

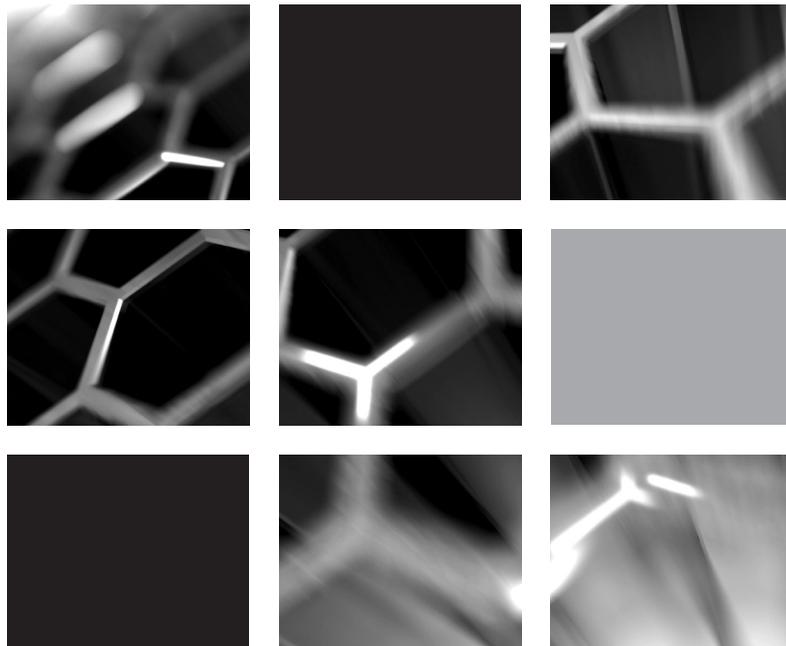


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Adult style: What helps to facilitate interaction and communication with children on the autism spectrum?

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Editorial comment

Melanie Wilkinson, a Specialist Speech and Language Therapist, sought to explore the effects of changing the interactive style of teaching staff when working with children on the autism spectrum. The study was part of her Masters degree, supervised by Dr Mary MacAteer. Melanie worked with staff in an all-age special school for children with autism and learning disabilities. Studies have shown that the way we interact with children on the autism spectrum can either facilitate or inhibit their social communication and a number of key principles have been identified which are thought to be good practice. The first part of the paper is written by Melanie and explains the details of the intervention (adult-child interaction training), how the study was set up, and its theoretical underpinning. The second part of the paper, written by both Melanie and Mary presents and discusses the findings from the project and makes recommendations for practice and future studies. It provides a framework against which to consider adult style and encourages readers to explore this further in their own settings.

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Acknowledgements

Introduction

This paper reports on a speech and language initiative (adult-child interaction training) undertaken in a school for pupils, aged 4–19 years, who were on the autism spectrum or who had related communication conditions. The pupils at the school have a wide range of learning needs and communication abilities. They vary from those who are functioning at a pre-verbal level, using very early forms of communication such as gesture, objects of reference (Park, 2002) or photographs to communicate, through those children who may have some speech but need an augmentative system of communication such as the Picture Exchange Communication System (PECS) (Bondy and Frost, 1994), 'Signalong' (Kennard et al, 1992), or a voice output communication aid (VOCA), to those pupils who are highly verbal but have difficulties in using speech and language socially to communicate with others. The approach has been used with pupils of all ages and abilities across the school.

Adult-child interaction training: the therapist's adaptation

For the last five years, I have used my own adaptation of a recognised therapeutic approach, 'Parent-child Interaction Training' (Kelman and Schneider, 1994) to train staff in our school to be able to use a 'facilitative style of interaction' with pupils (Mirenda and Donnellan, 1986). Calling it 'adult-child interaction training' was one of the ways in which I, as Communication Team leader, was trying to create an 'enabling communication environment', as described by Potter and Whittaker (2002).

Originated by Kelman and Schneider (1994), this approach was developed further by Cummins and Hulme (1997) and consists of a 'hands-on' course with an individual adult and child where video is used to give feedback over six sessions. Video is used a tool for self-reflection and the role of the therapist is to work in partnership with the adult member of staff to give supportive and realistic feedback, highlighting the adult's strengths, the main purpose being for the adults 'to leave the room

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feeling better about themselves’ (Cummins and Hulme, 1997, p 3).

