This is a repository copy of *An interaction-focused intervention approach to training everyday communication partners: a single case study*.

White Rose Research Online URL for this paper:
http://eprints.whiterose.ac.uk/98635/

Version: Accepted Version

An interaction-focused intervention approach to training everyday communication partners: A single case study

SCHOLARONE™
Manuscripts

An interaction-focused intervention approach to training everyday communication partners: A single case study

Charlotta Saldert[1,2]

Charlotte Johansson[1]

Ray Wilkinson[3]

1) Institute of Neuroscience and Physiology, Division of Speech and Language Pathology, University of Gothenburg, Gothenburg, Sweden

2) University of Gothenburg Centre for Person-Centred Care (GPCC), Gothenburg, Sweden

3) Department of Human Communication Sciences, University of Sheffield, Sheffield, UK

Correspondence: Charlotta Saldert, Institute of Neuroscience and Physiology, Division of Speech and Language Pathology, University of Gothenburg: Arvid Wallgrens Backe, Building 3, P.O. Box 452, SE 405 30 Gothenburg, Sweden. Tel: +46 31 786 65 87.

E-mail: charlotta.saldert@neuro.gu.se

Running head: Interaction-focused partner training

Abstract

Background: Communication partner training appears to be a growing area within aphasiology. Much of the work carried out so far has focused on training volunteers to have conversations with people with aphasia in order to improve communication and the person with aphasia's (PWA's) psychosocial well-being and/or improving the ability of significant others to communicate information with the PWA within clinical tasks. In this paper we present the results of a single-case intervention study which used an interaction-focused approach to target the conversational behaviours of the significant other of a PWA with the aim of improving the dyad's everyday conversations within the home environment.

Aims: To discuss the targeting, implementation and evaluation of an interaction-focused intervention programme for a significant other of a person with aphasia.

Methods & Procedures: Conversation Analysis was used both to guide choice of individualised target behaviours for the intervention and to explore changes in the conversational interaction between a woman with mild-moderate aphasia and her life partner. Three samples of video-recorded natural conversational interaction from before and after the partner took part in a six session long group intervention were analysed. The evidence for change that emerged from qualitative analysis of the conversational data was further analysed by an independent, blinded, assessor doing quantitative comparisons.

Outcomes & Results: There was qualitative and quantitative evidence that two of three targeted conversational behaviours had changed following the intervention programme. Following the completion of the intervention the dyad spent significantly less time in pedagogic activities. Furthermore, the significant other showed an increased attention towards PWA's conversational contributions. The combination of qualitative and quantitative analyses also revealed that post-intervention the communication partner displayed changes in an interactional behaviour which was not targeted in the intervention i.e. dismissive language towards the person with aphasia.

Conclusions: This study adds to the existing literature in presenting positive results from an intervention which used an interaction-focused approach, here targeted towards the everyday communication partner of a PWA. Notably, this study supplemented qualitative outcomes with blinded and statistical quantitative analyses. Also, the fact that no transcriptions were used during the intervention process and that therapy was delivered via group intervention shows the feasibility of this form of communication partner training in clinical settings. Furthermore, the study suggests that intervention programmes targeting the behaviours of a communication partner may produce positive change in conversational behaviours that have not been directly targeted in the intervention.

Keywords: Communication partner training, aphasia, Conversation Analysis, intervention, interaction-focused

Providing intervention for those who communicate with people with aphasia (often termed 'Communication Partner Training' ('CPT')) has been the focus of a number of different approaches over the last quarter of a century within aphasiology and appears to be growing as an area of aphasia intervention[1]. As Simmons-Mackie, Raymer, Armstrong, Holland, & Cherney (2010) show in their systematic review of this form of intervention for aphasia, the concept of CPT potentially covers a wide area; the term 'communication partners' regularly refers to friends and family members of the person with aphasia (PWA) but can also include volunteers and health care providers. Also, intervention may aim to improve either the PWA (in particular their communicative ability or psychosocial well-being) and/or the communication partner (in particular their ability to communicate with the PWA, or their psychosocial well-being). The therapist may work with the communication partner and PWA together or with the communication partner in isolation from the PWA, sometimes as part of a group of communication partners.

In this paper, we present a single case study of intervention targeted at the everyday communication partner of a person with aphasia where the method used was interaction-focused intervention. Interaction-focused intervention employs Conversation Analysis (CA) methods of data collection and data analysis and uses these methods as the basis for planning, implementing and evaluating intervention for the person with aphasia and/or one or more communication partners. Wilkinson (2010) has outlined the interaction-focused intervention approach to aphasia and described how it is distinct from other approaches within aphasiology which may aim to improve conversational interaction (i.e. impairment-focused, communication-focused and psychosocial-focused approaches). In terms of CPT, the latter two approaches are particularly relevant. In communication-focused approaches, such as Conversational Coaching (Hopper, Holland & Rewega, 2002), it is a significant other, such as a spouse of the PWA, who is the communication partner involved in

4

the intervention, with both partners targeted together as they carry out a communication task in the clinic with the therapist. An overarching aim in this approach is to improve the dyad's ability to communicate information to each other, and there is a focus in particular on both participants using a range of modalities for communication, such as gesturing, writing and drawing as well as speech. The method typically employed is that the PWA is put in a situation where s/he is attempting to communicate some information about, for example, a video viewed previously, to the significant other who does not have this information.

In psychosocial-focused approaches, such as Supported Conversation for Adults with Aphasia (SCA: Kagan, 1998; Kagan, Black, Duchan, Simmons-Mackie & Square, 2001), it is often a volunteer rather than the spouse of the PWA who is the communication partner targeted in the intervention. As Kagan (1998: 817) outlines, SCA is an intervention approach which 'is designed to reduce the psychosocial consequences of aphasia'; by targeting communicative ability, and in particular by providing people with aphasia with a positive experience of communication through having a conversation with a trained conversation partner (typically a volunteer), the aim is that psychosocial well-being and quality of life will be enhanced (Kagan, 1998). Further details of these different approaches and the similarities and differences between them are provided in Wilkinson (2010).

In an interaction-focused approach, it is a significant other, or an everyday communication partner, of the PWA (typically the spouse) who receives the training. Intervention is based on conversations between the PWA and the significant other, typically video-recorded in a domestic environment. One consequence of basing the intervention on conversation data is that, since conversation is a highly collaborative activity, the communication partner may be a focus of the analysis and intervention just as much, or even more so, than the PWA. Another consequence is linked to the fact that conversation is '… a vehicle through which selves, relationships and situations are talked into being' (Schiffrin,

1988: 272). Analysing conversation data allows for the investigation of how the couple are

achieving and maintaining their relationship in real-time and how certain aspects of the

relationship appear to be working well or not in light of the fact that one member of the dyad

has aphasia.

This type of analysis also allows for investigation of how aspects of social

identities and social roles (both of the PWA and the significant other) are made relevant

within the conversation. For example, several interaction-focused intervention studies have

highlighted ways in which the significant other may take on a pedagogic role at certain points

within the conversation. These studies have included as one of their aims that this type of

behaviour be reduced or eliminated, particular in cases where the PWA's response to the

pedagogic action includes a display of negative emotion such as anger, upset or

embarrassment (Wilkinson et al., 1998; Booth & Perkins, 1999; Turner & Whitworth, 2006;

Wilkinson & Wielaert, 2012). These pedagogic actions typically involve the significant other

eliciting from the PWA information that the significant other already knows, and can take

forms such as test questions (questions to which the asker already knows the answer), or

cueing by providing the first sound(s) of a word in order that the PWA may produce the rest.

While the significant other may produce these pedagogic actions because they believe they

will help the PWA (for example by prompting the PWA to practice saying a word), the result

can be that the PWA's identity as an aphasic person and as linguistically non-competent can

be exposed or highlighted, a state of affairs that the PWA may react to negatively. The results

from the interaction-focused intervention studies that have targeted pedagogic behaviours

show that intervention can successful reduce or eliminate these behaviours (Wilkinson et al.,

1998; Booth & Perkins, 1999; Turner & Whitworth, 2006; Wilkinson & Wielaert, 2012).

