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Assessing the effectiveness of parent–child interaction therapy with language delayed children: A clinical investigation

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Abstract

Parent–child interaction therapy (PCIT) is widely used by speech and language therapists to improve the interactions between children with delayed language development and their parents/carers. Despite favourable reports of the therapy from clinicians, little evidence of its effectiveness is available. We investigated the effects of PCIT as practised by clinicians within a clinical setting. Eighteen consecutive children referred for speech and language therapy because of their delayed language were entered in the study. A within-participants design was used, and the procedure was similar to that used clinically. Blind assessments were conducted twice before therapy to monitor change without therapy and once after completing PCIT. Significant changes in a parent rating scale, the children's mean length of utterance and the ratio of time of child to parent speech were found after the therapy. No changes were detected prior to therapy. The similarity of the design to clinical practice and the use of several clinicians suggest that the findings can be generalized to other settings and clinicians. These findings are a first step in evaluating PCIT; we now need to show that parents can maintain their newly acquired skills in interaction, and that this benefits their children's communication.

Keywords

children, interaction, intervention, language delay, parents

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1 Introduction

Clinicians who work with children have frequently found it useful to study a child's relationship with their parents and to modify this during therapy. This approach, commonly referred to as parent–child interaction therapy (PCIT), is widely used with children with behavioural problems and with children and their families who have psychological difficulties. It is now increasingly used in speech and language therapy (SLT), especially in the treatment of children with developmental delays in the acquisition of language and children who are dysfluent. A common set of assumptions underlie the use of PCIT in these different contexts. First, that work with the child, particularly the young child, will be facilitated by the presence of a parent. Second, that the dynamics of the interaction between parent and child will reveal parental behaviours that, if modified, will benefit the child. Finally, that the continuing contact and relationship between parent and child will allow these benefits to generalize beyond the clinical setting.

Joint working with parents and their children with delayed language has taken two major forms. In North America the Hanen parent programme (Manolson, 1992) remains popular while in the UK the term PCIT is used to describe a variety of broadly similar programmes developed by different clinical services. Hanen is the more prescriptive approach and its consistent methodology has encouraged investigations of its effectiveness. Early studies by Girolametto (1988) and Tannock et al. (1992) assigned children and their parents randomly to treated and untreated groups and demonstrated effects of the treatment on parent–child interactions. In the first study, parents talked less and there was more turn taking in their interactions with the children after treatment and the children were more responsive and used a broader vocabulary. The second study found that treated parents became more child centred in their approach and developed better strategies for maintaining interactions.

Although the treated children in these studies interacted more appropriately with their parents, there was no direct evidence that their language had advanced. In short, the programme had improved the nature of the interaction but the impact of therapy on the quality of the children's language remained unclear. This raises issues about the objectives of therapy programmes that are designed for children and parents. Should they try directly to change the children's language or will changes in the interactions alone promote language development? That few changes in language itself were seen suggests the former; however, changes in language may require longer to emerge and the finding in Tannock et al. (1992) that parents had maintained their improved interaction skills when assessed again four months later favours the view that longer term change may result.

Proponents of the Hanen programme took the view that a more direct approach was needed and revised the programme accordingly (for details, see Pepper and Weitzman, 2004). The new version taught parents to use focused stimulation (Ellis Weismer and Robertson, 2006), which encourages them to provide numerous repetitions and models of a language target. In a randomized trial of the new approach, Girolametto et al. (1996) found that treated parents used focused stimulation more frequently as well as changing their interaction styles, and that the children used more multiword utterances than controls. Similar results were reported in Girolametto et al. (1998) in a study using the focused stimulation version of Hanen with children with Down syndrome.

Initial enthusiasm for the Hanen approach in the UK led to a number of pilot studies and descriptions of its use (see Awcock and Habgood, 1998; Coulter and Gallagher, 1998). In practice this enthusiasm has not been maintained. In a survey (Joffe et al., in preparation) which asked clinicians what therapies they use with children, few mentioned Hanen specifically whereas PCIT was among the most popular approaches. One reason for this may be that the full Hanen programme is demanding both for parents who are asked to attend for up to 30 hours and for the resources of therapy services. Baxendale and Hesketh (2003) compared the Hanen programme with traditional one to

one therapy for receptive and expressive language conducted in clinics or in the children's nurseries and with a parent attending. Seventy one percent of the children improved but no difference was found between the therapies. However, Hanen required twice as much clinician time as the traditional approach.

