An evaluation of the impact of teaching on therapists' clinical practice

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Abstract

This paper will provide a summary of the methods of training evaluation used by the Michael Palin Centre to evaluate the effectiveness of their National Teaching Programme in the management of children who stutter (CWS) for generalist and specialist therapists. We will discuss Kirkpatrick's Four Level Model (1994) of evaluation and the processes undertaken to improve the robustness of the data collected. It will focus on two of our core training courses for Under 7s who stutter and 7 to 14 year olds who stutter and will discuss the retention of participants' skills in terms of knowledge and confidence reflected in six month post questionnaires and the impact of the transfer of skills on therapists' clinical practice.

1. Introduction

There is considerable evidence that speech and language therapists (SLTs) lack confidence in their knowledge and skills in the management of fluency disorders (Cooper & Rustin, 1985; Crichton-Smith, Wright and Stackhouse, 2003). Given this finding, the Michael Palin Centre for Stammering Children (MPC) recognised the need for training in stuttering and its management for SLTs and has been running a National Teaching programme since 1993. Feedback questionnaires have been used routinely to inform the development of these courses.

It is important for the MPC to evaluate the effectiveness of these training courses and to provide evidence of the effect they have on SLTs' knowledge and confidence in managing children who stutter and in particular on the longer term impact on day to day clinical practice.

Since 2005, we have been using Kirkpatrick's Four Level Model (1994) to guide the evaluation process and to improve the robustness of the data collected.

Level 1 (reactions) measures participants' immediate reactions to training. This is the most frequently used level of evaluation. Kirkpatrick suggests this is the minimum level required to evaluate and improve training. In their simplest form, level 1 questionnaires measure how much participants like the training. Kirkpatrick suggests that while a positive reaction does not guarantee learning, a negative reaction almost certainly reduces its possibility.

Level 2 (learning) ascertains the extent to which participants have advanced in skills, knowledge or attitude. This is achieved using pre-course and post-course questionnaires.

Level 3 (transfer) aims to find out whether participants' behaviour changes as a result of new learning. Ideally Level 3 evaluation is conducted three to six months post-training. Kirkpatrick states that participants typically score positively on post-course questionnaires, however more important than this is whether the new knowledge and skills are retained and transferred to the work setting.

Level 4 (results) measures success in business in terms of increased production, sales or bigger profits. Kirkpatrick suggests that evaluation should begin with level 1 and move sequentially through the levels as time and budget allows.

In 2006 the results of a six-month post course questionnaire designed specifically to identify changes in knowledge, confidence and clinical practice over the medium term were presented (Botterill, Biggart & Cook, 2006). These results represented the beginning of a process of refining the questionnaires we routinely use in line with Kirkpatrick's model.

We now have pre, post and six-month post course questionnaires that are required at level three in Kirkpatrick's model. This presentation will describe the development of these questionnaires and the results of the data we have collected. We will report on quantitative changes to levels of knowledge, confidence and clinical practice and qualitative changes to clinical practice.

2. Levels of evaluation

Botterill, Biggart and Cook (2006) described the implementation of Kirkpatrick's (1994) Four Level Model of training evaluation in some detail. At that time, Level 1 evaluations were routinely collected at the end of every training course to gather participants' reactions to course content and delivery. A total of 194 forms were received from participants who attended ten separate training courses countrywide for the Under 7s who stutter between 2004 to 2005. 84% of participants rated the style and content of the presentations as excellent and 82% rated the usefulness of the course as excellent. A total of 164 forms were received from participants who attended ten separate training courses for 7-14s who stutter in the same time frame. All of the participants rated the style and content of the presentation and the usefulness of the training as very good or excellent at the end of three days.

At that time no pre-course data had been collected that would enable the authors to evaluate learning at Level 2, however a pre-course questionnaire was implemented from then on.