Details of the sessions

Session	Content
Week 1	
Session 1	Video taken of the adult working with a child/
Week 2	
Session 2	Therapist supports adult in completing self-rating scale (see Appendix 1 for the scale).
Session 2	Adult chooses ONE of the 11 strategies to work on over the next week (eg strategy 8).
Session 2	Adult videoed for five minutes using the strategy (8) with the child during the session and given feedback by the therapist. Adult to use the strategy (8) for five minutes a day until the next session.
Week 3	
Session 3	Adult videoed for five minutes using the strategy (8) during the session and given feedback by the therapist.
Session 3	Video evaluated by therapist and adult and decision made either to continue working on the strategy or to choose another one from the list of 11.
Session 3	Adult videoed for five minutes using the strategy (8) during the session and given feedback by the therapist. Adult to use the strategy (8) for five minutes a day until the next session.
Weeks 4 and 5	
Sessions 4 and 5	Continue as for Session 3.
Session 6 a TERM LATER	Final video taken of the adult with the child and the adult then self-rates themselves on the rating scale of 11 strategies.
Session 6	Scores on the pre and post ratings are compared and the initial video from Session 2 might be viewed.

Why use this approach to train staff?

The benefits of using a facilitative style of interaction in developing the communication skills of children with autism are widely reported (Mirenda and

Donnellan, 1986; Quill 1995; Bogdashina, 2005; Charman and Stone, 2006; Prizant et al, 2006), particularly for those children who are more limited in their ability to respond to or initiate joint attention (Wetherby, in Charman and Stone, 2006). Aldred et al (2004) report on a range of evidence that shows that the communication signals of a child with autism are typically weak and often poorly timed and how this draws parents into a didactic and controlling style of interaction, with more adult initiations and non-reciprocal communications between adult and child. If this is the case for parents of young children with autism, it seemed to me that the effect may be even greater in a school setting where the culture and emphasis is on teaching. In addition to promoting the structured teaching of communication skills using interventions which are adult-directed and behavioural in approach (eg PECS, Bondy and Frost, 1994; TEACCH, Schopler and Mesibov, 1995), I use adult-child interaction training, a child-centred, or developmental approach, (with similarities to Intensive Interaction, Nind and Hewett, 1994; Special Times, developed as a communication intervention by Cockerill, 1996 from the work of Carr-Gomm et al, 1985; and Proximal Communication, Whittaker, 1996) to train teachers and teaching assistants in how to use a more facilitative or ‘non-directive’ style of interaction with pupils in their everyday practice.

Theoretical underpinning of the study

Although there is a growing body of evidence in the literature that training parents of young children with autism in the use of naturalistic behavioural teaching techniques can improve the children’s social communication skills, there is little comparable evidence about what methods are effective in training educational staff in this style of interaction. The evidence with parents ranges from single case designs (eg Buffington et al, 1998; Hwang and Hughes, 2000; Hancock and Kaiser, 2002), to a longitudinal follow-up study (Siller and Sigman, 2002) and a small number of randomized controlled studies (Drew et al, 2002; Aldred et al, 2004; and McConachie et al, 2005).

Both Aldred et al (2004) and McConachie et al (2005) use video to train parents and they report significant changes in the adults’ use of interaction strategies as a result of these interventions with positive benefits for the children. The preliminary study of Aldred et al. (2004) which is currently being followed by a large scale controlled study, the PACT (Pre-school Autism Communication Trial, in progress) is particularly of interest to me, as it has

significant similarities with adult-child interaction training. These authors acknowledge that additional school liaison may be useful 'in the future to improve generalisation' (Aldred et al, 2004, p 1427).

Non-directive approaches such as Intensive Interaction (Nind and Hewett, 1994) have been used in schools, but there is no mention in the literature of using video to train school staff in this approach. Learning Language and Loving it, the Hanen Program for Early Childhood Educators is a video-based training package for groups of teaching staff which teaches early years educators to facilitate children's social, language and literacy skills during everyday interactions, but unlike the Hanen parent programme (evaluated by McConachie et al, 2005), it has not yet been adapted for the teaching staff of children with autism.

Finally, the original 'Parent-child interaction training' approach (Kelman and Schneider, 1994) that I based my course of adult-child interaction training on, has been used by other speech and language therapists to train adults who are not parents (eg Weeks, 2004; Bishop and Hulme, 2008), but again the children involved were not on the autism spectrum.

Evaluating the adult-child interaction training

The aim of the evaluation was to gather reliable and valid evidence from a variety of sources and multiple perspectives to evaluate the efficacy of this training course. It was important that any claims made in relation to the study were strong enough to support particular recommendations, and could, as such, be made with integrity.

To this end, an evaluative case study was designed, drawing on a range of data sources such as rating scales (which included adult self-rating scales before and after training, and post training feedback forms) video recordings of two adults at key points in their training sessions, interviews with the same two adults receiving training, supplemented by a reflective research log and diary completed by Melanie in her capacity as trainer. In addition, a range of relevant literature was reviewed to inform thinking and the interpretation and analysis of data. Data collection took place over an eight-month period from mid to late 2008, and was followed by a period of close analysis.

