 2.) learn how the child can make himself understood by other people; and 3.) learn how DLD can influence other functionalities – besides language – of the child.

Parents who indicated they acquired knowledge and skills, rated this acquirement overall high on satisfaction (Appendix K). They were most satisfied with learning about the consequences of DLD (n = 10, M = 4.5). In the following quotation from the interview, one parent argued why she was satisfied with discussing the consequences of DLD: ‘When the child is about 7 years old, your brain is so rich you can no longer change anything … We talked about those things and looked at what he can or cannot do. And what things do we want him to be able to learn. What do we want to achieve with him’?

Parents were also satisfied they acquired instructions to complete home practice (n = 14, M = 4.5). Due to these instructions, parents understood the purpose and emphasis of home assignments. One parent explained he was satisfied, because he received advice about what to do when the child does not want to cooperate: ‘If he does not want to complete the assignments at home, then just go play with him and name everything. So that he learns a lot unnoticed'.

In relation to the percentage of parents who did not acquire knowledge and skills (not acquired), the percentage of parents who wished they acquired knowledge and skills (wished acquirement) was highest for changing their own language to stimulate the child's language (23.5%) (Appendix L). In the interview, parents mentioned other things they wished to learn more about using sign language and using daily routine to stimulate the child's language.

In summary, to stimulate the child's language, most parents currently learned how to stimulate the child's language. Parents also received instructions to complete home practice and they were most satisfied with acquirement of this knowledge and skills. SLTs should learn parents more about changing their own language and stimulate the child's language.

Parental factors

Analysis of the interview data revealed four global themes regarding parental factors (table 2). The first global theme: capability to help the child, describes the following factors that enables parents to stimulate their child's language: background knowledge, skills and experience regarding DLD and knowledge of the child. The second global theme: responsive to the child's treatment needs, shows whether parents have insight into the child's treatment needs and can personalize the treatment by tailoring it to the child. The third category: being involved and taking initiative to help the child, represents parents' beliefs regarding parenting, parents' beliefs and wishes regarding their own and SLT's role and parents' participation in the child's treatment. The fourth category: emotional impact of the child's disorder, describes the emotions and feelings evoked by the child's DLD. In the next paragraphs, the global themes are explained using verbatim quotations made by parents during the interview.

Table 2

Global themes, organizing themes and codes describing and organizing parental factors.

Global themes	Organizing themes	Codes
Capability to help the child	Background knowledge, skills and/or experience	Possessing background knowledge and skills Having experience with speech therapy Having knowledge of the child
	Additional sources of help and information	Looking for additional sources of help and information Being eager to learn
	(Self) confidence	Feeling confident to help the child
Responsive to the child's treatment needs	Insight into the child's treatment needs	Paying attention to and interpret treatment needs.
	Personalized treatment	Tailoring home assignments to the child Applying knowledge of DLD in daily life
Being involved and taking initiative to help the child	Role perception and participation	Having beliefs regarding parenting Having beliefs regarding involvement Participating in therapy
	Interaction between parent and SLT	Being a follower Being an initiator
Emotional impact of the child's disorder	Emotions and feelings	Having concerns, feelings of guilt, grief, and doubts about parenting

Capability to help the child. In this study, parents' knowledge and skills regarding DLD was associated with their capability to help their child. Some parents had more of these knowledge and skills than others, because they 1.) had experience with speech therapy; 2.) learned how to stimulate the child's (language) development through their job; and/or 3.) were more eager to learn and looked for additional sources of help and information (e.g. books, literature, courses).

Parents with more DLD related knowledge and skills were more able to help their child in the sense that they 1.) applied methods to stimulate the child's language into daily life already; 2.) used daily routine to stimulate the child's language already; 3.) understood the aim of therapy; and 4.) felt more confident to help their child (particularly at home). In the following quotations, two parents argued the importance of possessing knowledge and skills:

P3: But it also means that you understand where they want to go to [within the treatment] and that you understand what the aim is and then you can co-operate much easier.

I: Do you also feel that your background knowledge helped you feeling confident to help your child by stimulating the language?

P4: Yes absolutely. I think if I did not have this knowledge, it would have been a lot more difficult.

Having knowledge of the child – particularly the characteristics and interests – also makes parents capable to help their child: it makes them able to tailor home assignments to the child. Therefore, parents did not differ on having knowledge of the child but applying this knowledge. The next paragraph gives a more elaborate description of how parents differ on applying this knowledge.

In summary, parents with more background knowledge and skills regarding DLD were more capable to help their child. These this knowledge and skills gave parents a head start in stimulating the child's language and it made them feel more confident to help their child.

Responsive to the child's treatment needs. Parents differed in whether they were able to respond to the child's treatments needs, or whether the SLT did this. We found differences between parents in paying attention to and interpreting the child's treatment needs before the start of treatment. Some parents responded to the concerns of a health professional who gave the child a referral to an SLT. Others responded to their own concerns whether the child's development was (ab)normal. The following quotations made by two parents illustrate this difference:

P2: And then we thought, "He is just two years old, it will come later". But then we started the treatment on advice and that is how we ended up with this SLT.

P3: I just always indicate what my problem is and then they tell what they think the problem is. And this is what we want to improve with him so that he can better cope with things. And usually that is the same as what the SLT comes up with.

During treatment process, parents differed in their ability to personalize the child's treatment, by tailoring home assignments to the child. Parents who could do this themselves 1.) possessed more knowledge and skills regarding DLD and 2.) were more able to apply knowledge of the child. Other parents let the SLT take the lead in this. This difference is illustrated by quotations of two parents:

P4: As long as there is something with cars, he is immediately on the edge of his seat. And sometimes it also requires some creativity to practice a word sound, and then direct it so that it has something to do with cars.

P1: She [the SLT] let my child play with the Duplo and then the aim of the assignment remained the same, but she applied this to the game she was going to do. He did not realize he was receiving speech therapy.

We also found differences between parents in their ability to personalize the child's treatment, by applying knowledge of DLD into daily life (e.g. stimulating language while setting the table). Parents who had more experience with speech therapy, were better able to do this.

To summarize this, before the start of treatment and during treatment process, parents differed in whether they were able to respond to the child's treatment needs themselves or whether the health professional or SLT took the lead in this. Parents who 1.) possessed more knowledge, skills and experience regarding DLD and 2.) were able to apply knowledge of the child, were more able to respond to the child's treatment needs themselves.

Being involved and taking initiative to help the child. Most parents wanted what was best for their child, however they differed in the way they wanted to help their child in speech therapy. We found differences in the degree of parental involvement in the child's treatment. Parents also differed in their beliefs and wishes regarding their involvement. Some parents believed more than others in the importance of their involvement in the child's treatment, as illustrated in the two quotations:

P2: I did not feel the need to join the speech therapist and participate in activities.

P3: In the first couple of years, he made big progression … and this was contributed to the large active role we played in this [therapy]. I really believe that this can contribute. I think this is very important.

All parents preferred to consult with the SLT when interaction about the child's treatment. However, parents adopted different roles in the way they interact with the SLT. Most parents were described as a 'follower', in this case the SLT was the decision maker in the child's treatment. Parents assumed an 'initiator' role, valued their ability to give input and be heard, as illustrated in the following quotation:

P3: I was very pleased that I was heard in this and that I was a serious partner as a parent … and that you are included in the conversation as equivalent.

Overall, differences between parents' role perception and participation are characterized by 1.) the degree of parental involvement and 2.) parents' beliefs regarding the importance of their contribution in the child's treatment. When interacting with the SLT, most parents were described as a 'follower' and some parents took more initiative by assuming an 'initiator' role.

Emotional impact of the child's disorder. Some participants mentioned the emotional impact of the child's disorder, explaining the emotions and feeling the disorder evoked in them. The following examples were mentioned: concerns and feelings of guilt towards the child, sadness, and doubts about parenting. This last example is illustrated by one participant:

P3: An then I thought: "Help, what did I do wrong and did I forgot to do something?" and I was insecure if I offered my child a rich language environment.

Discussion

This study assessed parents' experiences and wishes regarding their involvement in the child's treatment for DLD, through a survey and semi-structured interviews. Parents were differentiated in their role, by parental factors we identified and gave meaning to. Results of this study are summarized and explained below.

Parental involvement in intervention tasks

In line with the hypothesis, most parents were currently involved in observation of therapy sessions and completion of home practice. These results correspond to the form of parental involvement most SLTs use (Sugden *et al.*, 2016; Watts Pappas *et al.*, 2008; Sugden *et al.*, 2018). Most SLTs involve parents by giving them home activities and letting them observe therapy sessions conducted by the SLT (Watts Pappas *et al.*, 2008).