Given these results it is understandable that SLT services have looked for less demanding methods that preserve the advantages of working with parents. PCIT met this need. Kelman and Schneider (1994) were early advocates and describe the approach. The advantages of using video in therapy were described by Cummings and Hulme (1997). The use of video to show parents where their interactions can be improved has become central to the intervention. Further evidence for the approach is available from Gibbard et al. (2004). Children with expressive language delay were allocated to two groups. One received therapy following current practice; the other a parent based intervention (PBI). In the latter parents received training in interacting with their children and in stimulating their language development. The PBI approach had significantly better outcomes despite only marginally increasing the demands on the SLT service. Though not PCIT as currently practised, PBI had similar objectives and a common theoretical background and demonstrated the value of training parents to offer indirect therapy.

PCIT aims to improve the interactions between parents and children in ways thought to be more conducive to language development. These objectives have been developed in part from clinical experience and from research in the 1980s and 1990s, which examined differences in the interactions between parents with typically developing children and children with delayed language (see, for example, Conti-Ramsden and Freil-Patti, 1986; Laskey and Klopp, 1982; Peterson and Sherrod, 1982). The direction of causality is unclear in these studies; nevertheless they support attempts to change the parents' style of interaction. PCIT does this by persuading parents to become less directive, to follow the child's lead and to allow them to initiate. Parents are encouraged to offer praise and to comment, extend and repeat what the child says rather than to question.

Typically PCIT programmes video parents with their children so that therapists and parents can analyse interactions and jointly set therapy goals. Therapy sessions develop parental insight and confidence and practise these goals. Parents are asked to reflect on the changes in their child's communication and to link this to changes in their own strategies. Additionally, but crucially, parents are asked to set aside daily 'special times' to interact with their children at home. They are asked to do so throughout the therapy and beyond with the intention that this will become a model for their future interactions with their children.

The use of PCIT with children who stammer has been examined in single case and case series studies (see Mathews et al., 1997; Millard et al., 2008, 2009) and a recent paper (Allen and Marshall, 2011) has reported its use with 8–10-year-old children with specific language impairment (SLI). The former studies conducted within the Michael Palin Centre, London investigated the style of PCIT developed there. Allen and Marshall (2011) randomly assigned 16 children to treated and delayed treated (control) groups. Five outcome measures were used. In four a significant time by group interaction indicated that treated children and parents had improved more than controls. This study suggests that PCIT may be useful with a wider range of clients than has previously been thought.

Research on PCIT with children who stutter or have SLI has served to highlight the lack of evidence for its use as an approach to treating younger children with delayed language. Despite its popularity no experimental studies of its impact are available and it is not included among the evidence based therapies on the 'what works' website (The Communication Trust, no date; Law et al., 2010). The present research assessed PCIT in a clinical situation within a large London Community Healthcare NHS trust. Most referrals of pre-school children in the trust are for delayed language, and PCIT is routinely offered to them as the first package of care. The study used a within-participants

design. Children were assessed over a baseline period prior to receiving therapy and again after completing the therapy. Outcome measures in the study were a parent rating scale (see Appendix 1) used to measure the parents' interaction skills, a measure of the child's mean length of utterance (MLU) and the ratio of time that the child spoke to the time the parent spoke. Each measure was expected to remain stable during the baseline and improve after therapy.

II Method

The research took place within a Community Healthcare NHS Trust. Clinics within the Trust were asked to participate and to identify possible participants. A working party of senior therapists experienced in PCIT was set up to monitor the research.

1 Participants

Eighteen parent/child dyads were entered in the study. Entry criteria were that children were between 1:09 and 3:06 years at the time of their first clinic appointment and had not previously received therapy. In this initial study children with English as an additional language (EAL) were treated but excluded from the research due to the difficulties that might arise when scoring use of their first language in the videos.

The children were consecutive referrals. Fifteen were male and three were female. Their mean age was 29.6 months (standard deviation 4.5). PCIT is offered as the default first therapy for children with language delay. In clinical work an initial video is used to verify the need to improve interactions between children and parents. Children were excluded if they had language difficulties secondary to other disabilities or were on the autistic spectrum or whose parents did not consent to the therapy.