In order to evaluate the retention and transfer of skills at Level 3, Kirkpatrick suggests asking participants to comment three to six months after the training course. In response to this, the MPC constructed a more in depth questionnaire, table 1. Questions were designed to reflect the objectives we identified for the three-day training courses for working with Under 7s and 7-14s who stutter. The first nine questions were about the extent to which the course met their needs in terms of their knowledge of the various topics (e.g. research, a multi-factorial model of stammering, risk factors, assessments for this age group, treatment approaches, outcome measures and care pathways). The second six questions were about the extent to which a course met their needs in terms of their confidence in assessing CWS, making clinical decisions, and treating this age group. All these questions were rated on a five point scale, where 1 is not at all, 2 is somewhat, 3 is moderately, 4 is mostly and 5 is totally.

This questionnaire also asked participants one question specifically about whether the training had led to changes in their clinical practice which was rated on a similar five-point scale. Questionnaires were then sent out to managers of therapy teams where we had delivered training between 2004 to 2005. We contacted 20 teams, and there was an average of 20 participants on each training course. We received 38 questionnaires from SLTs who had attended the Under 7s training and 25 from SLTs who had attended the 7-14s training. The results were analysed by calculating the percentage of participants who rated the questions with a score of 1, 2, 3, 4, or 5. The questions were grouped under participants' knowledge of the topics covered, their confidence in their ability to use these skills in assessing and treating CWS and finally how much the course had changed their clinical practice.

More than six months post training in the management of CWS under 7, 70% of participants rated their needs as met mostly or totally in terms of their knowledge and their confidence with a further 25% rating their needs as met moderately. Furthermore, nearly 75% rated the course as having changed their clinical practice between moderately and totally (3, 4, 5).

For the 7-14s courses the picture was more spread. 55% of participants rated their needs as met mostly or totally for knowledge and 50% for confidence, with a further 25% and 35% respectively rating their needs as met moderately. In terms of clinical practice 90% rated the course as changing their practice between moderately and totally (3, 4, 5).

3. **Retention and transfer of skills**

Initial results about changes in clinical practice six months post training indicated that between 75% to 90% of participants rated their clinical practice as changed between moderately and totally for the Under 7s and 7 to 14s courses respectively. Qualitative comments gave an indication of what difference the training had made to services. These included comments about clearer clinical decision making, ease of prioritisation, transfer of skills learned to other settings, increased confidence in working with parents, clearer care pathways, better team decision making and the effectiveness of therapy methods.

Naturally, the authors were interested to find out more about these changes to clinical practice and so a more in-depth questionnaire was designed in 2007-2008. This questionnaire kept the first set of questions in table form about participants' knowledge and confidence ratings in order to evaluate the retention of skills, but developed the themes about changes in clinical practice to evaluate the transfer of skills, table 2.

This evaluation of teaching impact questionnaire was sent out to participants who had attended one of the seven courses for Under 7s between 2006 to 2007 or one of the six courses for 7 to 14s between 2006 to 2007. In total we received 23 completed forms about the Under 7s courses and 9 completed forms for the 7 to 14s courses. The rather low return rate might reflect the length of time since participants had attended, staff turnover and busy working lives. However the forms that were returned provided some informative data.

4. **Results**

Quantitative data

As previously, results were analysed by calculating the percentage of participants who rated the questions with a score of 1, 2, 3, 4, or 5. The questions were grouped under participants' knowledge of the topics covered and their confidence in their ability to use these skills in assessing and treating CWS in the two age groups. More than six months post training in the management of CWS under 7, 94% of participants rated their needs as met moderately to totally in terms of their knowledge and confidence, table 3, and for the 7 to 14s courses 99% rated their needs met moderately to totally in terms of knowledge and confidence, table 4.

An analysis of the clinical impact results for the Under 7s courses indicated that 90% of participants rated the changes to their clinical practice with CWS as met moderately to totally (3, 4, 5); 77% of participants rated the changes to their clinical practice with other clients groups as met moderately to totally and 85% of participants rated the changes to their clinical decision making with clients who stutter as met moderately to totally, table 5.