This study provides new insights about parents' wishes regarding their involvement in the child's treatment. SLTs should involve more parents in goal selection, because most 'not involved' parents wished they were involved in this intervention task. They can also use goal selection as an approachable task to increase parental involvement.

It is standard practice that Dutch children with DLD are treated 30 minutes per week for at least half a year (EU COST Action Survey, 2017; Flinterman *et al.*, 2017). This may explain the low degree of current and wished involvement in the duration and amount of therapy sessions. However, some parent involved themselves in the amount of therapy sessions by making an alternative proposal which corresponded to the child's treatment needs. This suggests that parents want to be involved in the amount of therapy sessions, if standard practice does not fulfil the child's treatment needs

Acquirement of knowledge and skills to stimulate the child's language

To stimulate the child's language, most parents received instructions to complete home practice which was in line with the hypothesis. It is essential for parents to receive instructions for home practice, since their role mostly consists of completing home practice (Watts Pappas *et al*., 2008). Sugden *et al*., (2019) also argued the importance of clear instructions, as parents sometimes forget how to complete home practice or what it is they were asked to do.

Auert *et al*. (2012) reported a disparity between parents' needs and the extent to which SLTs had met these needs. According to our findings, SLTs could fulfil parents' needs, by teaching more parents how to change their own language. Furthermore, we also highlighted the diversity in parents' background knowledge and skills, which influenced their need for knowledge and skills. SLTs should take these individual needs into account.

Several parents noted in the survey they also acquired 'other' knowledge and skills (e.g. sign language), suggesting that SLTs provide parents with a wide range of knowledge. Besides learning to stimulate the child's language, some parents also learned about other functional impairments of the child. This can be argued by the fact that DLD also has negative consequences for social, emotional and cognitive functioning of the child (NVLF, 2017).

Parental factors

Capability to help the child. Parents with more background knowledge, skills and experience were more capable to help their child. Klatte & Roulstone (2016) found an association between understanding the aim of the therapy and how strategies contribute to this and parents’ engagement in the child’s treatment. Knowledge & skills and engagement also reinforce each other, since differences in parent’s level of engagement influences how parents use strategies learned during therapy (Roberts & Kaiser, 2011).

This study emphasized the benefits of having more background knowledge, skills and experience. However, a lack of knowledge and self-efficacy – to support the child’s speech and language development – can also limit parents in playing a greater role in the child’s treatment (Davies *et al.*, 2016). SLTs should invest more in parents with less knowledge and skills, to give them the same change to play a greater role in the child’s treatment.

Responsive to the child’s treatment needs. Parents’ responsiveness to the child’s treatment needs differed both before the start of treatment and during treatment process. Our findings build on existing evidence of Davies *et al.* (2016). According to this study, parents supported their child by either responding to the concerns of others or raising concerns themselves regarding the child’s development. During the treatment process, parents tended to see themselves as ‘attenders’ of therapy sessions, ‘implementers’ of home activities or ‘adopters’ of approaches into daily routine.

This study added a new parental factor that influences parents’ responsive to the child’s treatment needs, namely tailoring home assignments to the child. Tailored health care is beneficial, since it aims to improve patients’ health outcomes and experiences by taking their needs and preferences into account (Dekkers & Hertoijs, 2018). Furthermore, parents are more familiar with the child’s characteristics an interests than the SLT. Therefore, SLTs should recognize parent’s knowledge and expertise (Marschall *et al.*, 2007) to ensure that children receive the most suited intervention for them (Law *et al.*, 2003).

Being involved and taking initiative to help the child. In the current study, most parents preferred the SLT to take the lead in the child’s treatment, (also confirmed by Watts Pappas *et al*. (2015)). Parents with more knowledge, skills and confidence to help their child, tended to be an 'initiator' when interacting with the SLT. Similar results were found by Forsingdal *et al*. (2013), who suggested that parents were less dependent on the therapist, if they acquired more knowledge, skills & confidence.

Parental involvement should be about accepting parents' wishes, instead of insisting parents to be involved (Watts Pappas *et al*., 2015). However, some parents are willing to play a greater role in the child's treatment but are withheld by their expectations regarding their own and SLTs' role (Watts Pappas *et al*., 2015). Therefore, SLTs should distinguish between parents who do not wish to be actively involved and parents who withheld themselves, from being actively involved, by their expectations.

Strengths and limitations

This is the first study about parents' experiences and wishes regarding their involvement in their child's treatment for a DLD. Through studying parental involvement in intervention tasks, interpretation was given to parents' role. The results contribute to a clearer understanding of parents' wishes regarding their role and were parents' role still offer room for improvement.

New parental factors were identified that influence parental involvement in the child's treatment. This is the first study that gave meaning to parental factors, using parents' experiences to describe how parental factors were associated with differences in parents' role. Due to this, we gave meaning to parental factors. With the current study, we intended to give SLTs tools to improve their skills in working with sorts of parents.

The current study faced three limitations. First, the sample size of both the survey (*n* = 17) and the interview (*n* = 4) were relatively small, which makes the generalizability of the results limited. The sample represented mostly parents who had background knowledge and skills regarding DLD. Due to this, we were not able to describe disadvantages of not having this knowledge and skills.

Secondly, we limited the amount of questions and used short sentences for the questions since parents of children with DLD reported significantly more language-related problems (Neils & Aram, 1986). However, ten parents did not complete the survey and several parents interpreted the item about the form of therapy incorrectly. Therefore, the survey still contained too much questions, questions were too complex or too long for these parents. Finally, due to COVID-19, interviews were conducted by phone instead of physically and therefore we missed out on the non-verbal communication. Furthermore, we noticed this subject was also too emotionally charged to discuss over the phone.

Conclusions and clinical implications

This study provides information about parents' experiences and wishes regarding their involvement in the child's treatment for DLD. Most parents were involved in observation of therapy sessions, completing practice and goal selection, but they wished for more involvement in goals selection. To stimulate the child's language, most parents learned to stimulate the child's language and received instructions to complete home practice. They wished to learn more about how to change their own language. Four global themes of parental factors were identified, which gave interpretation to parents' role and differentiated parents in their role.

Since our results cannot confirm the influence of the emotional impact on parents' role in the child's treatment, and no studies have investigated the emotional impact of DLD, further research is needed. We recommend SLTs to discuss with parents in which intervention tasks they wish to be involved. In this way, SLTs can negotiate roles and set realistic expectations in collaboration with parents. SLTs should also determine which knowledge and skills parents already have and what they wish to learn. The most important aspect of parental involvement is to accept the parents' wishes, not to insist parental involvement. Unless the thing, withholding the parent to be involved, can be taken away by the SLT.

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Appendix A. Recruitment message directed to parents.

Beste ouder/verzorger,

Momenteel ben ik (Lisa Verheul) bezig met mijn afstudeeronderzoek voor het project COMPLETE. Meer informatie over dit project kunt u vinden door te klikken op de onderstaande link.
www.complete.hu.nl

Mijn onderzoek gaat over de deelname van de ouder in de behandeling van hun kind met een taalontwikkelingsstoornis (TOS). Ik ben daarom op zoek naar ouders die hun ervaring en wensen over dit onderwerp met mij willen delen.

Nu weet ik dat het op dit moment rare en lastige tijden zijn vanwege het corona virus. Het virus heeft een grote impact op onze levens en houdt ons erg bezig. Toch wil ik mij hier niet door laten tegenhouden. Ik vind het erg belangrijk om door te gaan met mijn onderzoek, zodat ik hiermee een bijdrage kan leveren aan de verbetering van de samenwerking tussen logopedisten en ouders. Dus lijkt het u leuk om mij mee te helpen met mijn onderzoek?

Wanneer kunt u meedoen met dit onderzoek?

- U bent een ouder van een kind met (het vermoeden van) TOS **én**
- Uw kind is in behandeling (geweest) voor TOS bij een logopedist in een praktijk **én**
- Uw kind is tussen de 2 en 6 jaar oud

Hoe kunt u meedoen met dit onderzoek?