Children were assessed on the Pre School Language Scale (PLS4; Zimmerman et al., 2009). All the children were below the mean for their age. Five were less than one standard deviation below the mean, seven were more than one and six more than two standard deviations below the mean. The mean standard score was 77.6 (standard deviation 14.6).

2 Therapy

The NHS Trust in which the research took place has developed a standard procedure for conducting PCIT. Clinicians see referred children with a parent or carer and decide whether PCIT is appropriate. An appointment is then made to begin the therapy, which lasts for 10 weeks. This involves an initial four weeks of clinic based therapy followed by five weeks of consolidation during which parents practise strategies at home without the therapist. The parent and child attend an assessment appointment in week 10 where the child's language and communication skills are discussed and compared with those at their initial assessment.

Clinic sessions last approximately one hour and aim to give parents strategies to support interactions. In the first session a video is made of the parent playing with their child. Parent and therapist watch and discuss the video together. The therapist highlights positive strategies used by the parent and introduces the parent rating scale (see Appendix 1). This scale is used by parents to rate themselves and, in the present investigation, as an outcome measure to assess their progress. It lists interaction strategies and parents are asked to rate their performance in the video. A discussion of the objectives of the therapy and their intended effects on the child can then take place. The table in Appendix 2 lists strategies and the rationale for them and is used by therapists in giving advice to parents. Its use helps to ensure a consistent approach in the advice given by different therapists.

The parent chooses a strategy they rated as using 'never' or 'sometimes' on the parent rating scale and works on this at home during the week. Parental selection of strategy at this stage is used to encourage involvement and ownership of the therapy. The therapist explains the chosen strategy, discusses it with the parent and the impact it can have on their child's communication. Parents are asked to practise their chosen strategy by playing at home with their child during 3 to 5 'special times' per week. An information leaflet to support parents in using their strategy at home is given.

In subsequent sessions, the therapist discusses the parents' use of 'special time' and whether they have seen changes in their child's communication skills. A further video of the parent and child playing together is made. Parent and therapist watch this together and discuss the parent's use of the target and other strategies and their impact on the child. The video is paused and replayed where appropriate to highlight specific positive strategies. If the target strategy is being used confidently, a further target strategy is suggested by the therapist, agreed with the parent and discussed. As in session 1 another video is made to practise and observe the new strategy. In this way the parent will practise the use of 3 or 4 strategies during their sessions at the clinic. In session 4 the therapist will seek to consolidate the strategies that have been practised. They will ensure that parents feel confident about the strategies they will practise during the consolidation period.

During the consolidation period parents practise the strategies and try to generalize their use to everyday routines and activities. At the final review appointment parents are invited to comment on their use of the interaction strategies and the impact on their child's communication. A final video is made of the parent and child playing and is viewed and discussed with the parent who also rates their performance on the parent rating scale. The child's communication skills are reassessed and future management is planned.

3 *Experimental design and procedure*

The clinical setting of the study meant that it was not appropriate to have a control untreated group whose treatment would be unduly delayed. The normal clinical sequence lends itself to a within-participants design, however. To achieve this, minor modifications were made to the standard procedure described above. These primarily affected the conduct of the first meeting of a therapist with a parent and child.

When a therapist decided that PCIT was appropriate and the child met the criteria for the study they sought the parent's consent for data from the therapy to be used in the research. The child was assessed on the PLS4 and a video of the parent playing with the child was made. This video was stored for future assessment. It was not watched by therapist or parent, nor was the Parent Rating Scale completed. Normally general advice is given to the parent at this meeting. During the research this was restricted to answering immediate concerns that they expressed. An appointment to begin therapy was made. In clinical practice this often needs to be scheduled for several weeks later. As this intervening period formed the baseline for the experiment, the interval was standardized at 10 weeks.

The initial video, the video recorded at the first therapy appointment and the video from the final review appointment were analysed to assess the effects of therapy. Each was 6 minutes in length and assessors scored the final 5 minutes. In total 54 videos were scored. The videos were assessed blind. Nine therapists who were familiar with the therapy and its objectives and who had previously both conducted PCIT and used the parent rating scale scored the videos. No scorer saw more than one video from a given child and they were unaware of the chronology of the video. Where a therapist scoring the video had also participated in the research they did not see any children they had treated.