An analysis of the clinical impact results for the 7 to 14s courses indicated that 100% of participants rated the changes to their clinical practice with CWS as met moderately to totally (3, 4, 5), 71% of participants rated the changes to their clinical practice with other clients groups as met moderately to mostly, 85% of participants rated the changes to their clinical decision making with clients who stammer as met moderately to totally, table 6.

Qualitative data

Alongside the quantitative data shown in the tables above, many qualitative comments were submitted to support the data.

For the Under 7s courses participants made numerous comments about changes in their clinical practice with CWS. These comments reflected certain themes: the implementation of care pathways; the usefulness of a multifactorial assessment; clinical decision making about the use of direct or indirect intervention; increased independence and confidence in managing clients who stutter; the helpfulness of Palin PCI; working more effectively with parents and the possibility of adapting techniques for other clients, appendix 1. Participants also commented on the difference the training made to their work with other client groups, appendix 2, indicating that certain skills and frameworks were transferable. Finally, participants commented on the ways that their clinical decision making had changed after the course, appendix 3.

For the 7 to 14s courses participants made numerous comments about changes in their clinical practice with CWS. Again, their comments reflected certain themes: heightened knowledge of assessment and therapy outcomes; increased confidence; the beneficial use of family communication skills (FCS), effects on care pathways and service delivery, appendix 4. Participants made comments about transfer of skills to other client groups, appendix 5, and changes in their clinical decision making, appendix 6.

5. Discussion

Since 1995 we have been steadily improving our evaluation of the National teaching programme and updating it in light of feedback. Whilst Level 1 evaluation (reactions) has been used routinely for many years, we needed to make changes to include Level 2 (learning) and Level 3 (transfer) evaluation. The results from these latest questionnaires showed that 94% and 99% of participants rated their knowledge and confidence about working with under 7s and 7 to 14s who stutter respectively as moderate to total six months or more after completing the training. This indicates that the new knowledge and skills are retained. This is an important aspect of Level 3 evaluation since satisfaction with training needs to extend beyond the initial impressions at the end of a course.

Results from the new part of the questionnaire about changes to clinical practice indicate that the teaching makes a difference to everyday clinical practice. For the Under 7s courses 90% of participants rated the changes to their clinical practice with CWS as met moderately to totally (3, 4, 5) and for the 7 to 14s courses 100% of participants rated the changes to their clinical practice with CWS as met moderately to totally (3, 4, 5). Certain themes recurred during the qualitative analysis about the impact of the teaching and will be discussed in turn.

Service delivery

Participants commented on how the teaching provided them with a framework for their clinical practice. They commented on the usefulness of care pathways to guide them from referral through treatment to discharge and indicated that instead of reviewing and monitoring clients who stutter over a long period of time they were surer of when to intervene, how to intervene and when to refer onwards. Some participants said they were intervening earlier which may be helpful given the findings about early intervention. It seemed that participants thought that they had been enabled to adopt a more unified approach to working with clients who stutter and that they were more consistent in their approach, but also that the skills they had acquired were transferable to working with other client groups such as children with speech and language difficulties too.

Clinical decision making

Participants commented that they found it helpful to use the theoretical underpinnings of the multifactorial model, current research about risk factors and the profile of vulnerability to guide their clinical decision making. Overall they thought that their confidence in making decisions had increased, they were better equipped to choose a suitable approach and that they had choices about what to implement. They commented specifically on the types of therapy introduced, Palin PCI and Family Communication Skills (FCS) and on their ability to choose when to take a more direct approach.

Therapist skills

Participants gave numerous examples of the difference that the training had made to their levels of confidence and their clinical effectiveness. This included being able to work with older clients who stutter, with other client groups and working effectively with parents. They said they were more effective in empowering parents rather than taking the expert role and that they were using a more solution-focussed approach to problem-solving. There were specific comments about being better equipped to manage their own caseload independently, in being more consistent in their management and more knowledgeable about assessment and therapy outcomes. Overall several participants said that they were more enthusiastic about working with clients who stutter and were enjoying their work more.