In other cases, the intervention aims to reduce or eliminate a behavioural pattern

by the significant other which is judged to be unhelpful for the PWA and to replace it with

something different. In the intervention study by Wilkinson, Bryan, Lock and Sage (2010), for instance, it was evident that the significant other's pattern of repeatedly producing closed and yes/no questions was limiting the PWA's ability to attempt to speak in sentences and to contribute actively to topic development. This behavioural pattern by the significant other was successfully reduced, and other types of conversational forms, such as statements and repeats/paraphrases of what the PWA had just said, increased in the post-intervention stage. This change in the significant other's behaviour had a knock-on effect to that of the PWA who post-intervention produced more sentences and attempted sentences and contributed more actively to topical development within conversation.

A third type of intervention target relating to the significant other is where he or she is encouraged to use interactional behaviours which are different in type or frequency to those which they were using with the PWA prior to intervention, but where the motivation for the change is because these new behaviours are judged to be more helpful to the PWA rather than because certain previously used behaviours are judged to be unhelpful. In the study by Wilkinson, Lock, Bryan and Sage (2011), for example, the significant other was encouraged to respond in a certain way when the PWA signalled she was attempting to initiate a new topic i.e. he would provide her with the time and opportunity to do this by, for example, using continuers, such as 'mm hm'.

As can be seen from these brief descriptions of interaction-focused intervention studies, this approach allows the intervention to be individualized to the participants involved i.e. based on the assessment of the particular strengths and problems evident in the dyad's conversations, the intervention can be targeted to build on these particular strengths or address these particular problems. Similarly, in evaluating the outcomes of the intervention, the conversational data collected post-intervention can be examined to see how the participants are conducting their conversations now compared to prior to the intervention, and in particular

whether either participant has changed in line with the individualized aims which the therapist

worked on with them. While CA's qualitative methods of data analysis facilitate this

individualized focus in the planning and evaluation of the intervention, in the case of

evaluation a mixed methods approach is regularly adopted where these qualitative methods

are often supplemented with quantitative methods of analysis as well as the collection and

analysis of other forms of data, such as interview/questionnaire data. This is the case both in

CA-inspired intervention within aphasiology (Booth & Perkins, 1999; Wilkinson et al, 2010)

as well as within other areas of application, such as programmes to change how doctors talk to

patients (Heritage, Robinson, Elliott, Beckett & Wilkes, 2007; Heritage & Robinson, 2011).

Interaction-focused aphasia interventions regularly use video feedback in the

form of showing participants selected videoclips from their own conversations. Observation

of one's own behaviours on video-recordings is a powerful tool in the implementation of

change, and is often used in family therapy as well as in higher education (Neander &

Engström, 2009; Fukkink, Trienekens & Kramer, 2011). The use of video feedback can be a

powerful means of making individuals aware of their own communicative practices which, in

many cases, they may be employing without much conscious awareness. In accordance with

the Lewinian model as presented by Kolb (1984) the purpose with self-observation with a

therapist is to create the opportunity for joint observation and reflection on one's own

behaviours and the reactions and needs of other persons involved in the interaction. When the

sequences selected to be watched contain good examples, reinforced by the therapist, the

conversation partner may become his/her own model in establishing more supportive

communication (Bandura, 1986).

Finally, it can be noted that while a common means of delivering interaction-

focused intervention is by means of a speech and language therapist/pathologist (SLP)

working with an individual dyad, often through visiting them at home (e.g. Wilkinson et al.,

1998; Burch, Wilkinson & Lock, 2002; Wilkinson et al., 2010; Wilkinson et al., 2011; Beeke,

Maxim, Best & Cooper, 2011), other methods of delivering intervention have also been used.

For example, intervention can be delivered to a group of communication partners of people

with aphasia (Booth & Perkins, 1999; Booth & Swabey, 1999; Lock, Wilkinson & Bryan,

2001), although even in this setting the intervention aims and delivery are typically

individualised to a large extent.

         In this paper we present a single case study of interaction-focused intervention

targeted at the everyday communication partner (David) of a person with aphasia (Chris),

where the intervention was delivered to a small group of three significant others of people

with aphasia. David and Chris took part in a pilot study examining communication partner

training where the intervention was based on the *Supporting Partners of People with Aphasia*

in Relationships and Conversation (*SPPARC*: Lock et al, 2001), a published interaction-

focused intervention programme. Some findings from that study are presented in Saldert,

Backman, & Hartelius (2013) (where David and Chris are referred to as 'dyad 3'). In

particular in that paper the focus was on 1) investigating what might be the relevant

characteristics of the communication partners which would facilitate them in benefitting from

this type of training, and 2) evaluating the effects of the communication partner training

programme by means of a questionnaire which compared the participants' perception of

communicative effectiveness pre- and post-intervention, and by blinded analyses of the pre-

and post-intervention conversations using a quantitative rating scale, the *Measure of*

Interaction in Communication (*MIC*), (Eriksson et al. in press; Saldert et al., 2013). **As**

reported in Saldert et al. (2013), the three-grade rating scale gives a quantitative global

measure of the communication partner's performance. The *MIC* is based on Togher, Power,

Tate, McDonald & Rietdijk's (2010) revised version of *the Measure of Skill in Supported*

Conversation (Kagan et al., 2004). On this scale, David showed an improvement in his ability

9

to support conversation after the intervention as measured in terms of the percentage of non-overlapping data (PND) statistics (see Saldert et al., 2013 for further details of scoring procedures and results). **This improvement was still present at the follow up stage twelve weeks after the intervention and was also reflected in both participants' reported perceptions of their communication as elicited by adapted versions of the Communication Outcome After Stroke (COAST) questionnaires (Long, Hesketh, Paszek, Booth, & Bowen, 2008; Long, Hesketh, & Bowen, 2009).**

However, while the *MIC* provided generalised evidence of change, it did not provide any information about what particular behaviours had changed or how these changes might or might not be linked to the individualized targets for David that were worked on in the intervention.

In the present study a qualitative analysis of David and Chris' conversations is carried out in order to examine how the dyad's conversations changed in response to the interaction-focused intervention and how this linked to the intervention targets that were worked on with David.

METHOD

Participants' details

Chris (the PWA) and David (her partner) had been a couple for four and a half years (names and personal data have been changed to protect participant confidentiality). They had been recruited to the study through Chris's SLP. Their responses in **the adapted COAST questionnaires (Long et al., 2008; Long et al., 2009) measuring perceived functional communication** before taking part in the intervention showed that they both perceived their conversations as negatively affected by the aphasia and also that they believed that the

behaviour of David could facilitate communication (see Saldert et al. 2013 for details about
the questionnaire).