Scorers were allowed to view the videos as frequently as they wished. They first completed the parent rating. This measure was selected because it attempts to aggregate a number of behaviours

Table 1. Mean scores at each time point for parent ratings and child's mean length of utterance (MLU) (s.d. given in parentheses).

		Pre therapy 1	Pre therapy 2	Post therapy
Parent rating (n = 18)	mean	14.33 (3.22)	15.33 (2.87)	20.89 (3.60)
Child's MLU (n = 17)	mean	1.04 (0.61)	1.17 (0.70)	1.65 (0.93)

that occur in parent–child interactions and is widely used clinically. Then they identified and transcribed the children's vocalizations in order to calculate the MLU. Following the procedure used by Baxendale and Hesketh (2003), utterances that were imitations of the parent or that reflected rote learning (e.g. nursery rhymes) or were repetitions of a word or phrase within the same utterance were discounted in this calculation. However, utterances that were judged to be initiations or responses to the parent but were not meaningful (common for some participants) were included but received a MLU of 0. These utterances were then used to calculate the child's MLU. Scorers then replayed the videos and timed (with stop watches) the utterances of children and parents during the interaction so that the ratio of child to parent speech could be calculated. Although this measure does not assess the quality of the speech used, it does reflect the extent to which the parent is able to encourage participation by the child.

III Results

Each of the outcome measures – parent rating score, child's mean length of utterance and the ratio of child to parental speech – were analysed using one factor within-participant analyses of variance followed by planned comparisons of the individual means. In the case of the parent rating scale the advice of Clark-Carter (1997) that ordinal scales of measurement with more than 20 values may be analysed using parametric tests was taken.

Table 1 gives the means and standard deviations of each outcome measure at the three assessment points. A significant difference was found between the assessments of the parent performance ($F(1.33, 22.56) = 26.66$, $p < .001$, $\eta^2 = 0.61$, Greenhouse–Geisser correction applied due to lack of sphericity). Planned comparisons showed that no difference existed between the pre therapy measures but that the difference between the second pre therapy and the post therapy assessments were significant ($p < .01$, $\eta^2 = 0.55$).

MLU data from one video was not reported by the scorer. The table reports the data for the remaining 17 participants. Again the differences between the three assessments were found to be significant ($F(2, 32) = 5.96$, $p < 0.01$, $\eta^2 = 0.27$), and planned comparisons found no difference between the two pre therapy assessments and a significant difference ($p < .05$, $\eta^2 = 0.22$) between the second pre therapy and the post therapy assessments.

Table 2 reports the data on the times of child and parent speech. As it shows parents reduced and children increased the time they spoke. The analysis of variance carried out on the ratio of child to adult speech showed a significant difference between the assessments ($F(2, 34) = 9.77$, $p < .001$, $\eta^2 = 0.36$). Planned comparisons again found no difference between the pre therapy assessments and a significant difference ($p < .01$, $\eta^2 = 0.37$) between the second pre therapy and the post therapy assessments.

In summary, consistent results were found for each of the outcome measures. Each improved slightly but not significantly during the baseline period. The changes over the treatment period were significant for each measure and the effect sizes were large in each case (Cohen, 1988).

Table 2. Mean number of seconds for which children and parents spoke and the ratio of child/parent speech (s.d. given in parentheses).

		Pre therapy 1	Pre therapy 2	Post therapy
Child	mean	25.29 (21.29)	31.27 (19.57)	42.15 (27.12)
Parent	mean	113.05 (56.89)	98.15 (36.24)	70.72 (42.46)
Child/parent ratio (n = 18)	mean	0.22 (0.24)	0.32 (0.30)	0.59 (0.38)

IV Discussion

In assessing the clinical significance of these results we need to consider the extent and the nature of the children's progress. Interactions are complex phenomena that lend themselves to various forms of analysis. Often a compromise must be struck between measures that are reliable and readily obtained and the insight they offer about the interaction. The parent rating scale was used because it tries to assess a range of behaviours and because it is extensively used both by the present SLT service and by other services in the UK. MLU and the ratio of child to adult speech are crude measures of the child's language development but they are objective, and the latter in particular reflects a change in the balance of an interaction that is a primary objective of the therapy.