Further improvements have been made to the training courses as we have continued our evaluation during 2008. A new course on direct speech management for school aged children who stutter has been introduced following feedback that SLTs wanted more direct teaching about speech modification ; the age ranges of our courses have been changed in line with school-based models of service provision to cover therapy for pre-

school children, therapy for primary age pupils and therapy for secondary age pupils; the number of participants has been increased per course from 25 to 40 to enable greater numbers to access our training and to keep training costs lower, and we have piloted free training for SLTs across Britain as a response to the restrictions on training budgets nationally. We will report on these changes in 2009.

Level 4 (results) measures success in business in terms of increased production, sales or bigger profits. In the future we may develop evaluation at this level to explore the cost effectiveness of training and its benefits to service delivery.

References

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Crichton-Smith, I., Wright, J. & Stackhouse, J. (2003) Attitudes of speech and language therapists towards stammering: 1985 and 2000. *International Journal of Language and Communication Disorders, 38*: 213-34.

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TABLES

Table 1: Format of part of the questionnaire

How much did the course meet your needs in terms of your knowledge about:					
	Not at all 1	Somewhat 2	Moderately 3	Mostly 4	Totally 5
A multi-factorial model of stammering?					
Current research in stammering?					
Assessments for CWS aged 7-14 ?					
Family Communication Skills Therapy (FCS)?					

Table 2. Evaluation of teaching impact questionnaire

	Not at all 1	Somewhat 2	Moderately 3	Mostly 4	Totally 5
How much has the teaching we provided changed your clinical practice with children who stammer?					
If so, how?					
If not, is there a reason?					
How much has the teaching we provided changed your clinical practice in working with other client groups?					
If so, how?					
If not, is there a reason?					
How much has the teaching we provided changed your clinical decision making for stammering clients?					
If so, how?					
If not, is there a reason?					

	Yes	No
Have you implemented anything new as a result of our teaching?		
If so, what?		
	Yes	No
Has it made a difference?		
If so, how?		

