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| **Literacy component** | **Principles of training** | **Method:** | **Materials** |
| **Phoneme** **Identification and** **Letter Knowledge** | -Multi-sensory -Repetition  Short vowels  Long vowels  Diphthongs | Multi-sensory stimulation exercises in the writing and reading of letters (consonant and vowel). The trainer articulated the sounds and paired the sound with a picture explaining the connection between the sound and the written letter. The learner was asked to look at flash cards, then try to write the letters, first by tracing sandpaper letters, then by completing dotted lines and lastly the children attempted to write the letters on their own. | - Sandpaper letters, silicone, pipe cleaners - Writing letter in the air - Writing letter in icing sugar - Write the letter (paper) - Plastic letters - Lettercards |
| **Segmentation and** **Blending** | -Normal sequence of development   Order of training: 1. compound words 2. syllables 3. phonemes 4. clusters e.g.”**spr**ing” | Plastic or cardboard letters were used to teach segmentation and blending of single phonemes. For segmentation children were expected to sound out phonemes of short words and later more difficult words with diphthongs and finally multisyllabic words e.g.k-a-t k-l-a-p = “klap” The following order was followed in phoneme segmentation tasks: initial sounds, final sounds, medial sounds, and finally phoneme clusters. Real words were used for written spelling tasks in writing tasks | - Pictures cut to represent syllables - Picture cards of whole words that could be combined to make compound words were used to teach segmentation and blending of words e.g. “blom” and “tuin” = “blomtuin”.  - Auditory input only (without pictures) |
| **Manipulation of** **syllables** | The trainer would say compound words and ask the child to delete one of the words forming the compound word by firstly using picture card cues and then only producing auditory stimuli alone e.g. “skoolskoen” without “skoen” = “skool”. Syllable deletion tasks were done using auditory stimuli alone, e.g. “vergaan” without “ver” = “gaan”. Adding and exchanging phonemes. The most complex tasks are at the phoneme level e.g. say “Brush” without the /b/ = rush or say “splash” without the /p/=slash | - Picture card clues  - Auditory stimulus alone |
| **Manipulation of** **phonemes** | - Plastic letters - Coloured tokens for consonants and vowel - Auditory stimulus only |
| **Reading Real** **words**  **Reading** **Non-words** | **-V**owel **C**onsonant CV, VC VCV CVC, CVCC, CCVC | Word cards Short stories were used for reading practice. Simple story-books at the child's reading level were provided for group and individual practice Reading of Non-word practise sheets for initial medial and final sounds | - Individual real words printed on cards were given to each child at their level of progress. |
| - Non-words printed on cards |
| **Spelling real word** **Non-word** | Real words and non-words were used for spelling tasks at the child's level | - Worksheets, Games |
| - Blackboard / whiteboard writing - Write the word (paper) |
| **Language** **(semantic** **training)** | - Increase semantic networks | Naming, tasks; semantic fields, category naming (superordinate/subordinate relations) Rapid automatic naming tasks (objects and pictures) Story comprehension tasks, Story retell (picture sequences) | - Objects and pictures - Matching games - FAS stories |

There was a wide range of within group variability in performance, so it was not possible to use the same tasks for all children at the same time. Generally, the concepts were taught in this framework but the level was modified according to the strengths and weaknesses of individual learners in the groups. Language sessions alternated with literacy sessions in the first half of the intervention programme where after, the literacy training was emphasised. Each group was seen for 30 minutes twice weekly for a total of 76 sessions over a 2 year period. Verbal and material reinforcement (raisons, stickers, stars) were used.

Adnams, C. M., Sorour, P., Kalberg, W. O., Kodituwakku, P. W., Perold, M. D., Kotze, A., … May, P. A. (2007). LANGUAGE AND LITERACY OUTCOMES FROM A PILOT INTERVENTION STUDY FOR CHILDREN WITH FASD IN SOUTH AFRICA. *Alcohol (Fayetteville, N.Y.)*, *41*(6), 403–414. http://doi.org/10.1016/j.alcohol.2007.07.005