Chris was in her forties. She had 18 years of education and had worked as a
nurse prior to an infarct in the left middle cerebral artery one and a half years before taking
part in the study. She had been diagnosed with dyslexia as a child but had no previous history
of brain insult or neurological disease. At the time of her stroke she was diagnosed with a
mild-moderate mixed aphasia from results on A-ning, which is a comprehensive Swedish
diagnostic aphasia test (Lindström & Werner, 1995). A more recent assessment performed by
Chris's SLP using only the reading and writing tasks in A-ning, showed impaired reading and
writing at a word level. No further details of these test results were available for the
researchers. Chris' language use in interaction was characterised by agrammatic production of
sentences, word-finding difficulties, and frequent phonemic and semantic paraphasias. In a
measure of word fluency (using test procedures, normative data and scoring standards from
Tallberg, Ivachova, Jones Tinghag and Östberg (2008)) Chris produced seven words starting
with 'F', 'A' or 'S' during one minute for each task (compared to normative results
corresponding to Chris's age and education: 49.0 ± 13.3) and named twelve animals (norm:
27.1 ± 5.4) and four activities (norm: 22.3 ± 6.4). **On the Token test (De Renzi & Vignolo,
1962), a test used for assessment of comprehension which involves pointing to the
correct token (or tokens) out of 20 tokens of different colours and shapes, Chris
discontinued the assessment after performing 24 of the 61 tasks due to finding the test
situation uncomfortable. At the point of discontinuing, Chris had obtained a score of 47
out of 66 on these tasks. On a subsequent test occasion ten weeks later she managed to
continue the test for a longer period of time and to deal with more complicated
instructions for manipulating the tokens, obtaining a score of 169 out of 261, a result
which is still far below normal for her age and education. In conversation, however, her**

11

comprehension appeared to work relatively well. No further examination of Chris' language ability was performed as the intervention programme was focussing solely on the non-impaired communication partner. In conversation, Chris used a mixture of spoken language, gesturing and writing or drawing with her finger in the air or on a table, producing single letters or short words and numbers. A SLP who was engaged in the study as a research assistant and was working with the couple described Chris as being very self-conscious about her aphasia and easily distracted by, for example, noise. Chris was taking care of her two teenage children, and she participated in various daily activities related to her stroke rehabilitation. David, her partner, was also in his forties. He had eleven years of education and worked as a product manager for a company. The SLP in the intervention programme described him as a playful and humorous person. In the recordings, both participants are talkative and lively and their conversations contain joking and laughter as well as expressions of worry and grief related to Chris's aphasia.

Data collection

During the study the SLP who ran the group which David attended visited the couple once a week to collect video-recordings of natural conversation. Three video-recordings were obtained both before and after the intervention, and the findings from these recordings are analysed below. The SLP set up two video cameras, placed to guarantee that both participants' gestures and facial expressions were captured. The couple were instructed to speak to each other as they would usually do. They were also told that they were welcome to be silent for periods if they wished. The couple were then left alone for 15 minutes during the recording. The middle 10 minutes of each video-recording were then transcribed, including non-vocal features, such as gestures and other body movements, as well as talk. This middle

12

section was chosen as it was felt the couple would be less self-conscious of being video

recorded after a few minutes of being recorded.

Aims and intervention for David

The intervention was conducted in a group setting with two men and one woman, **each of**

whom was a significant other of a person with aphasia. The other two participants in the

group were the spouse of a man with a mild-moderate subcortical aphasia and the

spouse of a woman with a severe global aphasia. For each significant other the targets

for intervention were individualized to some extent, with each focusing on a slightly

different set of issues related to their partner's aphasia and the issues it raised for them.

The intervention programme followed the proposed content and schedule provided in the

SPPARC programme (Lock et al., 2001). However, the content for the eight sessions provided

in the resource pack was compressed into six sessions. The intervention was given by the SLP

at the university campus once a week for six consecutive weeks. Each session lasted

approximately 1.5 hours. All three participants were able to participate in five of the six

sessions.

       The SLP, who had support from the project research team during the assessment

and intervention process but had no previous experience or training in analysing or treating

conversational interaction, watched the pre-intervention video-recordings several times

focusing on the aspects of conversations discussed in the *SPPARC:* i.e. trouble sources and

repair, turns and sequences, and topic management/overall conversation. No transcriptions

were made. In relation to David, a number of features were evident. First, in terms of positive

features, it was noted that on occasion David either asked questions to support Chris to find

the correct word when she had a word finding difficulty, or he re-worded what she had tried

to express. In the group sessions, both these behaviours were presented as positive and David was encouraged in a general fashion to continue them.

Three areas of behavior were targeted for change in David's conversations with Chris. One related to pedagogic activities, which David initiated with Chris and which did not appear to be helpful for them interactionally. For example, in one video clip involving David and Chris which the SPL played in the group as part of the intervention for David, David initiated a long correct production sequence (Lock et al, 2001), attempting to cue Chris into the correct production of the target. The long attempt which ensued resulted in both David and Chris losing track of what they had been talking about before David initiated the sequence. Secondly, David was encouraged to stay focused on the conversation and show he was being attentive to Chris when she was trying to say something. This was related to incidents in the video-recorded conversations (shown to David in the group) where, for example, David's lack of attention or distraction could result in him not attending to, or sometimes grasping, the content or emotional 'tone' of what Chris was saying. Third, the pre video-recordings showed that the rate of turn taking was often quite fast, for example, when David provided questions to support Chris to find the correct words. Although the questions were often helpful the fast rate was considered as sometimes preventing Chris from expressing herself. Thus David was also encouraged to allow Chris more time, in particular through his use of response tokens such as 'mm hm', instead of producing a major turn, in order that she could more easily produce her turns and find the words herself.

Thus, for David, the individual aims focused on in the group training were:

1) to reduce his initiation and maintenance of pedagogic activities within conversation;

14

2) to stay focused on the conversation in the form of reducing displays of inattentiveness when Chris was communicating with him;

3) to increase his use of response tokens, such as 'mm hm', in order to allow Chris more time and opportunity to produce her contributions.

In relation to the other two significant others attending the group with David, for one (the spouse of the man with subcortical aphasia) the SLP focused on improving her ability to facilitate the PWA's comprehension, for example, by ensuring that she gained the PWA's attention before giving information and by re-wording questions when needed. In the case of the spouse of the woman with global aphasia, the SLP focused on improving his ability to assist his wife to express herself. This was done by, for example, encouraging the spouse to check his understanding of his wife's contributions, and by facilitating him to be attentive to his wife's facial expressions and other body communication as well as encouraging her to draw.

The intervention for the group members involved administration of spoken and written information about both conversation in general and conversation when one speaker has aphasia. It also involved the group participants watching and discussing video-recorded examples of common problems and strategies in conversations where one participant has aphasia. The examples were Swedish equivalents to the ones provided in the SPPARC video, and the concepts of trouble sources and repair, turn taking and sequences, topic management and overall conversation were discussed as well as strategies and good habits.

From the third to the sixth meeting the participants were shown video-clips with examples from their own video-recordings made before the start of the intervention. The SLP selected extracts which showed behaviours and strategies that she believed were working well and that could be usefully reinforced, and also extracts which showed examples of behaviours

that did not appear to be working well and which the SLP wanted to suggest to the individual

communication partners to change. Strategies were practised in role-plays, and written

exercises were also given as home assignments between sessions.

Procedure of data analysis

Two of the authors (the first and third) analysed the same ten minute long video-recordings

that had been used in Saldert et al (2013), viewing the transcripts as well as the recordings

several times. They performed the qualitative analysis separately as well as together. **These**

analyses informed the comparison of the pre-intervention and post-intervention

conversations which were examined in terms of evidence of change, and, in particular,

change that was linked to the SLP's aims for David in the intervention. Three

interactional behaviours which showed evidence of change were identified and defined. Two

of these were behaviours which were linked to the intervention aims worked on with **David**

i.e. aim 1 (*reduction of pedagogic activities*) and aim 2 (*reduction in displays of*

inattentiveness*). A third behaviour which showed evidence of change was *reduction in***

***dismissive language use*, a behaviour which had not been targeted in the intervention. In**

addition, a third behaviour which had been an aim focused on in the training (*increase*

***use of response tokens*) was also examined but showed no conclusive evidence of change**

to the two analysts. The definitions of these four behaviours were then presented in written

form to the second author (see Appendix 1). The second author, who was blinded to whether

each of the video-recordings she analysed was from before or after the intervention and

whether each behaviour had been found by the two analysts to display change or not, then

analysed the videos and transcripts to check for the frequency of occurrence of these

behaviours. **For this quantitative analysis the second author, in isolation from author one**

and two, then counted each of the four behaviours separately. She first viewed each

16

recording all the way through and then performed the frequency count recording by recording,

followed by a re-count to check her own analysis. Some passages in the recordings were

viewed several times.