1. Door het invullen van een **korte vragenlijst**.
   Dit duurt **ongeveer 15 minuten**. De vragenlijst kunt u online invullen op uw computer, tablet of mobiele telefoon. U vindt de vragenlijst door te klikken op de onderstaande link.
   https://survey.uu.nl/jfe/form/SV_1OgigLJkyZVe3MV

2. **Door na het invullen van de vragenlijst aan te geven of ik u mag benaderen.**
   Optie; **telefonisch interview.** In dit interview zullen wij samen dieper ingaan op uw antwoorden uit de vragenlijst. Dit interview zal **ongeveer 30 minuten** duren. Als u mee wil doen met het interview, kunt u uw email adres invullen aan het einde van de vragenlijst.

Meedoen met dit onderzoek is vrijwillig. Uw antwoorden worden op een beveiligde omgeving opgeslagen en worden anoniem verwerkt in mijn afstudeerverslag.

Ik wil u alvast heel erg bedanken. Uw antwoorden zijn heel erg waardevol voor mijn onderzoek. Ik hoop dat we op deze manier de samenwerking tussen ouders en logopedisten kunnen verbeteren!

Vriendelijke groet,
Lisa Verheul

Appendix B. Recruitment message directed to SLTs.

Beste logopedist,

Momenteel ben ik (Lisa Verheul) bezig met mijn afstudeeronderzoek voor het project COMPLETE. Meer informatie over dit project kunt u vinden door te klikken op de onderstaande link.
www.complete.hu.nl

Mijn onderzoek gaat over de deelname van de ouder in de behandeling van hun kind met een taalontwikkelingsstoornis (TOS). Ik ben daarom op zoek naar ouders die hun ervaring en wensen over dit onderwerp met mij willen delen.

Nu weet ik dat het op dit moment rare en lastige tijden zijn vanwege het corona virus. Het virus heeft een grote impact op onze levens en houdt ons erg bezig. Toch wil ik mij hier niet door laten tegenhouden. Ik vind het erg belangrijk om door te gaan met mijn onderzoek, zodat ik hiermee een bijdrage kan leveren aan de samenwerking tussen logopedisten en ouders. Daarom zou ik willen vragen of jullie mij kunnen helpen met het vinden van ouders die mee willen doen met mijn onderzoek.

Welke ouders kunnen er meedoen met dit onderzoek?

- De ouder heeft een kind met de diagnose (vermoedelijke) TOS **én**
- Het kind is in behandeling (geweest) voor TOS bij een logopedist in de praktijk **én**
- Het kind is tussen de 2 en 6 jaar oud

Hoe kunnen ouders meedoen met dit onderzoek?

1. Ouders kunnen een **korte vragenlijst** invullen. Dit duurt **ongeveer 20 minuten**. Ze kunnen deze vragenlijst online invullen op hun computer, tablet of mobiele telefoon. Door te klikken op de onderstaande link, worden ouders verwezen naar de vragenlijst.
   https://survey.uu.nl/jfe/form/SV_1OgigLJkyZVe3MV

2. Deelnemen aan een **telefonisch interview** (optie). In dit interview zal ik samen met de ouder dieper ingaan op zijn/haar antwoorden uit de vragenlijst. Dit interview zal **ongeveer 30 minuten** duren. Ouders kunnen op verschillende manieren aangeven of ze mee willen doen met het interview.
   a. Ouders kunnen na het invullen van de vragenlijst hun email adres invullen. Op deze manier kan ik hen benaderen voor het interview.
   b. U kunt op verzoek van de ouder het email adres naar mij doorsturen.
   c. Ouders mogen mij ook zelf een mail hierover sturen.

Mijn email adres is: l.verheul@students.uu.nl

Deelname aan het onderzoek is geheel vrijwillig. De antwoorden van ouders worden op een beveiligde omgeving opgeslagen en worden anoniem verwerkt in mijn afstudeerverslag.

Ik wil u alvast heel erg bedanken voor uw hulp.

Vriendelijke groet,
Lisa Verheul

Appendix C. Survey: privacy regulations.

Privacy- en gedragsreglementen voor ouders

Beste ouder/verzorger,
In deze informatiebrief kunt u meer lezen over de richtlijnen die wij aanhouden voor de omgang met uw antwoorden en gegevens.

Welke gegevens worden er verzameld?

In de vragenlijst wordt gevraagd naar de volgende persoonlijke gegevens: Uw beroep, uw burgerlijke stand, uw hoogst behaalde opleidingsniveau en de leeftijd van uw kind. Daarnaast worden uw antwoorden op de vragen verzameld. Alle overige persoonlijke gegevens waar niet naar gevraagd wordt in dit onderzoek, zullen ook niet verzameld en gebruikt worden. De uitvoerend onderzoeker (Lisa Verheul) dient zich aan de regel te houden, dat er niet meer persoonlijke gegevens verzameld mag worden dan nodig is voor dit onderzoek. Alle data die verzameld wordt in dit onderzoek is anoniem en is niet terug te leiden naar u.

Wat gebeurt er met uw gegevens?

De online vragenlijst die u zal afnemen is gemaakt in Qualtrics. Dit is een online enquêtetool van de Universiteit Utrecht. Onderzoekers die werken met dit programma, moeten zich houden aan de privacy- en gedragsregels van de Universiteit Utrecht. Dit systeem is zeer goed beveiligd. Om gegevens in te kunnen zien, moet de uitvoerend onderzoeker inloggen met zijn persoonlijke gegevens. Hierna ontvangt de uitvoerend onderzoeker een SMS met daarin een code. Deze code wordt ingevoerd op de computer en hierna wordt er toegang verleend tot uw gegevens.
Uw anonieme gegevens zullen na afloop van dit onderzoek verwijderd worden. Als u hier behoefte aan heeft, kunnen uw gegevens ook al tijdens het onderzoek verwijderd worden. Hiervoor kunt u contact opnemen met de uitvoerend onderzoeker. Verder mogen uw gegevens niet gekopieerd of verspreid worden. Ook mogen deze niet verstuurd worden via de mail.
Uw anonieme gegevens worden gedeeld met de onderzoekers van het project COMPLETE. Het delen van deze gegevens wordt gedaan via een beveiligde surfer (Surfdrive). Meer informatie over het project COMPLETE kunt u vinden door te klikken op de onderstaande link.
www.complete.hu.nl

Vragen of klachten?

Heeft u vragen of klachten over hoe er wordt omgegaan met uw gegevens, dan kunt u contact opnemen met Lisa Verheul of met de onafhankelijke deskundige, dr. Lizet van Ewijk. U kunt ook contact opnemen met de Functionaris voor de Gegevensbescherming van de Hogeschool Utrecht (zie contactgegevens aan het einde van dit document) of de Autoriteit Persoonsgegevens.

Contactgegevens

1. Uitvoerende onderzoeker	Lisa Verheul Email: l.verheul@students.uu.nl Telefoonnummer: 06-43535161
2. Begeleidende onderzoeker	Anita van Essen Email: anita.vanessen@hu.nl Telefoonnummer: 06-38762656
3. Onafhankelijke deskundige	Lizet van Ewijk

	Lizet.vanewijk@hu.nl
4. Functionaris Gegevensbescherming HU	R. Roodnat, MSc. Email: askprivacy@hu.nl
5. Namen van onderzoekers die uw gegevens Kunnen bekijken.	Lisa Verheul Anita van Essen Inge Klatte Annemieke de Groot

Voor meer informatie over uw rechten voor het gebruiken van uw persoonlijke gegevens: Autoriteit Persoonsgegevens (https://www.autoriteitpersoonsgegevens.nl/) of Privacy beleid van de Hogeschool Utrecht (https://www.hu.nl/privacy) of van de Universiteit Utrecht (https://www.uu.nl/organisatie/privacyverklaring-universiteit-utrecht).

Appendix D. Semi-structured interview: information letter.

Informatiebrief – Semigestructureerd interview ouders

Beste ouder/verzorger,
U ontvangt deze informatiebrief, omdat u heeft aangegeven mee te willen doen met dit onderzoek. Lees deze brief rustig door en als u vragen heeft kunt u deze stellen aan de onderzoeker. U kunt er ook over praten met uw partner, vrienden of familie.

Waarom dit onderzoek?
Om de samenwerking tussen ouders en logopedisten te verbeteren, moeten we weten welke behoeften ouders en logopedisten hebben. Dit onderzoek richt zich op de ervaringen en behoeften van ouders. Het doel van dit onderzoek is om inzicht te krijgen in de deelname van ouders in de behandeling van hun kind met een taalontwikkelingsstoornis (TOS). Echter, geen ouder is hetzelfde. Daarom willen we dit onderzoek gebruiken om erachter te komen hoe ouders verschillen in hun behoeften.

