Clinical Question: In children with disabilities, does the use of pictures support literacy development?


Design/Method: Alternating treatment design.
- Based on Singh and Solman (1990) study (which is not included) + added a condition where pictures were used as feedback.
- Compared the effects of 5 experimental conditions on word recognition. (Pictures, words or both presented for 15 seconds and in a random order.)
- Recording/reliability of data = criteria for correct response same as Singh and Solman (1990) 25% inter-observer reliability as well.

Materials: Pool of 70 words, 20 x 5 letter words selected. 4 words randomly assigned to each experimental condition. Pictures or words presented in 2 sizes – 2.5 cm or 5 cm.

Participants: 6 students with moderate intellectual disability aged between 7-9 years and only able to read 2-5 words. Their individual reading instruction was paused during the study.

Experimental Group: Group of 6. Not randomised. The children’s previous skills were not outlined. Baseline – number of correct responses out of 20 trials were recorded. Intervention sessions – 5 experimental conditions. Sessions once a day, 4 times a week.
1. Word/enhanced picture condition – picture presented 1st & then picture with word.
2. Word only – word presented alone.
3. Enhanced word – word presented alone
4. Enhanced word/picture – word presented alone then word and picture with word.
5. Word only/picture feedback – word presented alone & picture presented as feedback 2 sec after a response.
Post test - number of correct responses out of 20 trials were recorded. Criterion for selection of condition to use during remediation was 1st condition in which the student read all 4 words correctly during 3 consecutive post tests.

Control Group: No control group

Results: Five out of six students reached criterion in conditions without extra stimulus prompts.
- Criterion reached the fastest for 2 with enhanced-word condition (word only, enhanced size)
- “ “ “ “ “ “ for 1 with word only + picture feedback
- “ “ “ “ “ “ for 2 with word only
- “ “ “ “ “ “ for 1 with word only and same with enhanced-word
- Supporting Singh and Solman (1990), that acquisition is achieved faster during the word-alone conditions
- Unable to say if the findings are a result of blocking, overshadowing or a combination of the two. They say most likely to be blocking b/c students were able to name the pictures (and not the words) prior to the intervention.

Comments: Not enough detail about method – would need to refer to another study- Singh & Solman (1990) article
- Overlap in data among experimental conditions – weakens inferences that can be made re differential effect of treatment.
- Functional use/comprehension of the new words not tested.
- Small group, no stats
- Doesn't really answer their question about blocking.

Level of Evidence (NH&MRC): IV

Appraised By: AAC EBP

Date: November 2007