When targeted behaviours were reduced but still occurred in the data from the

three conversations obtained after the intervention, the statistical significances of the observed

differences between pre and post results were calculated using randomization analysis. To do

this a simulation method that derives *p*-values by randomly re-ordering observations was used

in accordance to the procedure described by Wood (2012). For example, to determine if post-

intervention time spent in pedagogic activities was significantly less than pre-intervention

time, the dependent variable (seconds in pedagogic activities) was randomly reordered

between before intervention data and after intervention data a specified number of times

(1000 repetitions were conducted). Using the one-tailed test this method was used to calculate

the probability of obtaining the observed difference by chance. Effect sizes were also

calculated, using Glass's delta-index, as recommended by Barker, McCarthy, Jones and

Moran (2011). Delta-index may be related to guide lines for interpretation based on research

using single subject data: Small effect size < 0.87; medium effect size: 0.87-2.67; and large

effect size > 2.67.

ANALYSIS AND RESULTS

The analysis of the three pre- and three post-intervention conversations carried out by authors

1 and 3, indicated that three behaviours had changed following the intervention:

1) there was a reduction in *pedagogic activities*

2) there was a reduction in *displays of inattentiveness* by David

3) there was a reduction in the use of *dismissive language* by David

17

While the first two findings were in line with the aims of the intervention and what had been

worked on with David by the SLP, the third behaviour (reduction in dismissive language) had

not been explicitly focused on in the intervention.

Results from the blinded analysis also showed that David had made significant changes in

these three behaviours (see Table 1). On the other hand, the analysis of David's use of

response tokens, which had also been an aim focused on in the training, showed no change in

the first analysis of authors 1 and 3, and nor did it show statistically significant change in the

quantitative analysis carried out by author 2, although there was a small increase in that type

of behaviour after the intervention (see Table 1).

Table 1 about here

In this section we will discuss each of the three behaviours for which there was evidence of

change. Change in each behaviour will be discussed first in the form of the evidence from the

blinded analysis of frequencies of occurrences of the behaviours, then in terms of the

qualitative analysis of individual examples of that behaviour.

1. Pedagogic activities

The number of pedagogic episodes in David and Chris' conversations reduced from 10 pre-

intervention to three post-intervention, (see Table 1). Notably, there were no occurrences of

prolonged pedagogic sequences after the intervention, compared to eight in the pre-

intervention conversations. 'Prolonged' here is defined as a sequence where David initiates a

pedagogic activity with Chris and then in a subsequent turn produces a behaviour which

continues that pedagogic activity (see Appendix 1). Linked to this, there was a large reduction

in the time spent in pedagogic activities after the intervention compared to before the

intervention (see Figure 1). The calculation with the randomisation test (Wood, 2012),

showed that the difference in time spent in pedagogic activities before (total: 106 seconds)

and after intervention (total: 7 seconds) was statistically significant ($p < .02$). The results

correspond to a large effect size (delta-index = 4.05) according to norms presented in Barker

et al., 2011 (p.161).

Figure 1 about here

The analysis of the interaction and reports from the SLP in the intervention programme

showed that David was very engaged and tried to support Chris in many ways. Taking an

active part in what he saw as a way to improve her language may have been one way in which

he attempted to be supportive of her. David showed a pattern of initiating a particular form of

pedagogic activity. When Chris had trouble finding or pronouncing the words she would

typically try to show what she meant, either by using gestures and pointing, or by writing

letters with her finger on the table. Although this usually made it clear to David what the word

was that she was looking for and was communicating to him, the analysis of the video-

recordings from before the intervention showed that he would often respond by encouraging

her to repeat the item vocally, sometimes giving her the initial sounds of the requested word.

Extract 1, below, is an example of this type of pedagogic sequence (see key to transcript

symbols in Appendix 2; the arrows in the margin direct the reader's attention to key turns by

David in relation to the behaviour under discussion). The pedagogic sequence is initiated by

David and his subsequent actions mean it is prolonged (18 seconds long). Although Chris

takes part in the pedagogic activity to some extent she also declines to go along with it on a

19

few occasions. As the extract starts, the couple are discussing a training machine Chris (C)

wants to buy from a shopping channel, and David (D) is asking about the price.

Extract 1

01		David:	*vad kostar en sån då*
			how much is one like that then
02		Chris:	*en kostar så ((writes '1995' on table))*
			it costs this much ((writes '1995' on table))
03		David:	*nitton nittiofem*
			nineteen ninety five
04		Chris:	*just det*
			that's right
05		David:	*mm*
			mm
06		Chris:	*(ennan)?*
			(ennan)?
07	→	David:	*ettusen*
	→		one thousand
08		Chris:	*eh ja.*

eh yes

09 → David: säg det

→ *say it*

10 Chris: ja

yes

11 → David: *ett-*

→ one-

12 Chris: *ettusen*

one thousand

13 → David: *ni-*

→ ni-

14 Chris: *nitti*

ninety

15 → David: *nie hundra=*

nine houndred=

16 Chris: *=ja kan det ((*makes writing gesture on the table*))*

=I know it ((makes writing gesture on the table))

17 *i huvet så jag* ⌈*g-* ⌉

in my head so I ⌈ w-⌉

18 → David: ⌊*ja* ⌋*säg det jag vill att du ska säga det*

→			⌊yes⌋ say it I want you to say it

19 Chris: *så* ⌈*((writes '1 9' on table))* ⌉

like this ⌈((writes '1 9' on table)) ⌉

20 → David: ⌊*ja ettusen* ⌋

→ ⌊yes one thousand ⌋

21 Chris: *ja*

yes

22 → David: *nio* ⌈*hundra ni- ti- f-* ⌉

→ nine ⌈hundred nin- ty- f-⌉

23 Chris: ⌊*hundra nitti* ⌋*fem ja*

⌊hundred ninety ⌋five yes

24 *kosta den jag (0.5) har sett en lite bättre maskin (0.5)*

it cost I have seen a little bit better machine (0.5)

25 kostade lite mera

it cost a little bit more

In line 02 Chris responds to David's question about the price of the training machine by

writing the figures '1995' on the table with her finger. The price is one thousand nine hundred

and ninety five Swedish crowns but David reads it aloud in line 03 as 'nitton nittifem*'*

('nineteen ninety five'). Chris at first confirms this in line 04, but then seems to wonder

whether David got it right as she produces a paraphasic utterance with a questioning inflection

in line 6. David responds to this in line 07 with the word 'ettusen' ('one thousand') which was

missing in his utterance in line 03, and Chris seems to be content with that as she confirms

with a falling intonation in line 08. However, David makes clear in line 09 with the directive,

'säg det' ('say it') 'that he wants Chris to produce vocally the number she has just written. In

line 11 and 13 he prompts Chris in this vocal production by providing the first syllable of each

of the word or phrase he wants Chris to produce. There is evidence in this extract, however,

that although Chris goes along with some of these pedagogic prompts, she does not

straightforwardly wish to engage in this prolonged pedagogic activity. For example, after

Chris produces 'nitti' ('ninety') and David corrects her to 'nie hundra' ('nine hundred), Chris

does not go on to repeat this corrected form but instead states that she knows the word and

gestures as if writing it (line 16). David, however, does not go along with this hint that Chris

wishes to stop the pedagogic activity and pursues his attempt to make her produce the number

vocally (line 18). Again Chris resists this attempt to make her say the number, instead writing

the start of the number again while saying 'så' ('like this'). David then starts to say the whole

number again, perhaps as a prompt for Chris to repeat it (lines 20 and 22). Whether this is the

case or not, Chris does not repeat it but instead vocally completes the end of the number being

produced by David (line 23) before closing down the pedagogic activity by quickly moving

on to talk about the machine (lines 23 and 24).

Extract 2 provides another example of David initiating this type of pedagogic

sequence. Here, Chris is telling David about activities in her knitting class, and when she has

trouble with accessing the relevant word ('socka' ('sock')) she instead shows David what she

means by putting her foot on the table and pointing to her sock (line 1) while saying 'jag visar

de istället' ('I'll show you instead') (line 02).