Wat houdt meedoen met dit onderzoek in?
Dit onderzoek bestaat uit het invullen van een online vragenlijst en een interview (optioneel). Als het goed is heeft u de online vragenlijst al ingevuld. U heeft daarnaast ook aangegeven dat u mee wil doen met het interview. Dit interview zal plaatsvinden via de telefoon. U kunt hiervoor een afspraak maken met de onderzoeker (Lisa Verheul) op een moment naar keuze. Dit kunt u doen door een mail te sturen waarin u aangeeft: op welk moment u graag een afspraak wil maken en op welk telefoonnummer de onderzoeker u hiervoor kan bellen. Uw telefoonnummer zal alleen voor dit interview gebruikt worden en niet voor andere doeleinde.
Het telefonische interview zal ongeveer een half uur uren. Tijdens dit interview zal de onderzoeker samen met u dieper ingaan op uw antwoorden uit de vragenlijst. Het interview wordt opgenomen met een audio-recorder, zodat we het gesprek kunnen uitschrijven.

Vrijwillige deelname
U doet vrijwillig mee aan dit onderzoek. Na het lezen van deze informatiebrief, kunt u voordat het interview begint mondeling toestemming geven. Nadat u toestemming heeft gegeven, kunt u altijd nog stoppen met het onderzoek. U hoeft ook niet aan te geven waarom u stopt. Als u besluit om te stoppen met het onderzoek wordt de audio-opname van het interview verwijderd. U kunt stoppen met dit onderzoek door te mailen naar de onderzoeker (Lisa Verheul).

Zijn er ook risico’s?
Er zijn geen risico’s verbonden aan meedoen met dit onderzoek. Ook zijn er voor u geen voordelen of nadelen voor het meedoen aan dit onderzoek.

Wat gebeurt er met uw gegevens?
Wat er gezegd is op de audio-opname wordt opgeschreven. Al uw antwoorden worden anoniem verwerkt en zullen niet terug te lijden zijn naar u of uw kind. Alle namen die u noemt worden vervangen door andere namen. De audio-opname en het uitgeschreven interview bewaren wij op een beveiligde schijf. Deze worden na afloop van het onderzoek nog 10 jaar bewaard. Als u hier behoefte aan heeft, kan de audio-opname en het uitgeschreven interview ook al tijdens het onderzoek verwijderd worden. Hiervoor kunt u contact opnemen met de onderzoeker.
De audio-opname en het uitgeschreven interview zijn alleen toegankelijk voor betrokken onderzoekers van het project COMPLETE. Het delen van deze gegevens wordt gedaan via een beveiligde surfer (Surfdrive). Meer informatie over het project COMPLETE kunt u vinden door te klikken op de onderstaande link.
www.complete.hu.nl

Vragen of klachten?

Heeft u vragen of klachten over hoe er wordt omgegaan met uw gegevens, dan kunt u contact opnemen met Lisa Verheul. U kunt ook contact opnemen met de Functionaris voor de Gegevensbescherming van de Hogeschool Utrecht (zie contactgegevens aan het einde van dit document) of de Autoriteit Persoonsgegevens.

Hoe geef ik toestemming?

Als u er goed over heeft nagedacht, wordt u gevraagd om te beslissen of u meedoet aan dit onderzoek. Voordat het interview van start zal gaan, kunt u mondeling uw toestemming geven. Met uw mondelinge toestemming geeft u aan dat u de informatie begrijpt en dat u mee wilt doen aan het onderzoek.

Contactgegevens

1. Uitvoerende onderzoeker	Lisa Verheul Email: l.verheul@students.uu.nl Telefoonnummer: 06-43535161
2. Begeleidende onderzoeker	Anita van Essen Email: anita.vanessen@hu.nl Telefoonnummer: 06-38762656
3. Onafhankelijke deskundige	Lizet van Ewijk Lizet.vanewijk@hu.nl
4. Functionaris Gegevensbescherming HU	R. Roodnat, MSc. Email: askprivacy@hu.nl
5. Namen van onderzoekers die uw gegevens Kunnen bekijken.	Lisa Verheul Anita van Essen Inge Klatte Annemieke de Groot

Heeft u nog vragen? Neem contact op met l.verheul@students.uu.nl

Met vriendelijke groet,
Lisa Verheul (onderzoeker)

Voor meer informatie over uw rechten voor het gebruiken van uw persoonlijke gegevens: Autoriteit Persoonsgegevens (https://www.autoriteitpersoonsgegevens.nl/) of Privacy beleid van de Hogeschool Utrecht (https://www.hu.nl/privacy).

Appendix E. Semi-structured interview: oral consent.

Introductie

Allereerst wil ik u bedanken dat u mee wil doen met dit interview. Ik zal eerst kort nog even een introductie geven over dit onderzoek. Hierna zal ik wat praktische informatie geven, dan vraag ik u of u mondeling toestemming wil geven en als we dit hebben gedaan dan kunnen we beginnen met het interview.

- Introductie van de interviewer

Vertel de ouder: Mijn naam is Lisa, ik doe onderzoek naar de rol van de ouder in de behandeling van het kind met een taalontwikkelingsstoornis (TOS). Het doel van dit onderzoek is om de samenwerking tussen ouders en logopedisten te verbeteren. Mijn onderzoek is een onderdeel van het project COMPLETE. Had u daar al wat over opgezocht? U heeft aangegeven mee te willen doen aan dit telefonische interview. In dit interview gaan we samen uw antwoorden uit de vragenlijst bespreken. Dus we zullen dieper ingaan op uw ervaringen en wensen met betrekking tot uw rol in de behandeling.

- Praktische informatie

Zoals u misschien in de informatiebrief al heeft gelezen:

- *Zal het interview ongeveer een half uur duren*
- *Ik zal ons gesprek opnemen, zodat ik hierna alles kan uitschrijven.*
- *Bij het uitschrijven van dit interview, zal ik uw naam nergens benoemen. Ik maak in mijn onderzoek gebruik van proefpersoon nummers in plaats van namen. Dus niemand zal erachter komen dat u bijvoorbeeld proefpersoon 2 bent.*
- *Ik zal uw antwoorden bewaren op een beveiligde schijf. Hier kan verder niemand anders bijkomen.*
- *Ik ga deze resultaten gebruiken om mijn afstudeerverslag te schrijven.*
- *Zoals ik net al aangaf maakt mijn onderzoek deel uit van het project COMPLETE. De onderzoekers van dit project zijn de enige mensen waarmee ik de resultaten van mijn onderzoek zal delen. Hiermee bedoel ik dat zij uw anonieme antwoorden mogen bekijken. Dus ook hier zal uw naam niet genoemd worden.*

- Uitleg start audio-opname

Ik zal zo meteen de opname starten. Als ik de opname start noem ik eerst wat zakelijke gegevens (zoals de datum van het gesprek en uw deelnemer nummer). Hierna komen er 6 stellingen die u met ja of nee kunt beantwoorden (stellingen + antwoorden bespreken). Als u 'ja' heeft geantwoord op alle stellingen, heeft u mondeling toestemming gegeven voor het interview. Als er stellingen zijn die u niet begrijpt, dan kunt u dit bij mij aangeven. Dan probeer ik de stelling voor u uit te leggen. Heeft u voor nu nog vragen?

START AUDIO-OPNAME

Het is vandaag (*datum + tijdstip*)
Ik spreek met deelnemer (*nummer*)

U mag nu antwoord geven op de volgende 6 stellingen.
1. Ik heb de informatiebrief over het interview gelezen en ik begrijp de informatie.
2. Ik heb geen aanvullende vragen meer.
3. Ik verklaar vrijwillig mee te doen aan dit interview.
4. Ik geef toestemming voor het opnemen van dit interview en weet dat ik deze toestemming op elk moment weer in kan trekken.
5. Ik weet dat de inhoud van dit gesprek wordt gebruikt voor wetenschappelijk onderzoek, zonder dat deze herleidbaar is naar de persoon.
6. Ik weet dat mijn gegevens altijd vertrouwelijk behandeld zullen worden.
Als alle vragen met "ja" zijn beantwoord, dan vervolgen met het interview.

Appendix F. Original Survey.