Table 3. Under 7s training: individual questions

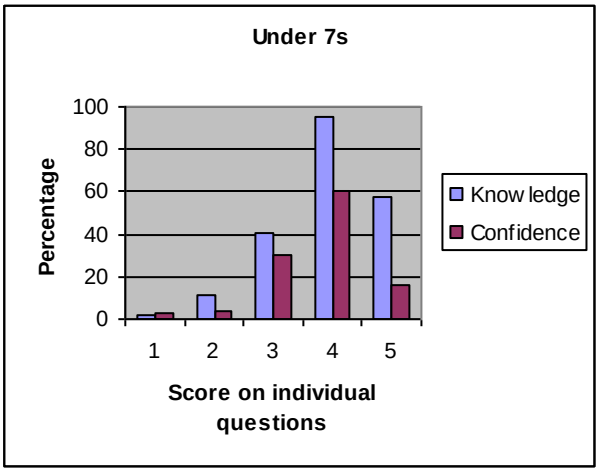


Table 4. 7 to 14s training: individual questions

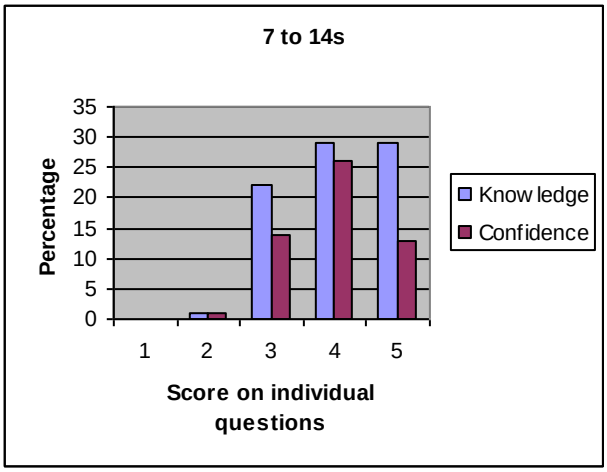


Table 5. Under 7s training: Clinical impact ratings

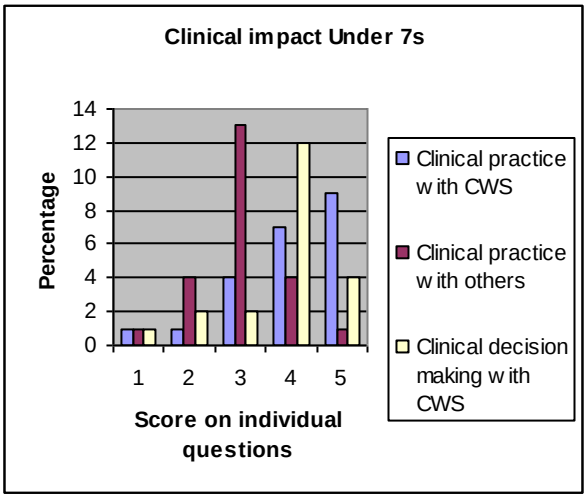
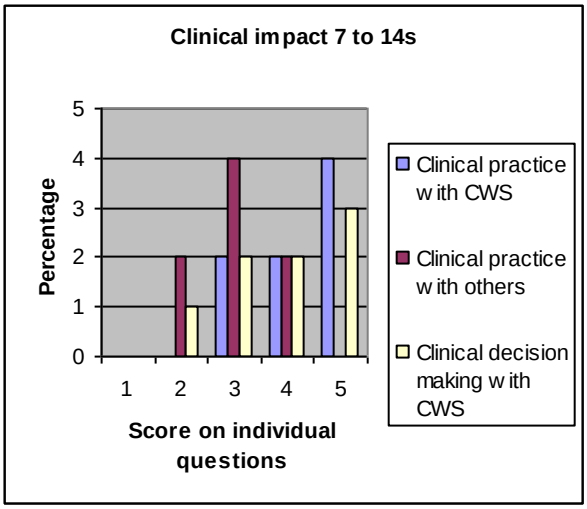


Table 6. 7 to 14s training: clinical impact ratings



APPENDICES

Appendix 1
Qualitative changes in clinical practice with Under 7s who stutter
(How much has the teaching we provided changed your clinical practice with CWS)

- I feel more confident taking a case history as I feel I know what I am talking about more. I also feel I know more about the different options for therapy which are out there
- With regards to assessment at first point of contact with SLT service in Drop in clinics
- Use the care pathway we discussed
- The course provided me with a wider range of assessment and management techniques for this client group and has improved my informed clinical decision making with families to decide on the appropriate technique for their child
- I have now developed a care pathway based entirely on this MPC approach and use only your materials. Prior to this I used a variety of strategies and a much less consistent approach
- I now use PCI as an initial therapy option in most cases
- We now use Palin PCI ethos and techniques for all of our under 7s who stammer across the department
- Able to use PCI as first "line of attack" where previously there was a gap between direct approach and "monitoring"
- I now provide assessment and intervention including PCI for children under 7 who stammer. The training has also informed my practice for working with older children
- I'm now doing PCI instead of leaving it to more experienced clinicians!
- I know much more about stammering now and different approaches available. I am able with parents to choose an approach that suits them and will hopefully be beneficial