Analysis of the data

Collation and analysis of the data occurred as followed. The rating scales from 18 previous adult

participants generated a set of pre- and post-indicators which allowed an initial broad judgment to be made about the effectiveness of the training. Simple numeric scores on both the self rating forms, and the feedback forms provided an initial measure of perceived effectiveness. In addition, feedback forms provided some qualitative data in the form of open-ended comments about trainee's perceptions of effectiveness, and their feelings about having taken part in the training.

Originally, the video recordings of the training sessions for two new adult participants were to be subject to a close observational analysis using a process similar to that of the Flanders Interaction Category Analysis (FIAC) (Flanders, 1970), specially adapted by Melanie for the purposes of this study. The analysis was to be done by both the trainer (Melanie) and two other professionals (another speech and language therapist and a specialist teacher) for comparative purposes. These videos were taken in March 2008 while the adults were waiting for the training, in May 2008 at the beginning of their training, at the end of June 2008, when they had completed their weekly sessions of training and again in September 2008, at the post course evaluation session.

However, the pilot of this method of data analysis threw up a range of issues regarding both inter-rater agreement, that is, agreement about the analysis of one video between different observers, and intra-rater agreement, that is, the agreement between the analyses carried out on the same video by the same observer at different times. Instead of using this method then, a fully qualitative approach was adopted, where the two other professional observers were asked for their perceptions about the adults' use of the strategies in the videos, using the same rating scale (see *Appendix 1*) used by the participants at the beginning and end of the training. They were also asked for their open-ended comments about the interaction they observed in the videos. It should be noted that the observers worked independently from each other and that they were given the videos in random order with no information about the point at which the videos had been taken in the adult's training.

The interviews, research diary and the rating scales were analysed using a grounded approach (Strauss and Corbin, 1998), specifically modelled on the method used by Goldbart and Marshall (2004; 2007). A form of 'quasi-quantitative' analysis was used to analyse the pre-and post-course self rating scales.

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Key findings of the study

Following data analysis, it became apparent that the key outcomes of this study related to changes in the adults' behaviours. these the first three points below for more details on this). and changes in the pupils' behaviours (see point 4 below). Changes in adults' behaviours were noted by both the adults themselves and by observers. Changes in the pupils' behaviours were likewise noted by both the adults and the observers. Further, as detailed in point 5 below, it was found that the training was particularly effective in supporting the development of specific core strategies.

Analysis of the 18 previous participants' self-rating scales from before and after the training showed that while they differed in the magnitude of the change that they noticed in their use of the strategies taught on the course, they all noticed an improvement.

Even though the observers were unaware of which stage in the study specific videos had been taken, they rated the adults' overall use of the facilitative strategies in the videos as follows: the same in March as in May, that is, when no intervention had taken place, but markedly better in June after the training sessions and again in September at the post-course evaluation sessions. The observers' ratings of the videos also closely matched the adult participants' own self-ratings carried out in May and September.

From the interviews with the two adults at key points in their training and from the researcher's reflective log, there was a shared perception of positive changes taking place in the adults' skills in interacting with the pupils from the beginning to the end of the course. The interviewees also talked about changes in the quality of interaction, and reported specific changes in their level of directiveness and the development of two-way interaction with the child. These participants also said there were wider benefits to their practice, including benefits to other pupils in their classes. For example, one said:

'I feel a lot more confident now, interacting with not just X, but with any other child.'

Although the focus of the study was to evaluate what changes, if any, this training made to the adults' style of interaction with pupils, the two adults who were interviewed during the training also expressed the view that there were positive changes in the children's skills from the beginning to the end of the course. For example, one said:

'I think he's coming to me more and he's communicating with me more spontaneously.'

This was also echoed in the comments made about the videos by the observers, who noticed in the videos taken after training, that pupils were initiating interaction more frequently or were more actively engaged in the session with the adult.

In relation to the actual strategies used, it was evident from all the data sources that the same strategies were mentioned repeatedly. Analysis of the rating scales for the 18 previous participants suggested that there might be six or seven of the 11 strategies which are core to adult-child interaction training, which are typically under-used by adults and which the training is most effective in changing. Looking at the data generated from the observations of the videos, interviews and the therapist's reflective log, there was strong agreement about the progress made on five of the 'core' strategies. Overall, the findings seem to suggest that adult-child interaction training is particularly successful in developing adults' use of three main strategies:

- 'waiting for the child to start the communication.'
- 'showing that I'm listening by repeating or responding.'
- 'commenting on what the child is doing.'