Part 1: Questions Regarding Parent Involvement

1. Do you involve families in intervention for children with phonology-based speech sound disorders?
    - Yes
    - No

2. Select the intervention tasks that you USUALLY involve families of children with phonology-based speech sound disorders in: (select ALL that apply)
    - Intervention planning – determining goals
    - Intervention planning – determining service delivery models[1]
    - Intervention planning – determining the intensity of intervention
    - Observation of therapy sessions
    - Participation in therapy sessions (e.g. joining in activities)[2]
    - Provision of therapy/feedback to the child within sessions
    - Completing home practice and/or home programs
    - Other (please provide details of the task, and an indication of how often families are involved in this task)

3. Please indicate your level of agreement with the following statements about intervention for phonology-based speech sound disorders (options: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, unsure):
    - Family involvement is essential for intervention to be effective
    - Families should always be involved in intervention
    - Families should be able to determine their level of involvement in intervention
    - Families should always be present at intervention sessions
    - Families should be trained to provide therapy to children with phonology-based speech sound disorders
    - Families are happy to be involved in intervention
    - I am satisfied with the level of family involved in intervention that I am able to offer through my workplace
    - I am confident in including families in intervention

4. In your own words, please outline why you include families in intervention for phonology-based speech sound disorder?

Part 2: Questions Regarding Parent Training

The following questions relate to involving parents or other family members in providing intervention to children with phonology-based speech sound disorders. For the purposes of this questionnaire, 'providing therapy' is defined as conducting tasks or activities with the aim of improving a child's speech sound production.

For the purposes of simplicity, we use 'parents' to refer to parents, family members and/or caregivers who may be trained to provide therapy.

Please answer the following questions in relation to your main service delivery context.

1. Do you train parents to provide intervention to children with phonology-based speech sound disorders?
    - Yes
    - No
    - Sometimes

2. How many parents or families do you train to provide therapy to their child with a phonology-based speech sound disorder?
    - All parents or families are trained to provide therapy
    - Most families (around 75%) are trained to provide therapy
    - Around 50% of families are trained to provide therapy
    - Some families (around 25%) are trained to provide therapy

3. What does the parent training include? Select ALL that apply
    - Provided with information regarding normal speech development
    - Changing their own speech behaviours (e.g. reducing speech rate, emphasising particular sounds)
    - Changing their child's environment (e.g. reducing background noise)
    - Identifying their child's speech errors
    - Modelling correct production of speech targets
    - How to provide feedback to their child after correct productions (e.g. "You put a sound at the end! Well done!")
    - How to provide feedback to their child after incorrect productions (e.g. "I'm not sure what you mean. Do you mean wing or ring? Tell me again.")
    - How to use cues and prompts to elicit correct productions of target sounds (e.g. "put your tongue at the back /k/")
    - How to encourage self-correction and self-monitoring of speech by the child
    - How to provide feedback on their child's speech production within everyday conversations
    - How to collect therapy data for home sessions and/or home practice tasks
    - How to integrate therapy tasks into everyday situations/activities
    - Teaching children to produce sounds in isolation, syllables, words, phrases, sentences then conversation
    - How to conduct listening and/or auditory discrimination tasks (such as auditory identification and discrimination of target sounds)
    - How to advocate for their child with a phonology-based speech sound disorder
    - Other (please specify)

4. How do you train parents to provide therapy? Select ALL that apply
    - Observation of Speech Pathologist conducting therapy sessions and therapy techniques
    - Opportunities for parent or other family member to provide therapy to their child during the session (supervised by Speech Pathologist)

- Providing parents with real-time feedback regarding their provision of therapy observed during the treatment session
- Using presentations (e.g. videos and/or slideshows) to present information and/or show therapy techniques
- Provision of written information (e.g. pamphlets, websites, research articles)
- Role play between the parent and Speech Pathologist
- Provide opportunities for parent reflection on their interactions and performance during the session
- Provide opportunities for parent reflection about their interactions and performance during home activities (e.g. activities conducted without the supervision of a Speech Pathologist)
- Use of video/audio recordings of parents, then providing feedback to the parent about their provision of therapy
- Use of video/audio recording of parents for parental self-reflection
- Group learning opportunities (e.g. opportunities to learn/receive feedback from other parents)
- Other (please specify)

5. Please share any further comment about parent training (e.g. why you use parent training, and/or challenges in training parents/caregivers)

The following questions relate to your use of a structured program or course for parent training. Structured programs include published and/or unpublished programs that have been developed by you/your workplace with the primary purpose of teaching parents how to provide therapy to their child with a phonology-based speech sound disorder. Structured programs follow a set procedure and have pre-determined content/information that is provided to all parents.

6. Do you follow a structured parent-training course or program for training parents to provide therapy to their child with a phonology-based speech sound disorder?
    - Yes
    - No
    - Sometimes
    - Unsure

7. If yes, please indicate which type of structured program you use to train parents. Select ALL that apply
    - Published program (please provide details)
    - Unpublished program developed by workplace/another Speech Pathologist
    - Unpublished program developed by you
    - Other (please provide details)

8. If yes, please provide detail regarding the amount of parent training provided during the structured program. Example: 1 x 1 hour group (4 parents) training session for 4 weeks, and 1 x 15 minute individual training session for 8 weeks. Total amount of training: 6 hours over 8 weeks.

Part 3: Questions Regarding Home Practice

For the purpose of this survey, home practice refers to any task, activity or instruction that is provided to a child, parent, family member, teacher or other relevant person, which is to be completed outside of the therapy or intervention session (e.g. without direct input or supervision from a Speech Pathologist).

1. Do you provide home practice tasks to children with phonology-based speech sound disorders?
    - Yes
    - No

2. How frequently do you provide home practice tasks to children with phonology-based speech sound disorders?
    - I provide home practice tasks in all intervention sessions
    - I provide home practice tasks in most (around 75%) intervention sessions
    - I provide home practice tasks in around 50% of intervention sessions
    - I provide home practice tasks in some (around 25%) intervention sessions
    - I do not provide home practice tasks

3. What type of home practice do you provide for phonology-based speech sound disorders? Select ALL that apply
    - Production practice during set tasks – phonology focused (e.g. use of minimal pair words)
    - Production practice during set tasks – articulation focused (e.g. use of target sound in a hierarchy from isolation to conversational level)
    - Production practice during everyday conversational speech
    - Self-evaluation or self-monitoring tasks (e.g. the child monitors their production of target sounds/words)
    - Listening tasks (e.g. the child hears their target and/or errored sounds as said by another person)
    - Conceptual tasks (e.g. phonological awareness tasks)
    - Parental tasks (e.g. tasks that are specific to the parent, such as modifying their communication style, generating therapy ideas and/or reflecting)
    - Naturalistic activities integrated within daily routines (e.g. speech sound stimulation during bath time)
    - Other tasks (e.g. shared book reading) (please provide details)

4. How are home practice tasks completed? Select ALL that apply
    - Worksheets (e.g. home practice involves completing worksheets)
    - Drill (e.g. home practice involves producing or listening to target words a prescribed number of times)
    - Computer/iPad activities (e.g. home practice involves the completion of an app or program)
    - Games and/or activities (e.g. home practice involves the child playing 'Go Fish' or 'I spy')
    - Everyday conversation/integrated in daily routines (e.g. home practice involves tasks in everyday conversation or routines)
    - Other (please provide details)

5. How much home practice do you USUALLY recommend children with phonology-based speech sound disorder complete each week?
    - Duration of each task (in minutes)
    - Frequency (number of times per week)

6. Who do you recommend completed the home practice with the child? Select ALL that apply.
    - Child completed it by themselves
    - Parent or carer
    - Sibling
    - Extended family member (e.g. grandparents, aunts, uncles)
    - Friend
    - Teacher
    - Other (please specify)

7. Do you teach the person completing the home practice with the child how to conduct the task?
    - Yes
    - No
    - Sometimes

8. What type of instructions do you USUALLY provide about how to complete home practice tasks (including information on when and how often to complete home practice tasks)?
    - Written instructions
    - Verbal instructions
    - Written and verbal instructions
    - None

9. Please indicate your level of agreement with the following statements regarding home practice for phonology-based speech sound disorders (options: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, unsure):
    - Home practice is an essential component of intervention
    - Families are happy to be receiving home practice
    - Families are happy to complete home practice
    - Families are happy with the amount of home practice they receive
    - Parents and/or families should be able to find time to do home practice with their child
    - Families think that home practice is an essential component of intervention

10. In your own words, please outline why you provide home practice tasks to children with phonology-based speech sound disorders.

11. Please add any comments you may have about providing home practice tasks for phonology-based speech sound disorders (e.g. ensuring it is implemented correctly, families not completing it).

Appendix G. Survey.