Extract 2

01   C: att ehm: sticka en (2.5)

              to ehm: knit a (2.5)

02   ((starts to raise right foot to tabletop))

03   hh jag visar de istället

              I'll show you instead

04   ((traces finger over sock and ankle))

05 → D: å va är det för nånting då

    →   *and what is that then*

06   C: .hh hih (1.2) jag kan det (.) ibland kan jag ⌈det ⌉

              .hh hih (1.2) I know it (.) sometimes I know⌈*it* ⌉

07 → D: ⌊s::tr-⌋

08   (1.0)

09   C: st:rum:, (0.3) °pa°

              st:ock:, (0.3) °ing°

24

10   →   D: eller so-

      →   *or so-*

11   (0.4)

12   C: socka

                sock

13   D: socka

          D: *sock*

14   C: socka har jag

                sock I have

Even though it seems clear that David knows what Chris means here (and indeed this

becomes evident in lines 05 and 07) he still asks her in line 05 to produce the word vocally. In

line 06, Chris accounts for her inability to say the word. As she is saying this, David prompts

her with the first sounds of a possible target word ('st-' for 'strumpa' ('stocking')) which she

then produces. In his next turn, however, David then prompts her for the word 'socka'

('sock'), which she then produces (line 09). While Chris here goes along with the pedagogic

activity initiated by David, at least eventually, this pedagogic activity does not appear to be

helpful interactionally, as it highlights her difficulty in saying a word when she has already

communicated the meaning of this word to David.

25

How does the reduction in pedagogic activities in the post-intervention conversations captured by the quantitative analysis display itself in actual episodes of conversation? One way in which qualitative analysis of the data can highlight the non-occurrence of a particular behaviour is to examine environments of possible occurrence (Schegloff, 1993) where that behaviour may be expected to occur but, at least in some cases, does not. Such an example is seen in Extract 3 (and see Wilkinson et al, 1998, for a similar example of an environment in which a pedagogic activity was initiated prior to intervention but where such an activity is not initiated after this behaviour has been targeted in the intervention). Extract 3 starts similarly to Extract 2 not only in that Chris has difficulty in accessing a word and shows the referent to David instead, but also in that the problematic word is the same i.e. 'socka' ('sock'). In this post-intervention conversation, however, David refrains from initiating a pedagogic sequence. Instead he responds by producing the word as part of an acknowledgement that Chris had told him this information before. As such, he displays here that he understood what Chris was communicating:

Extract 3

01   D: ah just det (0.5) va stickar du få för nånting då

           yeah that's right (0.5) so what are you knitting then

02   C: a: eh: liten *((puts foot up on the table and strokes foot with hand))*

           a: eh: little ((puts foot up on the table and strokes foot with hand))

03 → D: just det socker e det ja

    →   *that's right socks it was*

2. Displays of inattentiveness

The analysis of the conversational interaction from before the intervention showed that David was on occasion inattentive towards Chris during conversation. The blinded assessor marked six occurrences of inattentiveness **in the three ten minutes video-recordings** obtained before the intervention. We will describe one example here to display an example of what forms David's inattention or distraction took. In Extract 4, from a pre-intervention conversation, David's phone rings while Chris is in the middle of trying to tell him about a trouble she has had in that she has not been able to sleep during the day as much as she would have liked (line 01). Although the phone was on silent mode, David chooses to pick it up (line 02). As he does so Chris continues to talk. Her talk is marked with evident word finding difficulties and one way in which this is displayed is that rather than simply saying how long she slept for, she starts to use her fingers and count aloud to find the relevant number (lines 01 and 03). As she is doing this she looks up at David and finds that he is occupied with the phone. Despite Chris not having finished her turn and evidently having more to say, she falls silent. David does not display any awareness that she has stopped talking (which could, for example, be a cue for him to assist her to finish her turn) and a four second silence ensues as David continues to look at his mobile phone (lines 03 and 04). David then (line 05) starts speaking to Chris about the phone call (while continuing to look at the phone rather than at her). The topic then shifts to the phone call rather than Chris's sleeping as David continues to talk about the phone call (lines 06 and 07) and Chris joins in with this, albeit minimally (line 08). It is only several turns later (not shown here) that the topic returns to Chris' sleeping patterns and then it is because it is Chris who returns to the topic.

Extract 4

01   C: jag ⌈sov eh: eh: sen eh: *((looks down at her hands, counting fingers))* en två

27

I ⌈*slept eh: eh: then eh: ((looks down at her hands, counting fingers)) one two*

02 → D: ⌊*((picks up and then looks at his mobile phone))*

03   C: ⌈ *((looks up at David))* tre (0.5) fyra (4.0)

       ⌈ *((looks up at David)) three (0.5) four (4.0)*

04 → D:
       ⌊*((David looks at his mobile phone))*

05 → *((looking at phone display))* ja känner inte igen det numret

   → *((looking at phone display)) I don't recognize this number*

06 → jag svarar sen (.) det är inte mäklarn i alla fall e det inte så de e han får lugna sig (.)

   → *I'll answer it later (.) it's not the realtor anyway it's not so it's he has to calm down (.)*

07   *((looks at Chris))* det kanske är från de andra husen vi har titta på   ⌈vet du ⌉

       ((looks at Chris)) it might be from the other houses we've been looking at⌈*you know*⌉

08   C: ⌊ja   ⌋

                                                                                  ⌊ *yes* ⌋

There was no evidence of displays of inattentiveness by David in the post-

intervention conversations. It could be argued, of course, that this change might be due, at

least partly, to there happening to be no potentially distracting events occurring around David

in the post-intervention conversations. However, perhaps the issue is better viewed in terms of

what David chose to allow himself to be distracted by at the expense of paying attention to

Chris; in Extract 4, for instance, it is notable that David chose to look at his mobile phone and

answer the call even though his phone was on silent and would not by itself have disrupted the

conversation.

3. Dismissive language

Analysis of Chris and David's pre-intervention conversations showed that, despite Chris's word finding difficulties, the couple often had an interactional style that was characterised by a rapid speech tempo and joking and laughter. David used expressions that appeared to be meant to be heard as a kind of affectionate teasing. On occasion, however, this teasing took the form of language which could have been heard as dismissive of Chris and her abilities (for example as a talker/conversationalist). The blinded assessor marked four occurrences of dismissive language by David towards Chris in the 30 minutes of interaction that was video-recorded before the intervention. One example of the use of dismissive language is displayed in Extract 5. Here, Chris and David are sitting by the kitchen table and are having a conversation about how Chris once made a presentation at work similar to the presentation David now is planning to do at his work. Prior to this extract, a prolonged pedagogic sequence had been initiated by David when Chris had trouble finding the Swedish word 'liknande' ('similar'), and had mistakenly instead produced the word in English. Immediately prior to the start of this extract the pedagogic activity has just finished as Chris, prompted by David, has produced the correct Swedish word. Following this long pedagogic activity, however, both have forgotten what the topic of their conversation was prior to the pedagogic activity.

Extract 5

01   C: jag kunde ne- jag kun- glömde av eh: när jag pratade

                 I could no- I cou- forgot eh: when I talked

02   (2.0)

03   D: va sa du glömde du av

                 what did you say did you forget

04   C: eh: jag glömde av jag pratade med (.) jag pratade med nånting

eh: I forgot I talked to (.) I talked to something

05 D: mm

     mm

06 C: jag glömde av <u>vad</u> jag pratade ⌈med⌉

     I forgot <u>what</u> I talked ⌈*with*⌉

07 D: ⌊de ⌋gjorde jag också

              ⌊*I* ⌋*did too*

08   jag bara fokusera på 'similar' och   ⌈liknande ⌉

     I was just focusing on 'similar'(in English) and ⌈*liknande* ⌉

09 C: ⌊ja ((laughs)) ⌋

               ⌊*yes* ((*laughs*))⌋

10 D: jag kommer inte ihåg vad de var

     I don't remember what it was

11 D: ⌈(men eh:) ⌉

     ⌈ *(but eh:)* ⌉

12 C: ⌊just ⌋⌈de- hh *((smiling))* ⌉

     ⌊ *that's* ⌋⌈ *ri-.hh ((smiling))* ⌉

13 → D: ⌊ja   ⌋ja skit- .hh det var nog inget viktigt

  →   ⌊*yeah*   ⌋*yeah shit- .hh it probably wasn't anything*

14 → D: ändå *((drinks from cup))*

  →   *important anyway ((drinks from cup))*

15 C: mm ((*lowers her head and looks down, eyes averted from D.)*)

     mm ((lowers her head and looks down, eyes averted from D.))

