NSW Speech Pathology
Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE:
Parent training focussing on interactions with children during story time (i.e. teaching parents how to use stimulation techniques while looking at picture books) is effective in improving the expressive language skills of children aged 21 - 35 months from intact middle-class families.

Clinical Question [patient/problem, intervention, (comparison), outcome]:
Does the use of books and narratives increase the expressive language in 2 – 4 year old children?

Citation:
Whitehurst, G.J; Falco, F.L; Lonigan, C.J; Fischel, J.E; DeBaryshe, B.D; Valdez-Menchaca, M.Cl Caulfield, M. (1988). Accelerating Language Development Through Picture Book Reading. Developmental Psychology. Vol 24(4), July 1988, p 552-559.

Design/Method:
- The study had random assignment of participants, with accountability for equal numbers of each gender in each group.
- Data coders were blind to which group participants belonged.
- Participants were pre-tested on the Denver Developmental Screening Test (Frankenburg et al, 1973) and the Early Language Milestones Scale (Coplan, 1982).
- Following the 4 weeks of the study, participants were post-tested on verbal expressive subscale of the Illinois Test of Psycholinguistic Abilities (ITPA; Kirk et al, 1968), the Peabody Picture Vocabulary Test-Revised (PPVY-R; Dunn& Dunn, 1981). And the Expressive One Word Picture Vocabulary Test (EOWPVT; Gardner, 1981).
- The families were followed up 9-months after the post-test (n=22; 12 from control, 10 from experimental) on the same “post-test” tests.
- Regular Mean Length of Utterance (MLU) were taken from audiotapes during the second and fourth week of treatment but was based on **words per utterance** not morphemes per utterance.

Participants:
30 children (and their families) with normal development and linguistic status aged between 21 and 35 months from intact middle-class families living on suburban Long Island, New York. All participants volunteered as a result of newspaper articles – they were self-selected. One child dropped out of the experimental group resulting in a final sample size of 29.

Experimental Group:
The only stipulation was that there were an equal number of boys and girls in both the experimental and control groups. There was no significant differences between the experimental group and control group on chronological age, number of children in the family, number of years of education the mother completed, the frequency per week of story reading with the children initially reported by the mother, the frequency per week of reported reading sessions for the first 2 weeks of the study, and an upper limit measure of initial child mean length of utterance.

All families were instructed to audiotape their reading sessions 3-4 times a week and phone contact was made on a weekly basis. Families were asked to keep track of the number of reading sessions they’d completed on a calendar-like checklist.

In addition to this, the experimental group participated in a 4 week treatment program involving 2 assignments of 2 weeks duration. Parents in the experimental group also attended two 25-30 minute training sessions, which involved verbal explanation of the skills involved, watching the experimenter and an assistant role playing to demonstrate the technique, and the parent role-playing with the assistant with the experimenter giving feedback. The first training session occurred at the initial assessment and the second 2 weeks later.

Control Group:
See stipulations in "experimental group". All families were instructed to audiotape their reading sessions 3-4 times a week and phone contact was made on a weekly basis. Families were asked to keep track of the number of reading sessions they'd completed on a calendar-like checklist.

Results:

- They concluded that variations in reading to young children, does have an effect on language development.
- There were 6 significant effects
  - The experimental group showed higher levels of repetition, child phrases, and child MLU
  - The experimental group also scored higher on praise, expansion, and open-ended questions at both week 2 and week 4, and the number of function/attribute questions and directives decreased between week 2 and week 4 for the experimental group.
  - The control group showed higher levels of yes/no questions, reading/conversation, and directives.
- The significant interactions were the result of:
  - Praise going down over time in the control group while going up in the experimental group
  - Expansions and open-ended questions remaining constant over time in the control group while going up in the experimental group
- The 3 significant main effects for time were the result of function/attribute questions and directives decreasing from time 1 to time 2 while child MLU increased.
- In the post-test, the experimental group's PPVT scores were higher but not significantly.
- The experimental group**'s scores** were significantly greater at post-test on the ITPA (8.5 months ahead) & EOWPVT (6 months ahead) and this persisted at the 9 month follow-up.

Comments:

Strengths:

- The researcher gave the names of the tests used.
- There was good reliability data
- Data coders were blind to the families' group assignment.

Weaknesses:

- Not very specific about teaching techniques
- The reporting on results between groups compared means no standard deviations
- They didn't report on effect size
- Wasn't a proper randomisation – gender was controlled
- Didn't look at parent's language interactions outside of story time
- Cohort volunteered

Level of Evidence (NH&MRC): Level III (1) [pseudo-randomised control trial]

Appraised By: Paediatric Language Group
Clinical Group:

Date: August 2006