Each measure showed the same pattern; the videos at the end of the baseline period showed that neither practice at being videoed nor any insight that parents may gain from this are sufficient to change their interactions with their children. In contrast the post treatment videos reveal significant changes and large effect sizes for each of the measures. Clearly the intervention has changed the interactions in ways that are consistent with the aims of PCIT. Parents now talk less and the children talk more, and parents demonstrate some or all of the behaviours on the parent rating scale more frequently.

The potential longer term benefits of the therapy need to be judged more cautiously, however. Will a comparatively short period of treatment be sufficient to compensate for the children's previous experience of interactions with their parents (or the lack of them) and lead to improvements in communication? Three things need to be considered here. First, is the change brought about by the therapy sufficient in itself to improve the children's communication? This can only be answered by following the children over time. Ideally such research might be larger in scale and would employ a control group. The need to withhold treatment would be inappropriate given that the present research was conducted in a clinical setting with referred children. A second issue concerns the ability or the willingness of parents to maintain their newly acquired skills. The use of 'special time' is helpful in imposing structure, and parents are encouraged to continue it. Ideally parents will generalize their skills to other interactions with their children. The finding in Tannock et al. (1992) that parents maintained their skills four months after completing the Hanen programme is encouraging. Finally, there is the issue previously confronted by the Hanen approach (Girolametto et al., 1996, 1998), that the intervention might be more effective if it directly targeted changes in the children's language through techniques such as focused stimulation. PCIT has adopted a more flexible approach on this issue. Current practice is to use elements of this approach in cases where the child's language is sufficiently developed.

Evidence based practice normally proceeds by conducting efficacy studies in controlled conditions before carrying out effectiveness studies in clinical conditions. No efficacy study of PCIT has been undertaken reflecting a broader failure of researchers to assess the methods that clinicians use. Bernstein-Ratner (2006) has argued for greater involvement of clinicians in research and pointed out the current problems of translating evidence into practice. These include the well-known failure of

the academic literature to report interventions that do not work, as well as difficulties in interpreting those that do. Given the heterogeneity of clinical case loads, clinicians want to know what works and who it works with. Intervention studies may report positive results but fail to identify a minority of participants who do not respond. The gap between evidence and practice is well illustrated by the finding (Nail-Chiwetalu and Bernstein-Ratner, 2007) that clinicians make little use of evidence and are more likely to consult colleagues for advice.

The clinical nature of the study also influenced its design. A within-participants design was used because it was inappropriate to delay the intervention for some children and because it was consistent with routine clinical procedure. Though less rigorous than the standards of experimental research, this approach has other advantages. Most apparent is that the findings support a therapy approach that is widely used. The positive outcome also means that the current use of the therapy as the first option for children with delayed language is appropriate. The involvement of a number of clinicians in conducting the therapy also gives reasonable grounds for generalizing the findings to other clinicians using similar methods.

The exclusion of children with EAL from the research prevents us from generalizing the findings to them. The importance of this issue is illustrated by the fact that more than half of the children referred to the SLT service during the research had EAL. Awareness of cultural differences in child rearing and in the way parents interact with their children is important in treating these children and may impact on the conduct and the success of the therapy. A discussion of this issue with particular reference to Asian families is available in Awde (2009).

The children's scores on the PLS4 were surprisingly variable. Some children had severely delayed language further confirmed by their low scores on the measures used in the research while others were weak but within the normal range. Nevertheless the interactions of the latter children with their parents showed weaknesses similar to those of children with poorer language skills. This confirms the point above that the use of PCIT in clinical practice is correctly based more on observation of interactions than on the children's language level on a formal assessment. It also shows that weak language skills are not always the cause of poor interactions and that changing parents' behaviour can benefit children with varying levels of delay. For those children in the low normal range PCIT may be sufficient for their needs; normal practice is to keep the more severely delayed children on the case load so that further therapy can be offered if necessary.