16   ⌈(2.5)

17   ⌊*(C. maintains posture of lowered head, looking down, eyes averted from D)).*

18 D: *((puts coffee cup down))* å:h

19   (3.0)

20   D: (är ju tillbaka) till det där automatkaffet man blir helt kass ju

(is back) to that machine coffee you feel really crap

David's comment in lines 13-14 '*ja ja skit det var nog inget viktigt ändå'* ('yeah yeah shit it probably wasn't anything important anyway') could be perceived by Chris as him having a dismissive attitude towards her, implying that whatever she was talking about before she got entangled in the word search was probably not important. In response to this comment from David, Chris' reaction is notable. She lowers her head and looks down, with her eyes averted from David and maintains this over a few seconds as the conversation lapses (lines 15-17). Chris' appearance of falling silent, perhaps as a reaction to Chris' comment, continues and it is David who first speaks again (line 18) and who, after a long silence (line 19), directs the topic of the conversation in a new direction (line 20).

There were no occurrences of dismissive language in the video-recordings obtained after the intervention. This change is interesting since the issue of David's use of dismissive language was not explicitly focused on in the intervention and its reduction was not an aim of the intervention. It may be that this apparent reduction is an artefact of data sampling i.e. that while there were no occurrences of dismissive language by David in the post-intervention conversation samples compared to four in the pre-intervention conversations, this may be simply because his continuing use of dismissive language was not captured within the 30 minutes of post-intervention conversational data collected. At the same time, however, it could be hypothesized that the same increase in awareness by David that led to a reduction in other 'unhelpful' behaviours such as pedagogic activities and displays of inattention also led to a reduction in this behaviour. One feature of the intervention that may also be relevant is that David was shown this section of the video recording in the group when the SLP has focusing on the pedagogic behaviour that immediately preceded it. As such, he

31

may have been alerted to this aspect of his behaviour even though it was not explicitly

discussed in the group or targeted by the SLP.

CONCLUSION AND DISCUSSION

While many interaction-focused intervention studies have involved the therapist working with

the PWA and the significant other together as a dyad (Wilkinson et al., 1998; Burch et al.,

2002; Wilkinson et al., 2010; Wilkinson et al., 2011; Beeke et al., 2011) this study adds to the

smaller number of studies (e.g. Booth & Perkins, 1999; Booth & Swabey, 1999; Lock et al.,

2001) where intervention involved the therapist working with the significant other in the

absence of the PWA. The intervention for the significant other was delivered as part of a

group intervention for three people who were each significant others of people with aphasia.

From analysis of pre-intervention videoed conversations between the significant

other (David) and the PWA (Chris), three behaviours of David's were targeted for change.

These were: 1) that he should reduce his initiation and maintenance of pedagogic activities; 2)

that he should reduce his displays of inattention towards Chris; and 3) that he should increase

his use of response tokens such as 'mm hm' instead of producing an major turn in order to

allow Chris more time and opportunity to produce her contributions. Post-intervention, there

was a marked reduction in pedagogic activities in the conversations, with a statistically

significant difference in the time spent engaged in these activities. There was also a reduction

in the number of episodes where David displayed inattention to Chris while she was

communicating with him, declining from six in the pre-intervention conversations to zero in

the post-intervention conversations. There was less evidence of success in relation to the third

aim. While David's use of response tokens did increase in the post-intervention conversations,

this change was not statistically significant. One other behaviour of David's that showed

evidence of change after the intervention was his use of dismissive language to Chris, decreasing from four episodes in the pre-intervention conversations to no episodes in the post-intervention conversations. This change is notable since this behaviour was not targeted in the intervention.

The targeting of pedagogic behaviour and its subsequent reduction seen here is reflected in other intervention-focused therapy studies (e.g. Wilkinson et al., 1998; Turner & Whitworth, 2006). The significant other's initiation of, and engagement in, pedagogic activity can be viewed as a form of interactional adaptation (Wilkinson et al., 2011). That is, it can be a type of behaviour which s/he was not engaging in in any significant way before their spouse/family member/friend became aphasic, but instead has emerged in response to that person now being aphasic, typically in an attempt to assist the PWA. While it need not always be treated as problematic and as a target of intervention, it often is if there is evidence that it is proving unhelpful, particularly as evidenced in the behaviour of the participants themselves (e.g. the PWA reacting with a display of negative emotion such as upset or embarrassment). While pedagogic activity has gained the most attention as an unhelpful, or maladaptive, behaviour by the significant other, it is notable that in this study there was a reduction in two other unhelpful behaviours, that of displays of inattention and the use of dismissive language. In these cases it does not seem that these behaviours were examples of adaptation; rather, they would appear more likely to be the types of behaviours which David engaged in with Chris prior to the onset of aphasia as part of his style of talking with her. Such behaviours, which may have been unproblematic before the onset of aphasia, can become problematic now that the spouse/family member/friend is aphasic. In Chris and David's case, for instance, David's displays of inattention meant that he might not be concentrating sufficiently at a particular moment in order to grasp what Chris was attempting to convey despite her word finding difficulties and lexical errors. Similarly, while his dismissive language and teasing of Chris

may have been unproblematic before Chris became aphasic, such issues may be more problematic now given the imbalance of power between them, particularly in relation to communication (which, for example, his dismissive language in Extract 5 was concerned with). Such issues are not unique for dyads where one person has a communication disorder; it is a common problem addressed in family therapy, for example in interactions between parents and children (Weiner, Kuppermintz, & Guttman, 1994).

Such issues would appear to have a particular relevance for aphasia intervention in general and communication partner training in aphasia in particular. It has been suggested (Wilkinson et al., 2010) that one reason why it is useful for the therapist to collect data of conversations between the PWA and his/her main communication partner(s) is that it allows maladaptive or unhelpful behaviours by a communication partner to be uncovered and treated. This treatment may be important for dealing with behaviours that are potentially hindering successful language production or communicative functioning by the PWA and/or affecting his or her psychosocial wellbeing. Such a view gives communication partner training (here in the form of the PWA's significant other) a central role in aphasia therapy and does not separate it out from these other forms of therapy. While the focus here has been on working to remove or lessen the occurrence of unhelpful behaviours by the significant other, it is also possible to create change by facilitating the significant other to add behaviours to their interactional repertoire for dealing with aphasia (Wilkinson et al., 2011).

In the study reported on here the evaluation of possible change involved a mixed methods approach combining in-depth qualitative analysis with quantitative analyses. CA is primarily a qualitative approach and does not lend itself straightforwardly to quantification of data and statistical analyses of that data (Schegloff, 1993). However, as the use of CA to target, implement and evaluate intervention for aphasic conversation continues to increase, the use of quantitative

analyses within these studies to supplement the qualitative analysis is gradually growing in quantity and sophistication (Wilkinson & Wielaert, 2012). In this study, a quantitative frequency count was carried out by an independent, blinded assessor. While intra- and inter-rater reliability results would have been useful to include and would have strengthened the findings presented here, this was not possible within the scope of the present study.