These stem from the more basic strategies of:

- 'following what the child wants to do with the toys,'
- 'letting the child choose the toy.'

These five strategies resonate strongly with the key strategies reported in the literature to be beneficial in developing the communication skills of children on the autism spectrum (Koegel and Koegel 1995; Quill 1995; Sherratt, 2005; and Prizant et al, 2006).

A key theme from the participants' point of view, found in both the comments on the rating scales and in the interviews, and also picked up in the researcher's reflective log was anxiety about being videoed. For most participants this was reported as being quite high at the beginning of the course but lessened during the course, with many adults commenting afterwards about the benefits of video for their learning. However, for one of the two adults interviewed, their anxiety about being filmed remained high even at the end of the training.

Limitations of the study

Whilst the development of a tool for the detailed analysis of the videos, with a high level of agreement between observers, proved too big a task for this preliminary study, as it would have required a lot more time for collaboration between the observers than was available, it would seem that such a tool would significantly enhance and strengthen the study. Other authors are developing methods for coding parent-child interactions with young children with autism (Aldred et al, 2004; Ruble et al, 2008) but Ruble et al (2008) reflect that more research needs to be done to develop clinically useful and friendly tools for this.

Concluding comments

The 'fuzzy predictions' (Bassey, 2001) that might be drawn from this study are as follows – that in a similar school for pupils with autism and learning disabilities, adult-child interaction training might be useful in promoting the use of a less directive and more facilitative style of interaction by teaching staff. In a similar setting, progress might be evidenced by both a change in the adult's own perceptions about their skills in interacting with pupils, as well as being discernible to outside observers.

In many ways this study could be seen as a scoping study into the efficacy of using this approach with staff working with pupils in an educational setting, which has gathered sufficient evidence in favour of its use to justify a more detailed study in the future. However, there is a cautionary note from the findings of this study. The ethical issues raised throughout this project were considerable and required careful handling. A key theme from the participants' point of view, found in both the comments on the rating scales and in the interviews, and also picked up in the researcher's reflective log was anxiety about being videoed.

Prosser (in Simons and Usher, 2000, p 131) writes about 'the moral maze of image ethics' and describes how the use of video, although allowing participants to see themselves and reflect on their practice (precisely the aim of this training), can also 'displace previously established self-images' and therefore has the potential to cause pain to teachers, caught 'looking in the mirror' in this way, if the process is not handled sensitively. The fact that one participant's anxiety about being videoed remained quite high even at the end of the course, suggests this type of training might not be suitable for all and that the way consent for this training is gained needs to be considered carefully.

Finally, it is worth noting that the biggest challenge to the therapist's thinking during this project came from the research design. At the outset, the aim was to combine the best aspects of social sciences case study design (Yin, 2003) with aspects of a more empirical model of research which is prevalent in speech and language therapy as a profession and which is also currently being promoted in the field of autism, for example, Reichow et al (2008) who conclude:

'In principle, the arrangement of identifying educational practices based on scientific evidence is admirable: using scientific evidence to inform practice should increase the likelihood of providing effective treatments.' (p 1317)

However, in the end, a key finding of this study was that when the researcher embraced a fully qualitative approach to data collection, asking the observers for their perceptions about the videos, rather than carrying out a detailed analysis of each video, this qualitative method provided powerful evidence for the efficacy of adult-child interaction training. In particular, despite the observers' lack of knowledge about what stage the adult was at in their training, their ratings of the videos clearly identified progress and were strongly in agreement with how the participants rated themselves before and after the course. It is hoped that sharing the results of this study might encourage others to engage in this sort of small scale 'practitioner research' as described by Burton and Bartlett (2005) in their own settings based on a qualitative model.

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Appendix 1: Self-rating scale for staff

Name of child:

Name of staff member:Date:.....

Parent/carer self-rating scale

Please think about the following statements and rate yourself along the scale

No	Strategy	Never	Sometimes	Often	All the time
1	Letting him choose the toy.				
2	Following what he wants to do with the toys.				
3	Sitting where he can easily see me.				
4	Waiting for him to start the talking /communication with words, sounds, gestures or looking at me.				
5	Giving him extra time to talk/communicate – using deliberate pauses.				
6	Showing him that I'm listening, by repeating or answering him, or responding non-verbally to his communication.				
7	Commenting on what he's doing.				
8	Not asking him questions.				
9	Praising him.				
10	Talking slowly enough for him to understand me.				
11	Using language that is simple enough for him to understand me.				

Adapted from the Early Years SLT Team, Islington NHS Primary Care Trust for use at xxxxxxxx School, by Melanie Wilkinson, 2004.