For children with MLU 1.5 below SD for their age recasting techniques combined with speech sound therapy may be effective in improving children’s language skills.

Clinical Question [patient/problem, intervention, (comparison), outcome]:
In Children with Specific Language Impairment with an MLU <2 what therapy approaches are effective?

Citation:
Tyler, A., Gillon, G., Macrae, T., & Johnson,. R (2011). Direct and Indirect Effects of Stimulating Phoneme Awareness vs. Other Linguistic Skills in Preschoolers with Co-occuring Speech and Language Impairments. *Topics In Language Disorders* p128-144

Design/Method:
2 group randomised experimental design
Participant criteria was co-occurring speech and expressive language deficits
Pre and post treatment measures included: phoneme awareness, alphabetic knowledge, speech and oral language skills

**Intervention for Phonological Awareness/Speech Sound group** – designed to use speech production to facilitate early phoneme awareness and letter knowledge whilst treating speech errors. For each small group one phonological process was chosen e.g. stopping, FCD, fronting. PA skills - phoneme detection, matching, isolation tasks as well as letter naming and sound knowledge.

**Intervention for Morphosyntactic/Speech Sound group** - one week MS, next SS (MS outlined in Haskell et al 2001 Months of Morphemes) copula and aux forms of ‘to be’, past tense –ed and third person singular. Phon processes FCD, stopping, fronting. MS skills – auditory awareness and elicited stimulation and production. Books and songs for aud awareness and focused stim gave multiple models of targets in natural communicative context. 75-80 models in each script involving recasts and expansions. Elicited productions implemented eliciting 35-40 productions or target morphemes in response to contextually relevant questions (usually binary choice - The man jumps or runs? Or this man jumps and then he ___?)

Participants:
30 Children – 18 from USA, 12 from NZ age range 3:10 to 5:2. 19 boys, 11 girls
Children had co-occurring speech and expressive language deficits SSD (one SD below mean on Goldman Fristoe), Expressive language (1 SD below mean on Structured Photographic Expressive Language Test and or 1.5 SD below mean MLU for age on Miller and Chapmans (2000) normative data). Age appropriate receptive language on Peabody. Normal OMA, neurological, behavioural, hearing and motor skills WNL.

Experimental Group:
**Phon awareness (PA)/speech sound (SS)**
Matched for age and severity
2 six week blocks of treatment with a 6 or 7 week break between blocks. Group treatment (2-3 kids per group) 2 x per week hour sessions. 24 hours over 12 weeks
Assessed at pre-treatment, mid treatment and post treatment
Speech Pathology students ran therapy

**Morphosyntax(MS)/ speech sound (SS)**
Matched for age and severity
2 six week blocks of treatment with a 6 or 7 week break between blocks. Group treatment (2-3 kids per group) 2 x per week hour sessions. 24 hours over 12 weeks
Assessed at pre-treatment, mid treatment and post treatment
Speech Pathology students ran therapy

Control Group: nil
### Results:
- Both groups made statistically significant gains in all measures. One group did not do statistically significantly better than the other on any of measures. Trends were as follows but not statistically significant.
- Letter naming and phoneme awareness better with PA/SS. PA/SS more efficient of the 2 interventions for increasing letter knowledge. Phoneme identification less of advantage for PA/SS than MS/SS? initial sounds were enhanced indirectly through production of initial speech sound targets that were part of the project.
- Language improved more with MS/SS group even though slight change for PA/SS (due to talk around PA therapy).
- Both groups made similar and highly significant gains in speech sound production.

### Comments – Strengths/weaknesses of paper
- No control group (no group receiving no treatment) – cannot rule out maturation
- Small sample size

### Level of Evidence (NH&MRC): III

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<th>Appraised By:</th>
<th>Date: 26.07.12</th>
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<tr>
<td><strong>Clinical Group:</strong></td>
<td><strong>Paediatric Language</strong></td>
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Guidelines for completion of the CAP

Clinical Bottom Line
The consensus of the reviewers on implications of the paper on clinical practice. Whilst this may be somewhat subjective, it is hoped that robust discussion, the Level of Evidence and your comments on the design will enable you to produce a practical/realistic ‘bottom line’. Many of the papers in Speech Pathology may have limitations, but the Clinical Bottom line should be aimed to help clinicians apply what evidence there is.

Clinical Question
This should ideally include four components:
- the patient or problem
- the intervention (or diagnostic test or prognostic factor)
- the comparison intervention or test (optional)
- the outcome

Design
Refer to pages 12 to 15 of the EBPIG Resource Package for guidance in reviewing the design used.

Comments on Design
Pages 12 to 15 of the Resource Manual should again assist here. You may also find it useful to refer to the forms ‘Evaluating case studies/case series’ and 'Critical appraisal sheet' adapted from Dr Lil Mikuletic's (see 'Critiquing/Appraising the Evidence).

Level of Evidence
It is recommended that the paper you are reviewing be rated against the NH&MRC Levels of Evidence, as reproduced here. The levels may be updated from time to time by the NH&MRC, but use of the ratings listed here will ensure consistency across CATs and groups. These levels are listed with comments on pages 15 and 16 of the Resource Package.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>Description</th>
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<tbody>
<tr>
<td>I.</td>
<td>Evidence obtained from a systematic review of all relevant controlled trials</td>
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<tr>
<td>II.</td>
<td>Evidence obtained from at least one properly designed randomised controlled trial</td>
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| III.  | 1 Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method)  
2 Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group  
3 Evidence obtained from comparative studies with historical control, two or more single-arm studies or interrupted time series without a parallel control group |
| IV.   | Evidence obtained from case series, either post-test or pre-test and post-test |