- I feel more confident in what I am assessing in the child and when feeding back to parents I am confident in what I say as I feel I have a more in depth understanding of dysfluency
- I now feel able to offer an effective service that I am confident in and have the ability to promote good strategies with those children who do not respond to the 'usual' therapy inputs
- Focus more on the interaction between parents and children – also more confident working with older children who stammer
- It has given me the confidence to identify those children who require direct intervention and those who only need 'parent packs'. Using Palin PCI has changed my focus so much onto the communication between parent and child. I have found myself using PCI principles more in general, not just with the stammering population as I have realised how powerful it can be in changing communication styles. All the parents I have used it with have really enjoyed it and really felt the benefit
- Increased confidence. Use of model to explain 'complex situation' to parents. Positive PCI work.
- I have begun to work independently using PCI therapy with pre-school children
- I have been able to adapt the techniques for children with early language difficulties
- I use video with all of my clients initially. I use Lidcombe less frequently and find I'm now doing hardly any fluency shaping techniques with clients on my caseload. I think I'm doing more intervention earlier so where I may have done monthly sessions and used Demands and Capacities framework with families to look at environmental changes and then used slow talking or Lidcombe I'm doing a block of more intense PCI input in the first instance
- Implement PCI before working directly on speech management techniques
- Understanding of research about risk factors and providing appropriate advice

Appendix 2

Qualitative changes in clinical practice with other client groups after Under 7s training

(How much has the teaching we provided changed your clinical practice in working with other client groups)

- I think I'm more confident in applying the principles to other client groups now. I do ask clients to tell me "What went well this week?" rather than "How did it go?" I've found clients aren't always more positive but tend to give more information. Hardly anyone says just "fine!" One new change has been in the models I use for training others. I now use the Multifactorial Model rather than the Demands and Capacities model and I've found that families and practitioners find this easier to understand.
- Use a more solution focussed approach and try to focus on what is working rather than what is wrong
- More confidence and knowledge to use PCI with language delayed children
- I have taken some of the ideas and the recommended reading and used it with language kids
- Suggesting behavioural approaches and PCI strategies for other difficulties, such as attention and listening problems and language delay
- I'm more aware of the pressures that parents and others put on children, so can address this more specifically and confidently if needed
- I have been using five minute special times and video taping children with delayed language skills
- Use principles of PCI
- Combine knowledge of PCI with Hanen for language delayed children
- We use parent work shops which have something of a PCI approach
- I have been able to incorporate some of the strategies with the children I see for different reasons. They have responded well to the introduction of the approaches
- I now routinely advise use of special times for many speech and language difficulties in children under seven
- It links well with helping parents develop PCI for early language development. The video analysis and interview skills were relevant when running Hanen courses
- I have used PCI information as a framework to sessions not only with children who stammer but young children who have language difficulties and supportive work is required with parents
- I have used the principles from <u>How to talk so kids will listen and listen so kids will talk</u> (by Faber and Mazlish) with many of my cases and our department has purchased a few of these to lend to parents
- I often give advice based on PCI to the families of children with a language delay, and I think very differently about language work in general. I also try to use SFBT techniques and a more positive approach, focusing on empowering families rather then being the 'expert' when possible
- I do lots of PCI work and now tend to focus on increasing what they are doing well rather than focussing on what's not going well
- I feel as if I listen to parents more and encourage them to come up with the targets therefore empowering them. That is the most important thing I feel I have taken from the teaching provided
- I am more aware of listening to parents and 'facilitating' discussion rather than leading it
- I feel better offering advice re behaviour management
- I have used the strategies with children with reduced language skills

- Introducing parents to their own ability to problem-solve and allowing them to find solutions. Introducing praise more directly to parents

Appendix 3
Qualitative changes in clinical decision making after Under 7s training
(How much has the teaching we provided changed your clinical decision making for stuttering clients?)

