

PRELIMINARY CASE STUDY EVIDENCE FOR THE NUFFIELD CENTRE DYSPRAXIA PROGRAMME

Pam Williams¹, Hilary Stephens¹, Helen Flinders²

¹ Nuffield Hearing & Speech Centre, RNTNE Hospital, London UK. ² Division of Psychology & Language Sciences, University College London, UK.

Why did we do this study?

- To add to the small intervention evidence-base for childhood apraxia of speech
- To provide some first-step evidence for the Nuffield Centre Dyspraxia Programme treatment approach

What is the Nuffield Centre Dyspraxia Programme (NDP) treatment approach?

- Created in UK for children with SSD/CAS
- A motor and linguistic approach
- Aims to build accurate motor programs for phonemes, words and sentences
- Aims to develop a contrastive system at each phonotactic level (eg C, V, CV, CVCV, CVC), incorporating new motor programs
- Pictorial cues are utilized from the supplied NDP resource



Where can you find out more about the NDP treatment approach?

Chapter 7, p159-177 in Williams, AL, McLeod, S and McCauley, RJ (eds) (2010) Interventions for Speech Sound Disorders in Children. Baltimore, Maryland: Brookes Pubs.

A multiple single-subject design with repeated measures



Repeated measures

1. NDP Assessment (Williams and Stephens 2004)
2. DEAP Phonology subtest (Dodd et al 2002)

Participants

Harris, 4 years 7 months; **Terri** 6 years 5 months

- Severe speech sound disorders & unintelligible speech
- Met the consensus criteria for CAS (ASHA 2007)
- Had normal hearing, non-verbal and language skills

Intervention

- 10 weekly sessions, each of one hour
- NDP treatment approach & NDP3 picture materials
- Parents carried out home practice
- **Specific targets** set for each child, but both included:

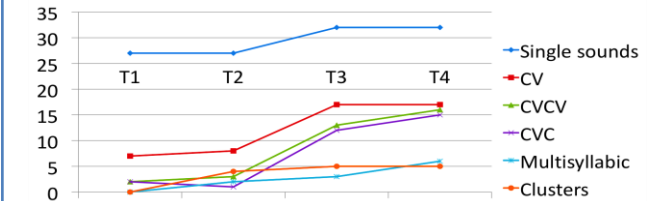
Expansion of phonetic inventory
 Developing number & range of CV words
 Developing number & range of CVCV words
 Developing number & range of CVC words (Harris)

Control measures – untreated words. No intervention aimed at cluster words and multisyllabic words.

Results

Harris:

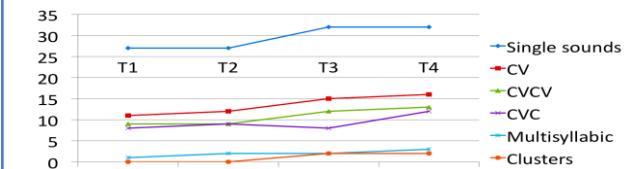
- Small expansion of phonetic inventory
- Significant changes ($p < 0.05$) at CV, CVCV, CVC, T2-3



- No change to scores on untreated words
- Increase in PCC on DEAP

Terri:

- Added /k/, /g/, /f/ to her phonetic inventory
- Overall change T1-T4 was significant ($p < 0.05$)
- Change T2-3 not significant, but closer than T1-2 or T3-4



- No change to scores on untreated words
- Small increase in PCC on DEAP

So, was the NDP treatment approach effective?

- More convincing for Harris than for Terri
- Child specific factors likely to be involved
- Both children ended study at/below 1st centile on DEAP
- Both required further intervention
- Next steps: further case studies & longer intervention periods required to strengthen the findings & build evidence base