That so many SLT services use versions of the PCIT approach suggests that it is within their resources to do so and that they perceive it to be useful. The approach owes much to Hanen but is less demanding (Baxendale and Hesketh, 2003). Other alternatives are available. Buschmann et al. (2009) report positive effects of training parents to interact with and support their children's language development. This approach avoids the need to see parents with their children and study videos of their interactions. Training is in small groups over a three month period. The authors show that the approach has a considerable cost advantage over individual therapy although they base their calculations of the latter on the cost of 43 individual sessions. A further approach to parent training has been developed by van Balkom et al. (2010). Parent based video home training involves visits by a speech and language therapist and a psychologist who watch and discuss videos of successful interactions with parents. Children and their interactions with a parent were assessed before, after and three months after the training and compared with children directly treated by speech and language therapists. The training programme was successful in improving the grammaticality of the children's speech and the conversational coherence of their interactions with parents. Future research may need to explore the relative effectiveness and resource demands of these different approaches as well as examining their long term effects on children's language development.

PCIT is widely used in speech and language therapy in the UK. Results of its use in dysfluency (Mathews et al., 1997; Millard et al., 2008, 2009) and recently with older children with language

disorders (Allen and Marshall, 2011) have been published. It is commonly used with young children with delayed language but evidence for its effectiveness is lacking. The present article is a first step towards acquiring this evidence.

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References

Allen J and Marshall CR (2011) Parent–child interaction therapy (PCIT) in school aged children with specific language impairment. *International Journal of Language and Communication Disorders* 46: 397–410.

Awcock C and Habgood N (1998) Early intervention project: Evaluation of Wilstar, Hanen and specialist playgroup. *International Journal of Language and Communication Disorders Supplement* 33: 500–05.

Awde N (2009) The influence of cultural values on the parent–child interaction patterns of families from an Asian background. *ARECLS* 6: 1–17.

Baxendale J and Hesketh A (2003) Comparison of the effectiveness of the Hanen programme and traditional clinic therapy. *International Journal of Language and Communication Disorders* 38: 397–415.

Bernstein-Ratner N (2006) Evidence based practice: An examination of its ramifications for the practice of speech-language pathology. *Language, Speech and Hearing Services in Schools* 37: 257–67.

Buschmann A, Jooss B, Rupp A, Feldhusen F, Pietz J, and Philippi H (2009) Parent based language intervention for 2 year old children with specific expressive language delay: A randomised controlled trial. *Archives of Diseases in Childhood* 94: 110–16.

Clark-Carter D (1997) *Doing quantitative psychological research: From design to report*. Hove: Psychology Press.

Cohen J (1988) *Statistical power analysis for the behavioural sciences*. 2nd edition. Hillsdale, NJ: Erlbaum.

Conti-Ramsden G and Freil-Patti S (1986) Mother and child dialogues: Considerations of cognitive complexity for young language learning children. *British Journal of Disorders of Communication* 21: 245–55.

Coulter L and Gallagher C (1998) Evaluation of the Hanen early childhood educators programme. *International Journal of Language and Communication Disorders Supplement* 33: 264–69.

Cummings K and Hulme S (1997) Video: A reflective tool. *Speech and Language Therapy in Practice* Autumn: 4–7.

Ellis Weismer S and Robertson S (2006) Focused stimulation approach to language intervention. In: McCauley RJ and Fey ME (eds) *Treatment of language disorders in children*. Baltimore, MD: Paul H Brookes, 175–202.

Gibbard D, Coglan L, and MacDonald J (2004) Cost effectiveness analysis of current practice and parent intervention for children under 3 years presenting with expressive language delay. *International Journal of Language and Communication Disorders* 39: 229–44.

Girolametto L (1988) Improving the social conversational skills of developmentally delayed children: An intervention study. *Journal of Speech and Hearing Disorders* 53: 156–67.

Girolametto L, Pearce P, and Weitzman E (1996) Interactive focussed stimulation for toddlers with expressive vocabulary delays. *Journal of Speech and Hearing Research* 39: 1274–83.

Girolametto L, Weitzman E, and Clements-Baartman J (1998) Vocabulary intervention for children with Down syndrome: Parent training using focussed stimulation. *Infant-Toddler Intervention: A Transdisciplinary Journal* 8: 109–26.

Joffe V, Flood E, Dodd B, and Pring T (in preparation) Assessment and intervention choices of paediatric speech and language therapists: A national UK survey.

Kelman E and Schneider C (1994) Parent–child interaction: An alternative approach to the management of children's language difficulties. *Child Language, Teaching and Therapy* 10: 81–96.

Laskey EZ and Klopp K (1982) Parent–child interaction in normal and language disordered children. *Journal of Speech and Hearing Science* 47: 7–18.