Online vragenlijst

Vragenlijst voor ouders – Deelname van ouders in de behandeling van hun kind met een taalontwikkelingsstoornis (TOS)

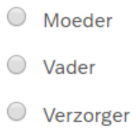
Doel van de online vragenlijst

Het doel van deze vragenlijst is om inzicht te krijgen in de ervaringen en behoeften van ouders, met betrekking tot hun deelname in de behandeling van hun kind met TOS. Een logopedist kan een ouder verschillende mogelijkheden aanbieden, met als doel dat de ouder kan deelnemen in de behandeling. Daarom vragen we aan ouders welke mogelijkheden de logopedist wel/niet heeft gebruikt. Ook kan de logopedist de ouder kennis en vaardigheden aanleren, met als doel dat een ouder de taal van het kind kan stimuleren. Daarom vragen we aan ouders welke kennis en vaardigheden zij wel/niet hebben geleerd van de logopedist. Daarnaast zijn we benieuwd naar de tevredenheid van ouders met betrekking tot de mogelijkheden, kennis en vaardigheden die zij van de logopedist hebben gekregen. Als laatst zullen we ouders vragen naar hun wensen met betrekking tot hun deelname en de kennis en vaardigheden die zij willen leren. Het invullen van de vragenlijst duurt ongeveer 20 minuten.

*Met mogelijkheden wordt in deze studie bedoeld: interventie taken die een logopedist gebruikt om de ouder te betrekken in de behandeling.

Demografische gegevens

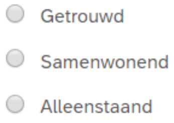
Vraag 1: Wat bent u van het kind?



○ Moeder
○ Vader
○ Verzorger

Vraag 2: Welke taal wordt er thuis gesproken?

Vraag 3: Wat is uw burgerlijke stand?



○ Getrouwd
○ Samenwonend
○ Alleenstaand

Vraag 4: Wat is uw hoogst behaalde opleidingsniveau?

○ Basisonderwijs
○ VMBO
○ HAVO
○ VWO
○ MBO
○ HBO
○ WO en hoger

Vraag 5: Welk beroep voert u uit?

Vraag 6: In welk dienstverband werkt u?

○ Part-time
○ Full-time
○ Niet van toepassing

Vraag 7: Hoeveel jaar en maanden oud is uw kind met TOS?

Jaar
Maanden

Deel 1: Mogelijkheden die een ouder krijgt van de logopedist om mee te doen met de behandeling.

- De volgende vragen gaan over de mogelijkheden die u kreeg van de logopedist om mee te doen met de behandeling.

Vraag 1: Kreeg u de mogelijkheid om mee te denken over het doel van de behandeling?

○ Ja

○ Nee

Vraag 2: Kreeg u de mogelijkheid om mee te denken over de vorm van de behandeling?
Met de vorm van de behandeling bedoelen we: een 1 op 1 behandeling, een groepsbehandeling of een behandeling aan huis.

○ Ja

○ Nee

Vraag 3: Kreeg u de mogelijkheid om mee te denken over hoelang een behandeling sessie zou duren?

○ Ja

○ Nee

Vraag 4: Kreeg u de mogelijkheid om mee te denken over hoeveel behandelsessies uw kind nodig had?

○ Ja

○ Nee

Vraag 5: Kreeg u de mogelijkheid om mee te kijken met de behandeling?

○ Ja

○ Nee

Vraag 6: Kreeg u de mogelijkheid om mee te doen met activiteiten tijdens de behandeling?

○ Ja

○ Nee

Vraag 7: Kreeg u de mogelijkheid om net als de logopedist therapie te geven aan uw kind?

○ Ja

○ Nee

Vraag 8: Kreeg u de mogelijkheid om thuisopdrachten uit te voeren met uw kind?

○ Ja

○ Nee

Vraag 9: Kreeg u nog een andere mogelijkheid om mee te doen met de behandeling? *

○ Ja
○ Nee

*Indien een ouder vraag 9 beantwoord met ‘*ja*’ heeft beantwoord:
Vraag: Geef hier een korte beschrijving van deze andere mogelijkheid.

Indien een ouder een vraag met ‘*ja*’ heeft beantwoord:
Vraag: Kunt u aangeven hoe tevreden u hierover was?

😠	☹	😐	🙂	😄
○	○	○	○	○

Indien een ouder een vraag met ‘*nee*’ heeft beantwoord:
Vraag: Had u hier wel over mee willen denken/ Had u dit wel willen doen?

○ Ja
○ Nee

Deel 2: Kennis en vaardigheden die een ouder leert van de logopedist om de taal van het kind te stimuleren.

- De volgende vragen gaan over de kennis en vaardigheden die u geleerd heeft van de logopedist. Met deze kennis en vaardigheden kunt u de taal van het kind stimuleren.

Vraag 1: De logopedist heeft uitleg gegeven over wat een taalontwikkelingsstoornis is.

○ Ja
○ Nee

Vraag 2: De logopedist heeft uitleg gegeven over wat de gevolgen van een taalontwikkelingsstoornis kunnen zijn.

○ Ja
○ Nee

Vraag 3: De logopedist heeft mij geleerd hoe ik mijn eigen taalgebruik kan aanpassen aan het taalniveau van mijn kind. Bijvoorbeeld: lengte van zinnen, woordkeuze.

○ Ja
○ Nee

Vraag 4: De logopedist heeft mij geleerd hoe ik de taal van mijn kind kan stimuleren.

○ Ja

○ Nee

Vraag 5: De logopedist heeft mij geleerd hoe ik mijn kind voor kan doen hoe hij/zij correcte taal kan gebruiken.

○ Ja

○ Nee

Vraag 6: De logopedist heeft mij geleerd hoe ik kan reageren op het taalgebruik van mijn kind in dagelijkse gesprekken.

○ Ja

○ Nee

Vraag 7: De logopedist heeft mij uitleg gegeven welk materiaal ik kan gebruiken om mijn kind te ondersteunen. Bijvoorbeeld: taal apps of leesboeken.

○ Ja

○ Nee

Vraag 8: De logopedist heeft mij geleerd hoe ik opdrachten uit de therapie kan toepassen in het dagelijks leven.

○ Ja

○ Nee

Vraag 9: De logopedist heeft mij uitleg gegeven over hoe ik thuisopdrachten met mijn kind kan uitvoeren. **

○ Ja

○ Nee

Vraag 10: De logopedist heeft mij geleerd hoe ik kan begrijpen wat mijn kind duidelijk wil maken.

○ Ja

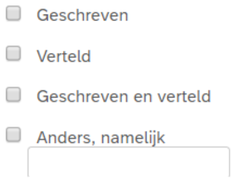
○ Nee

Vraag 11: De logopedist heeft mij op nog een andere manier geleerd hoe ik de taal van mijn kind kan stimuleren. ***

○ Ja

○ Nee

**Indien een ouder vraag 9 beantwoord met ‘*ja*’ heeft beantwoord:
<u>Vraag</u>: In welke vorm heeft de logopedist u uitleg gegeven over de thuisopdrachten?



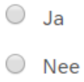
☐ Geschreven
☐ Verteld
☐ Geschreven en verteld
☐ Anders, namelijk

***Indien een ouder vraag 11 beantwoord met ‘*ja*’ heeft beantwoord:
<u>Vraag</u>: Geef hier een korte beschrijving van deze andere mogelijkheid.

Indien een ouder een vraag met ‘*ja*’ heeft beantwoord:
<u>Vraag:</u> Kunt u aangeven hoe tevreden u hierover was?

○ ○ ○ ○ ○

Indien een ouder een vraag met ‘*nee*’ heeft beantwoord:
<u>Vraag</u>: Had u hier wel over mee willen denken/ Had u dit wel willen doen?



○ Ja
○ Nee

Appendix H. Semi-structured interview.

Semigestructureerd interview

Verdiepend interview met ouders – Deelname van ouders in de behandeling van hun kind met een taalontwikkelingsstoornis (TOS)

Pseudoniem ouder:	Voorbeeld
Interviewer:	Lisa Verheul
Datum:	dd/mm/jjjj

Doel van het interview

Het doel van dit interview is om inzicht te krijgen in de ervaring en behoeften van ouders, met betrekking tot hun deelname in de behandeling van hun kind met TOS. Ouders wordt gevraagd naar de mogelijkheden* die zij van de logopedist hebben gekregen om deel te nemen in de behandeling. Dit mogen zij uitleggen aan de hand van een voorbeeld uit hun eigen ervaring. Ook vragen we ouders naar de kennis en vaardigheden die zij hebben geleerd van de logopedist. Daarnaast zijn we benieuwd naar de achterliggende reden waarom ouders hier wel/niet tevreden mee waren. Als laatst zullen we ouders expliciet vragen naar hun wensen met betrekking tot hun deelname en de kennis en vaardigheden die zij willen leren. Dit interview zal ongeveer 30 minuten duren.