- I'm more confident in deciding who to offer intervention to right away and who to watch and wait. This has led to an increase in the number of clients I feel like I'm offering therapy to. I have recently needed to give more advice to generalist SLTs and have found the assessment framework and summary sheet helpful in supporting these decisions.
- More confident to signpost to suitable provision now and also to delay/ stop/ discharge from therapy
- I am now happier with clinical decision making, and knowing what's appropriate at different ages
- I still find it helpful to liaise with other colleagues, but I feel confident to suggest interventions for all my clients who stammer
- I've some idea of what to do now!! I no longer dread a stammering review appointment. I feel more aware of the issues that need addressing and the questions that I need to be asking
- I feel I am now more knowledgeable in this area and this has shown in my decision making
- Introduced me to some behavioural management ideas although not in sufficient detail for me to use them without doing further reading
- I now have more options and more knowledge of those options
- More aware of options for SLT input. Able to tailor more to specific needs
- More confident in recognising when to refer on to the dysfluency team
- I now feel much more confident in my clinical decision making with regards to children who stammer. I know where to go to find help if I need it and this empowers my whole process of decision making
- Profiling children using the high/medium/low worksheet is invaluable. Also, an increased knowledge of risk factors for persistence always guides my decision making
- Yes, focusing on rate of speech for example
- The course has enabled me to discuss ideas jointly with the family more effectively and make clinical decisions based on feedback from the discussions held in the sessions
- I am so much more confident about my decisions now that I am more aware of evidence. As a team of SLTs we are now prioritising stammering referrals so that we can deal with them quickly and appropriately
- I always use the profile of vulnerability with Under 7s and based on this either offer advice, the parent pack or PCI. Previously I had no clear way of determining who would receive what kind of therapy, and was not confident in deciding whether or not direct therapy was appropriate
- In particular, working on phonology of a child who has a mild dysfluency (previously I would not have done so)
- I have to follow the care pathway set out by my trust, however, I am currently seeing children and parents who I feel would benefit from PCI therapy
- I am more confident about which families I feel would benefit from PCI therapy and look for risk factors
- I know slightly more about the options available

Appendix 4
Qualitative changes in clinical practice with 7 to 14s who stutter
(How much has the teaching we provided changed your clinical practice with CWS)

- It has given the service a unified approach to use for stammering in this age group. I found the direct work helpful and have used this.
- Use care pathway we discussed
- Looking at all aspects of the child's life….using multifactorial approach and including the family…. Assessing all language skills.
- Revised care pathway
- I now feel I am more knowledgeable about outcomes and approaches to use with this age group
- I have been nervous to work with this client group, and this course gave me practical skills to use and I felt equipped with tools and approaches to tackling problems. In our area the family communication skills has been difficult to use with only one parent coming. But I managed to take the approach and use it. Direct speech stuff was great too.
- My increase in confidence has made the biggest difference and I am enjoying my clinical work in this area much more now. I also feel much more confident with FCS in particular, but also with an improved confidence/knowledge with direct speech work (developed further by your speech management skills course). I have been using FCS, which I hadn't really managed before.

Appendix 5

Qualitative changes in clinical practice with other client groups after 7 to 14s training

(How much has the teaching we provided changed your clinical practice in working with other client groups)

- Occasionally use FCS in a modified way with other client groups
- I don't tend to have many children who are 7+ in other client groups other than social language ones, but rate work is useful across many client groups
- Talking about anxiety/ feelings is useful for older children with language/ voice difficulties
- I feel much more confident in my stammering work generally (including other age groups) and am enjoying this much more. I feel enthusiastic about stammering therapy, which helps me approach each session more positively (I haven't yet used what I've learned with other client groups outside of stammering, but aim to use Brief therapy scales in supervision with colleagues and in future with students
- I have used the ethos of this training with some of my clients in a school-based service
- Use principles of family communication skills with other children/ families
- Assessment techniques

Appendix 6

Qualitative changes in clinical decision making after 7 to 14s training

(How much has the teaching we provided changed your clinical decision making for stuttering clients?)

- Much more confident in my decision making, and enjoying working with this client group
- I think I had got into the pattern of trying to fit programmes/ approaches to clients instead of thinking first and foremost about what each client needs and then linking that with programmes/ approaches. This is something I am now changing
- I can still find this difficult i.e. when to discharge etc
- I feel confident in my decision making with the client group
- I know more about the options and feel more able to make a decision based on clients' needs
- More confidence
- I feel much more confident with these clients since taking your course and have had great results with the families being included