Law J, Lee W, Roulstone S, Wren Y, Zeng B, and Lindsay G (2010) *'What works': Interventions for children and young people with speech, language and communication needs: Technical Annex*. Research report RR247-BCRP. London: Department for Education.

Manolson A (1992) *It takes two to talk*. Toronto: Hanen Centre.

Mathews S, Williams R, and Pring T (1997) Parent–child interaction therapy and dysfluency: A single case study. *European Journal of Disorders of Communication* 32: 346–57.

Millard S, Nicholas A, and Cook FM (2008) Is parent–child interaction therapy effective in reducing stuttering? *Journal of Speech, Language and Hearing Research* 51: 636–50.

Millard S, Edwards S, and Cook FM (2009) Parent–child interaction therapy: Adding to the evidence. *International Journal of Speech-Language Pathology* 11: 61–76.

Nail-Chiwetalu B and Bernstein-Ratner N (2007) An assessment of the information-seeking abilities and needs of practicing speech-language pathologists. *Journal of the Medical Library Association* 95: 182–88.

Pepper J and Weitzman E (2004) *It takes two to talk: A practical guide for parents with children with language delays*. 2nd edition. Toronto: The Hanen Centre.

Peterson GA and Sherrod KB (1982) Relationship of maternal language to language development and language delay of children. *American Journal of Mental Deficiency* 86: 391–98.

Tannock R, Girolametto L, and Siegel L (1992) Language intervention with children who have developmental delays: Effects of an interactive approach. *American Journal of Mental Retardation* 97: 145–60.

The Communication Trust (no date) *What works* [website]. Available online at: http://www.thecommunicationtrust.org.uk/whatworks (February 2015).

Van Balkom H, Verhoeven L, van Weerdenbugg M, and Stoop J (2010) Effects of parent-based video home training in children with developmental language delay. *Child Language Teaching and Therapy* 26: 221–37.

Zimmerman IL, Steiner VG, and Pond RE (2009) *Preschool language scale* (PLS-4^{UK}). 4th edition. London: Pearson Education.

Appendix 1. Parent rating scale.

Does the parent	NEVER	SOMETIMES	OFTEN	ALWAYS
Allow the child to choose toys				
Follow what the child wants to do				
Play down at child's level				
Wait for child to start the talking – with words, gestures, sounds or eye contact				
Give him/her extra time to talk				
Show that I am listening by repeating or answering him/her				
Comment on what the child is doing, seeing, hearing				
Not asking questions				
Give verbal praise				
Talking slowly so your child can understand				

Appendix 2. Table of strategies and their rationale.

Strategy (parent)	Rationale for strategy (child)
Letting your child choose the toy	○ Increases child attention to focus of interest ○ Decreases parental directiveness ○ Takes responsibility/lead in play ○ Develops confidence ○ Allows experimentation in toys
Following what your child wants to do with the toy	○ Increase child's attention and focus on play ○ Share own focus with parent ○ Develop sequences of play ○ Order thoughts re. play and language output
Sitting where your child can easily see you	Facilitates interaction: ○ Shared focus ○ Eye contact ○ Increase parental listening ○ Develops social play ○ Lip reading/ body language / signing ○ Modelling play for child
Waiting for your child to start the talking with words/sounds/gestures, etc.	○ Balance of conversation is redressed ○ Gives child opportunity to initiate conversation ○ Gives child space to order thoughts and experimentation with talking ○ Increases child confidence and responsibility
Giving your child enough time to talk	○ Increases cooperation and experimentation ○ Increases confidence ○ Allows extra processing to time/order thoughts ○ Child has greater awareness of parent listening
Showing your child you are listening by repeating or answering	○ Encourages interaction ○ Confirms child output – increases confidence in communicative ability ○ Greater enjoyment of interaction
Commenting on what your child is doing	○ Gives child access to contingent language input ○ Accurate language model for child
Not asking your child questions	○ Decreases pressure on child to speak ○ Child not forced to speak about what parent already knows ○ No limit on child responses – increases language development ○ Increases child initiation
Praising your child	○ Increases confidence in communication skills ○ Positive reinforcement of verbal output is achieved ○ Increases enjoyment of interaction
Talking slowly so your child understands	○ Increases comprehension of adult verbal output ○ Increases processing time