*Met mogelijkheden wordt in deze studie bedoeld: interventie taken die een logopedist gebruikt om de ouder te betrekken in de behandeling.

Deel 1: Mogelijkheden die een ouder krijgt van de logopedist om mee te doen met de behandeling.

'De volgende vragen gaan over de mogelijkheden die u kreeg van de logopedist om mee te doen met de behandeling.'

Als: de logopedist deze mogelijkheid wel aan de ouder heeft gegeven, dan vragen:

1. *Zou u kunnen uitleggen hoe de logopedist u hierbij heeft betrokken? Dit mag aan de hand van een voorbeeld uit uw eigen ervaring?*
2. *Kunt u uitleggen waarom u hier tevreden/ontevreden/neutraal* mee was?*

Als: de logopedist nog een andere mogelijkheid aan de ouder heeft gegeven om mee te doen met de behandeling:

3. *Zou u kunnen uitleggen hoe de logopedist u hierbij heeft betrokken? Dit mag aan de hand van een voorbeeld uit uw eigen ervaring?*
4. *Kunt u uitleggen waarom u hier tevreden/ontevreden/neutraal* mee was?*

Als: de logopedist deze mogelijkheid niet heeft gegeven aan de ouder + Als de ouder deze mogelijkheid ook niet had willen krijgen, dan vragen:

5. *Kunt u uitleggen waarom u hier niet bij betrokken wil zijn?*
6. *Zou u hier verantwoordelijk over willen zijn of vindt u dit de verantwoordelijkheid van de logopedist?*

Als: de logopedist deze mogelijkheid niet heeft gegeven aan de ouder + Als de ouder deze mogelijkheid wel had willen krijgen, dan vragen:

7. *Kunt u uitleggen waarom u hier wel bij betrokken wil zijn?*
8. *Zou u hier verantwoordelijk over willen zijn of vindt u dit de verantwoordelijkheid van de logopedist?*

*Tevreden/ontevreden/neutraal = De mate van tevredenheid wordt bepaald door het antwoord dat de ouder heeft gegeven op de emoticon beoordelingsschaal.

Deel 2: Kennis en vaardigheden die een ouder leert van de logopedist om de taal van het kind te stimuleren.

'De volgende vragen gaan over de kennis en vaardigheden die u geleerd heeft van de logopedist. Met deze kennis en vaardigheden kunt u de taal van het kind stimuleren.'

Als: de logopedist deze kennis en vaardigheden heeft geleerd aan de ouder, dan vragen:

1. *Zou u kunnen uitleggen hoe de logopedist u deze kennis en vaardigheden heeft geleerd? Dit mag aan de hand van een voorbeeld uit uw eigen ervaring.*
2. *Kunt u uitleggen waarom u hier tevreden/ontevreden/neutraal* mee was?*

Als: de logopedist nog andere kennis en vaardigheden heeft geleerd aan de ouder heeft gegeven om de taal van het kind te stimuleren, dan vragen:

3. *Zou u kunnen uitleggen hoe de logopedist u deze kennis en vaardigheden heeft geleerd? Dit mag aan de hand van een voorbeeld uit uw eigen ervaring.*
4. *Kunt u uitleggen waarom u hier tevreden/ontevreden/neutraal* mee was?*

Als: de logopedist deze kennis en vaardigheden niet heeft geleerd aan de ouder + Als de ouder deze kennis en vaardigheden wel had willen leren, dan vragen:

5. *Kunt u uitleggen waarom u deze kennis en vaardigheden wel had willen leren?*

*Tevreden/ontevreden/neutraal = De mate van tevredenheid wordt bepaald door het antwoord dat de ouder heeft gegeven op de emoticon beoordelingsschaal.

Appendix I. Satisfaction ratings of parental involvement in intervention tasks.

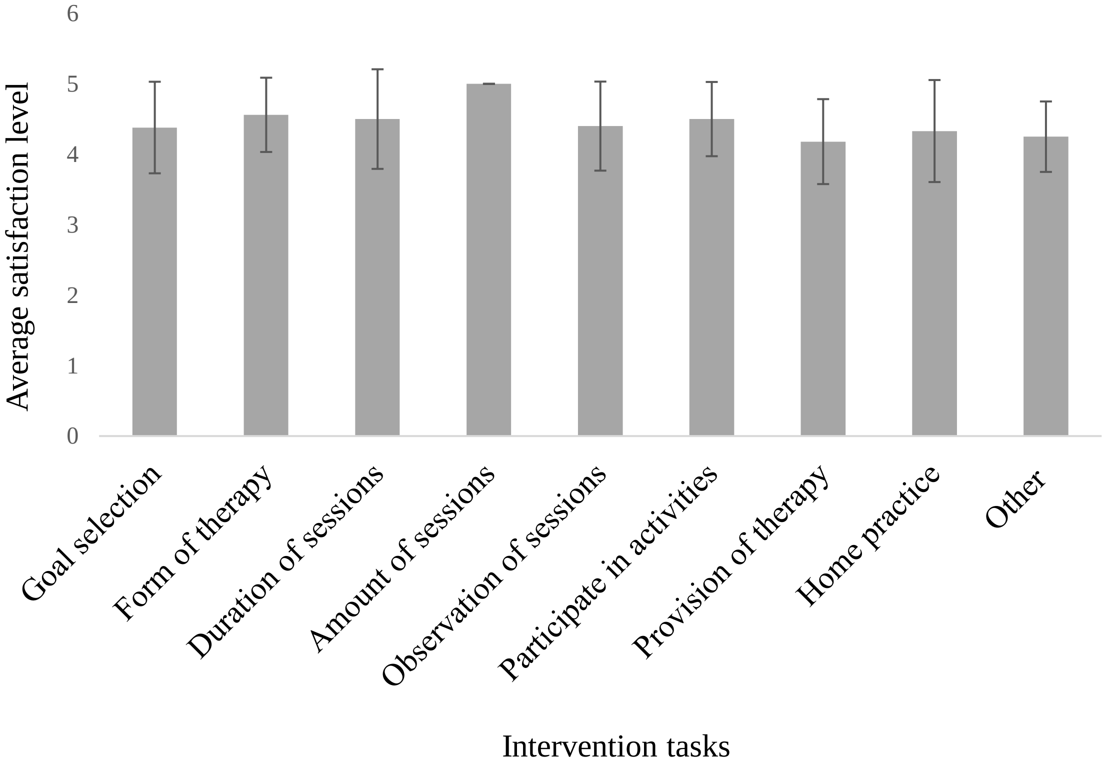


Figure 3. Mean and standard deviation of satisfaction ratings of involvement in an intervention task (1 = *very unsatisfied*, 5 = *very satisfied*). Satisfaction was only rated by parents who indicated they had been involved in an intervention task; therefore, the number of satisfaction ratings differs for each item. If an intervention task has no error bar (amount of sessions), this mean that all ratings were the same.

Appendix J. Current acquirement of knowledge and skills.