In this study both the intervention and the pre- and post-intervention assessments focused on the particular behaviours of the individuals in the study. This is in contrast to studies where neither the intervention nor the pre- and post-assessments are individualised (e.g. Kagan et al., 2001) and studies where the intervention may be individualised but the outcome measures are not (e.g. Saldert et al., 2013). Assessments using broad, global categories can be extremely useful, not least for ease of use by the researcher or clinician. However, they may also have drawbacks, such as not being sensitive to relatively small (but potentially very meaningful) changes in behaviour and not allowing the researcher/clinician to examine which behaviours (if any) have changed and how these changes link to the individualised targets worked on in the intervention. **The results presented in this paper constitute findings arrived at by drawing on the method of CA and on prior work in that tradition. As reported above, these data have previously been investigated in terms of evidence for change following intervention by drawing on other analytic approaches as constituted principally by the MIC and a questionnaire measuring participants' perceptions of their functional communication (Saldert et al., 2013). In both this and the earlier Saldert et al (2013) study evidence of change was found. While being beyond the scope of the present paper, it would be interesting in future work to compare these different forms of analysis of the same data in more detail. Such a comparison may disclose features of the relationship between a scale such as the**

MIC on the one hand, with its focus on more overarching issues of communicative success and failure as judged by a rater, and a CA analysis on the other, focusing primarily on individual behaviours of the participants and participants' own responses and reactions to these behaviours.

Finally, it can be noted that there are features of this intervention study that make it more time- and labour-efficient than some similar studies and, as such, make this approach more likely to be used by in a clinical setting, where time and other resources are regularly limited. One is that the intervention was carried out as part of a group intervention for significant others of people with aphasia, which is likely to be more efficient for a therapist than treating **the individual dyads separately**. The second is that the study was carried out without transcription of the conversational data, which can be a time consuming enterprise. Rather, transcription (for example the extracts presented in this paper) was carried out after the study by the research team for research and publication purposes. **Thirdly, in the intervention described here the eight sessions of intervention outlined in the SPPARC (Lock et al., 2001) were condensed into six 1.5 hour sessions. It was felt that the shortening of the length of the intervention might be beneficial for younger participants such as David who had to find the time to participate while still working. How long this type of intervention has to be in order to create change is a question for further research.**

REFERENCES

Bandura, A. (1986). *Social Foundations of thought and action. A social cognitive theory*. New Jersey: Prentice Hall.

Barker, J., McCarthy, P., Jones, M., & Moran, A. (2011). *Single-Case research methods in sport and exercise psychology*. London: Routledge.

Beeke, S., Maxim, J., Best, W., & Cooper, F. (2011). Redesigning therapy for agrammatism: initial findings from the ongoing evaluation of a conversation-based intervention study. *Journal of Neurolinguistics*, 24, 222 - 236.

Booth, S., & Perkins, L. (1999). The use of conversation analysis to guide individualised advice to carers and evaluate change in aphasia: a case study. *Aphasiology*, 13(4/5), 283-304.

Booth, S., & Swabey, D. (1999). Group training in communication skills for carers of adults with aphasia. *International Journal of Language and Communication Disorders*, 34, 291-310.

Burch, K., Wilkinson, R., & Lock, S. (2002). A single case study of conversation-focused therapy for a couple where one partner has aphasia. *British Aphasiology Society Therapy Symposium Proceedings 2002*. British Aphasiology Society: London (pp. 1-12).

De Renzi, E. & Vignolo, LA. (1962). The Token test: a sensitive test to detect receptive disturbances in aphasia. *Brain*, 85, 665-678.

Eriksson, K., Bergström, S., Carlsson, E., Hartelius, L., Johansson, C., Schwarz, A., & Saldert, C. (In press). Aspects of rating communicative interaction: Effects on reliability and agreement. *Journal of Interactional Research in Communication Disorders*.

Fukkink, R.G., Trienekens, N., & Kramer, L. (2011). Video Feedback in Education and Training: Putting Learning in the Picture, *Educational Psychology Review*, 23, 45–63

Gardner, R. (2001). *When listeners talk: Response tokens and listener stance*. Amsterdam: John Benjamins Publishing Co.

Heritage, J., Robinson, J., Elliott, M., Beckett, M. & Wilkes, M. (2007). Reducing patients'
unmet concerns in primary care: the difference one word can make. *Journal of General
Internal Medicine* 22(10), 1429-1433.

Heritage, J. & Robinson, J.D. (2011). "Some' vs 'Any' Medical Issues: Encouraging Patients
to Reveal Their Unmet Concerns.' In Charles Antaki (ed.), *Applied Conversation Analysis:
Changing Institutional Practices.* Basingstoke: Palgrave Macmillan.

Hopper, T., Holland, A., & Rewega, M. (2002). Conversational coaching: Treatment
outcomes and future directions. *Aphasiology, 16*(7), 745–761.

Kagan, A. (1998). Clinical Forum: Supported conversation for adults with aphasia: methods
and resources for training conversation partners. *Aphasiology,* 12(9), 816-830.

Kagan, A., Black, S., Duchan, J. F., Simmons-Mackie, N., & Square, P. (2001). Training
volunteers as conversation partners using "Supported conversation for adults with aphasia"
(SCA): A controlled trial. *Journal of Speech, Language, and Hearing Research, 44*, 624–638.

Kagan, A., Winckel, J., Black, S., Duchan, J. F., Simmons-Mackie, N., & Square, P. (2004).
A set of observational measures for rating support and participation in conversation between
adults with aphasia and their conversation partners. *Topics in Stroke Rehabilitation*, 11(1), 67-
83.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and
development*. Englewood Cliffs, NJ: Prentice-Hall.

Lindström, E., & Werner, C. (1995). *A-ning - Neurolingvistisk Afasiundersökning*.
Stockholm: Ersta högskola - Ersta utbildningsinstitut.

38

Lock, S., Wilkinson, R., & Bryan, K. (2001). *Supporting partners of people with aphasia in relationships and conversation (SPPARC): Resource pack*. Bicester, UK: Speechmark Publishing Ltd.

Long, A. F., Hesketh, A., & Bowen, A. (2009). Communication Outcome after Stroke: A new measure of the carer's perspective. Clinical Rehabilitation, 23, 846–856.

Long, A. F., Hesketh, A., Paszek, G., Booth, M., & Bowen, A. (2008). Development of a reliable, self-report outcome measure for pragmatic trials of communication therapy following stroke: The Communication Outcome after Stroke (COAST) scale. Clinical Rehabilitation, 22, 1083–1094.

Neander, K & Engström, I. (2009). Parents' assessment of parent-child interaction interventions – a longitudinal study in 101 families. *Child and Adolescent Psychiatry and Mental Health*, 3(8).

Saldert, C., Backman E., & Hartelius, L. (2013). Conversation partner training with spouses of persons with aphasia: A pilot study using a protocol to trace relevant characteristic. *Aphasiology*, 27(3), 271-292.

Schegloff, E. A. (1993). Reflections on quantification in the study of conversation. Research on language and Social Interaction 26: 99-128.

Schiffrin, D. (1988). Conversation analysis. I: F.L. Neumayer (Red.), *Linguistics: The Cambridge survey IV. Language: The sociocultural context, s.* 251–276. Cambridge, U.K.: Cambridge University Press.

Simmons-Mackie, N., Raymer, A., Armstrong, E., Holland, A., & Cherney, L. R. (2010). Communication partner training in aphasia: A systematic review. *Archives of Physical Medicine and Rehabilitation*, 91, 1814–1837.

Tallberg, IM., Ivachova, E., Jones Tinghag, K., & Östberg, P. (2008). Swedish norms for word fluency tests: FAS, animals and verbs. *Scandinavian Journal of Psychology*, 49, 479-485.

Togher, L., Power, E., Tate, R., McDonald, S., & Rietdijk, R. (2010). Measuring the social interactions of people with traumatic brain injury and their communication partners: The adapted Kagan scales. *Aphasiology*, 24(6-8), 914–927.

Turner, S., & Whitworth, A. (2006). Clinicians' perception of candidacy for conversation partner training in aphasia: How do we select candidates for therapy and do we get it right? *Aphasiology*, 20(7), 616-643.

Weiner, A., Kuppermintz, H., & Guttman, D. (1994). Video Home Training (the Orion Project): A Short-Term Preventive and Treatment Intervention for Families with Young Children. *Family Processes*, 33, 441-453.