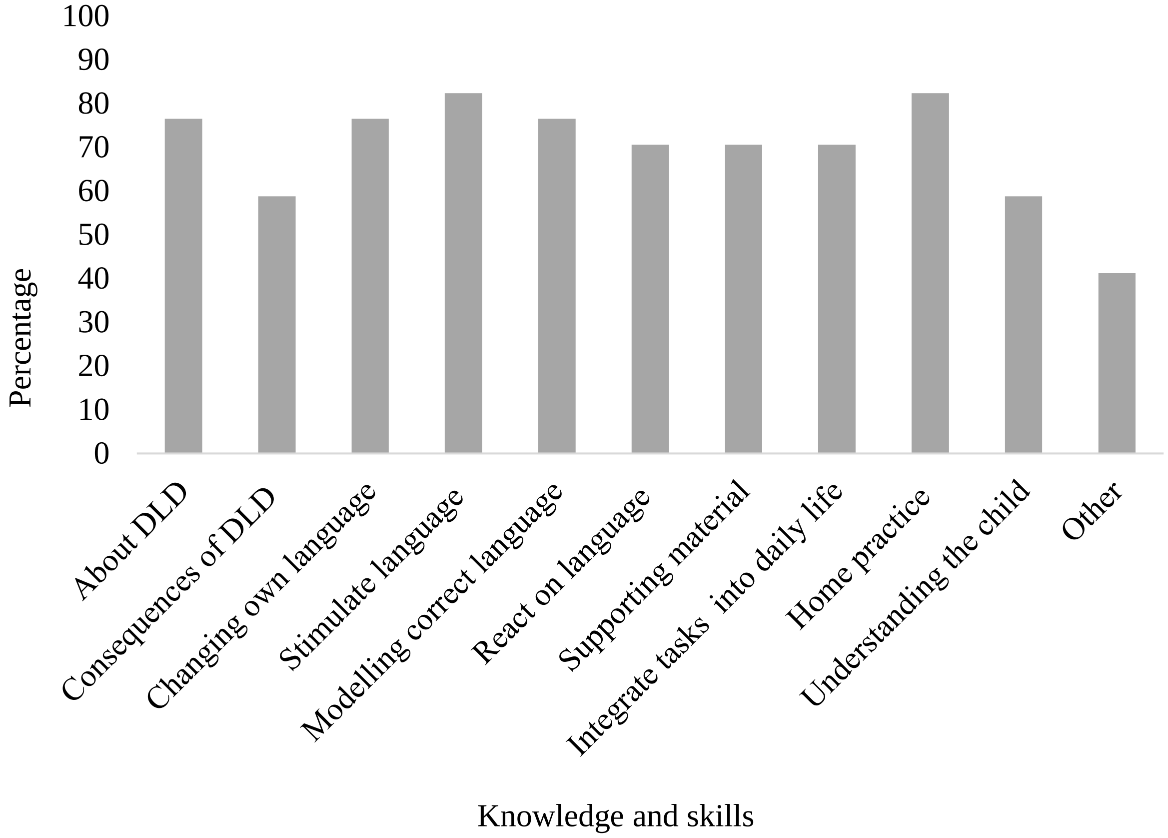


Figure 5. Percentage of current acquirement of knowledge and skills (y-axis). Bars depict the percentage of parents who indicated that they acquired the knowledge and skills (x-axis).

Appendix K. Satisfaction ratings of acquired knowledge and skills.

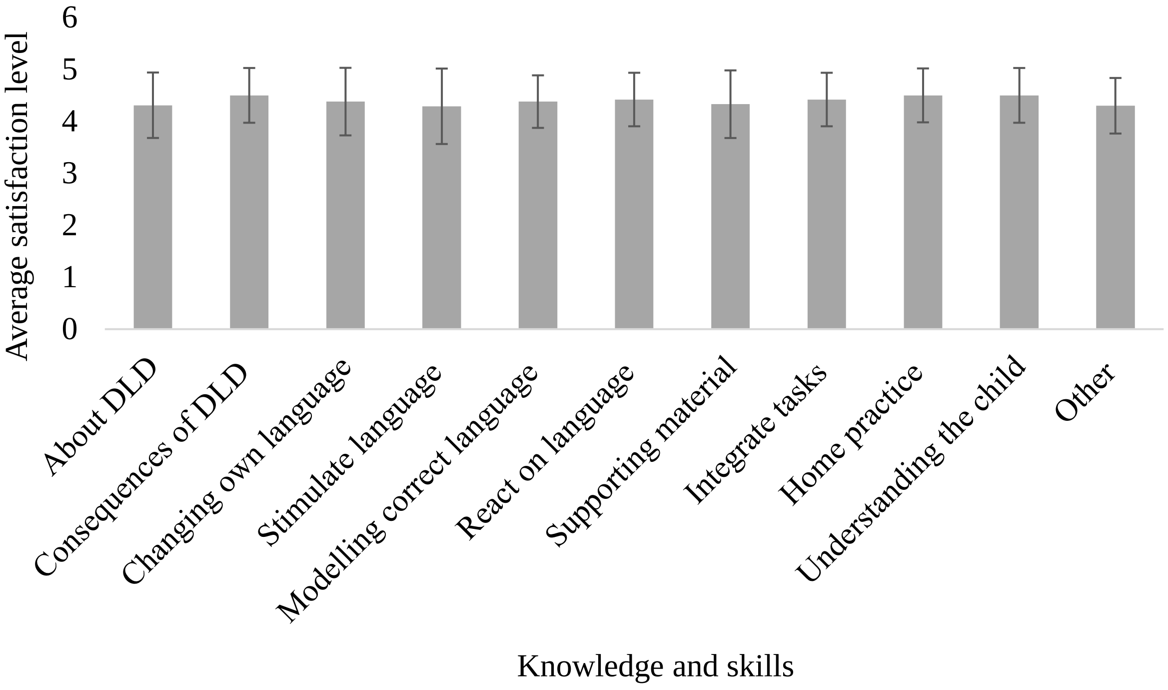


Figure 6. Mean and standard deviation of satisfaction ratings of learning knowledge and skills (1 = *very unsatisfied*, 5 = *very satisfied*). Satisfaction was only rated by parents who indicated they had learned the knowledge and skills; therefore, the number of satisfaction ratings differs for each item.

Appendix L. Not acquired and wished acquired knowledge and skills.

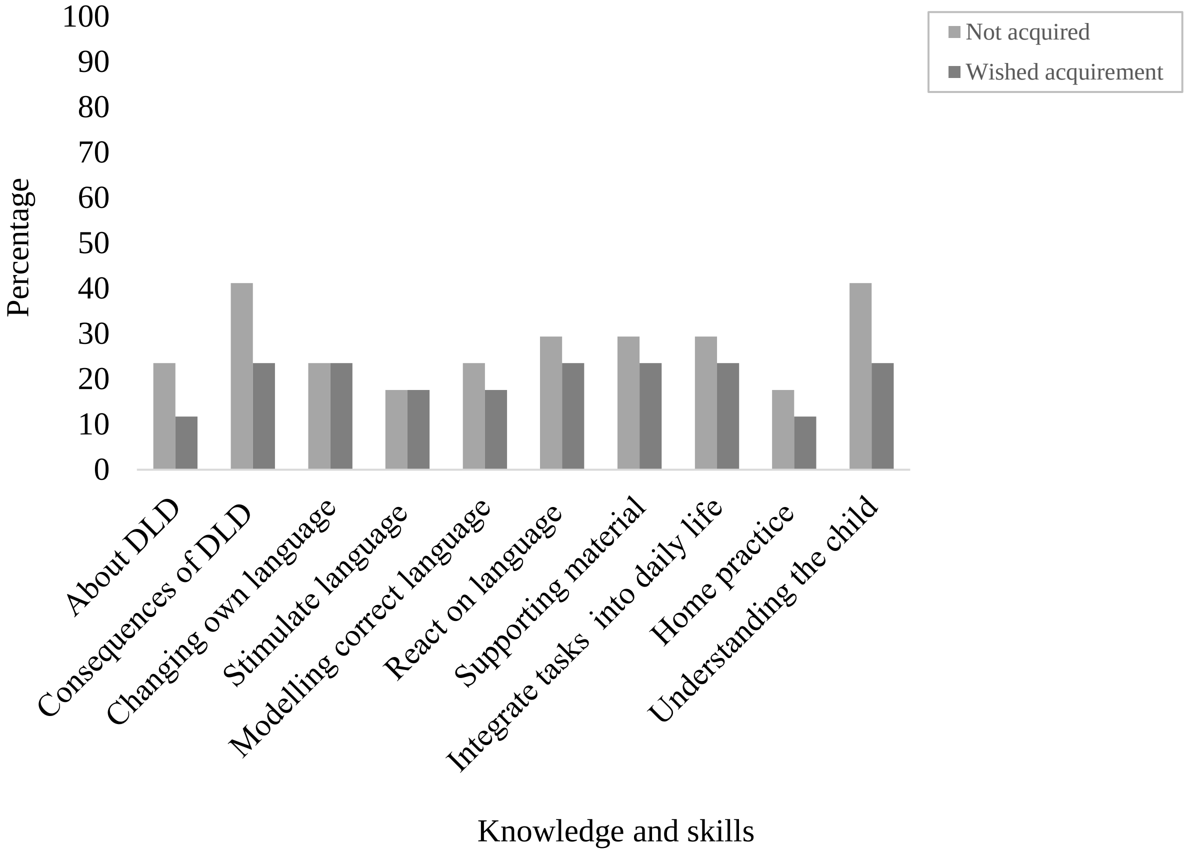


Figure 7. Percentage of parents did not acquire knowledge and skills (y-axis). Bars depict 1.) the percentage of parents who indicated they did not acquire the knowledge and skills and 2.) the percentage of parents who indicated they did not acquire the knowledge and skills, but wished they acquired it (x-axis).