Wilkinson, R. (2010). Interaction-focused intervention: a conversation analytic approach to aphasia therapy. *Journal of Interactional Research in Communication Disorders*, 1, 45-68.

Wilkinson, R., Bryan, K., Lock, S., Bayley, K., Maxim, J., Bruce, C., Edmundson, A., & Moir, D. (1998). Therapy using conversation analysis: Helping couples adapt to aphasia in conversation. *International Journal of Language & Communication Disorders*, 33, 144-149.

Wilkinson, R., Bryan, K., Lock, S., & Sage, K. (2010). Implementing and evaluating aphasia therapy targeted at couples' conversations: a single case study. *Aphasiology*, 24(6-8), 869-86.

Wilkinson, R., Lock, S., Bryan, K., & Sage, K. (2011). Interaction-focused intervention for acquired language disorders: Facilitating mutual adaptation in couples where one partner has aphasia. *International Journal of Speech-Language Pathology*, 13(1): 74–87.

Wilkinson, R., & Wielaert, S. (2012). Rehabilitation Targeted at Everyday Communication: Can We Change the Talk of People With Aphasia and Their Significant Others Within Conversation? *Archives of Physical Medicine and Rehabilitation*, 93 (Suppl 1), 70-76.

Woods, M. (2012). *The Randomization test (or shuffle test). [Electronic resource]*. Retrieved from http://woodm.myweb.port.ac.uk/stats/ShuffleTest.pdf

APPENDIX 1

Definitions of the four behaviours in the conversational interaction assessed by the blinded

rater in video-recordings from before and after the intervention.

1. Pedagogic activity: An interactional activity where the communication partner (CP)
   makes relevant a response from the person with aphasia (PWA) of a linguistic item
   (e.g. a word or answer) and where the CP already knows that response. Examples
   include test questions (questions to which the questioner already knows the answer) or
   cueing the PWA in order that they complete the word or phrase. A prolonged
   pedagogic sequence is where the CP initiates a pedagogic activity in relation to the
   PWA and then in a subsequent turn produces a behaviour which continues that
   pedagogic activity.

2. Inattentiveness to content or emotional tone in PWA's contributions displayed in CP's
   comment not being adapted to tone or by left out responses from the CP: CP seems to
   have missed information PWA has given, prioritises other activities over responding
   to PWA, or does not seem to notice that PWA is trying to say something. Or in
   response to PWA contributions expressing, for example, sadness, disappointment or
   worry, the CP's response is not reflecting that he has noticed that she is expressing
   information about how she feels about something. That is, his response is not adapted
   to the tone, or he does not comment on how she may feel.

3. Dismissive word choice that reflects a disrespectful attitude towards PWA or content
   in PWA's contributions: CP uses words or ironic expressions, sometimes in
   combination with prosody and/or faces that may be interpreted as expressions of a
   dismissive attitude towards PWA or what PWA is expressing.

42

4. Response tokens, as described by Gardner (2001), including minimal responses like yes/no, that's right, okey, aa, mm, hum, ahm, aha, exactly, nods, head shakes etc. as well as laughter and smiles.

APPENDIX 2

Key to transcription symbols

(0.7)   Numbers in parentheses indicate silence in tenth of second

(.)   Silence shorter than 0.5 seconds

.hh   Audible in-breath

:   Prolong*ed speech sound*

=   *Binds together utterances from tw*o different participants with no interval

              between.

.   Falling intonation

?   Rising intonation

<u>words</u>   Underline indicates emphasised word or syllable

 [words]   Start and end of overlapping talk or other event

(words)   Words in single parentheses indicate uncertain transcription

((words))   Words in double parenthesis are non-verbal contributions or other event

wor-   A dash at end of word marks a cut off word
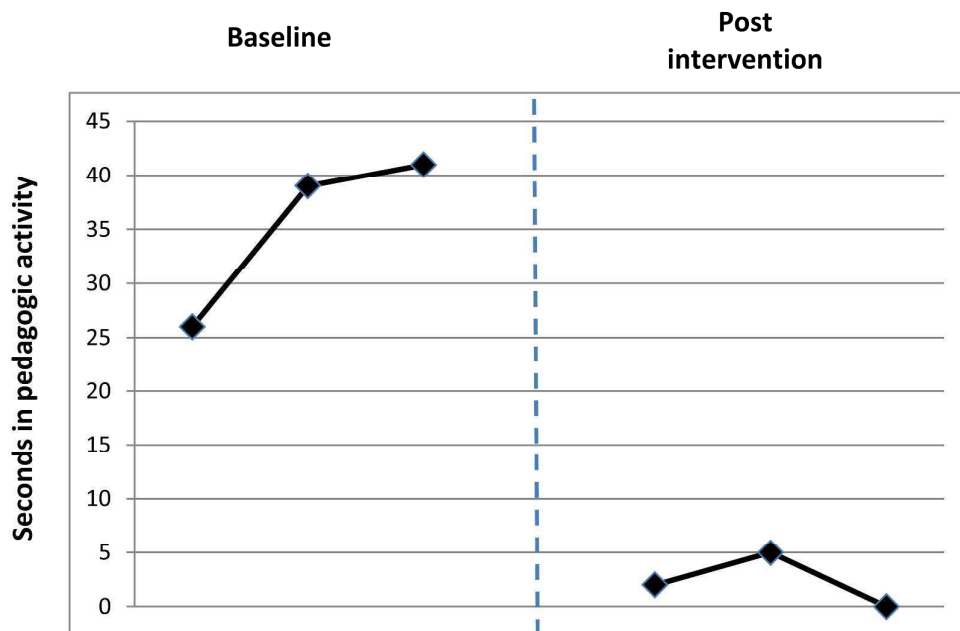
44

1
2
3   Table1
4
5
6   TABLE 1: *Frequencies of behaviours that were assessed: (1a-c) Number of occurrences of*
7
8   *pedagogic activities and number of prolonged pedagogic sequences as well as time in seconds*
9
10   *spent in pedagogic activities including requests for vocalised production (prompting); (2)*
11
12   *number of occurrences of displays of inattentiveness; (3) number of occurrences of dismissive*
13
14   *language; and (4) percentage of response tokens used by David in the pre- and post-*
15
16   *intervention conversations.*
17

	Pre-intervention conversations			Post-intervention conversations		
	Pre-1	*Pre-2*	*Pre-3*	*Post-1*	*Post-2*	*Post-3*
Conversational behaviour:						
1a) Pedagogic activity[1]	3	2	5	1	2	0
	Total pre-intervention: 10			Total post-intervention: 3		
1b) Prolonged pedagogic activity[1]	2	2	4	0	0	0
	Total pre-intervention: 8			Total post-intervention: 0		
1c) Time in pedagogic activities[2]						
	26	39	41	2	5	0
	Total pre-intervention: 106			Total post-intervention: 7		
2) Displays of inattentiveness[1]	3	1	2	0	0	0
	Total pre-intervention: 6			Total post-intervention: 0		
3) Dismissive language[1]	1	2	1	0	0	0
	Total pre-intervention: 4			Total post-intervention: 0		
4) Response tokens[3]	25	40	34	53	36	56
	Total pre-intervention: mean = 33			Total post-intervention: mean = 48		

46

Notes: [1] Number of occurrences; [2] Time in seconds of ten minutes of interaction; [3] Relative frequencies of contributions confined to response tokens as a percentage of all David's responses, irrespective of context. Thus this includes response tokens produced as feedback during Chris's turns as well as minimal responses by David to Chris (e.g. in response to questions).

Figure 1.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

FIGURE 1: Number of seconds spent in pedagogic activities in video-recordings obtained before (at baseline) and after intervention.

49

Footnote

[1] Within this area, the terms "communication partner" and "conversation partner" appear

to often be used interchangeably (as is also the case with related terms such as

"communication partner training" and "conversation partner training"). In this paper for

ease of reference we will mainly use the terms" communication partner" and"

communication partner training".