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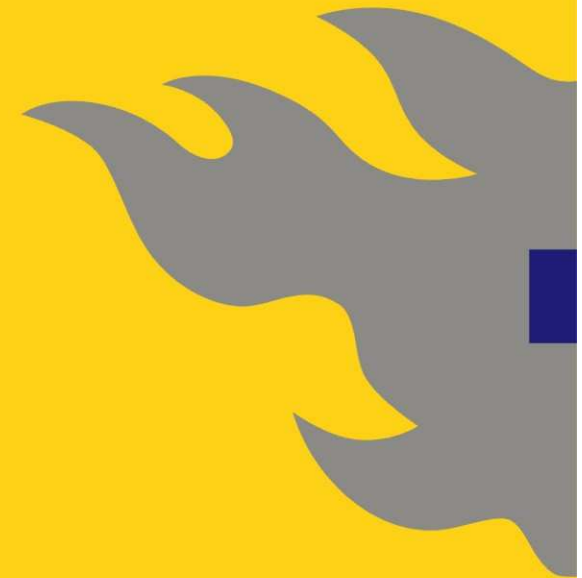
Verbal and nonverbal development and play in SLI children after early intervention

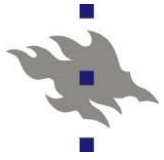
Eecera 29.9.2007

Nina Sajaniemi

Eira Suhonen

Erityispedagogiikka

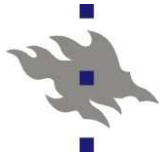




Objectives of the study

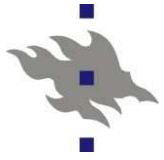
- To evaluate the effect of language and action based group intervention on
 - language skills, perceptual skills and play behavior

- Target group:
 - Children with diagnosis of specific language impairment in early education centers in Helsinki, Finland



Specific focus of this study

- Is the group intervention successful in improving functional and interactive use of language
- Is the group intervention successful in improving perceptual organization and play behavior
- Is the group intervention suitable for every day practices in early education centers



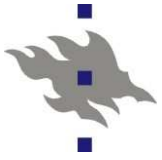
Deskription of the Intervention

- Timing: specific group activities twice a week
 - 60 min/session

- Group activity 1:
 - Language combined with physical exercise

- 4 children/ 2 instructors

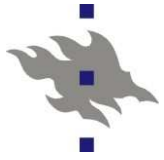
- Language and motor drills, based on continual structure
 - beginning, motor drill, language drill, ending



Description of the intervention

- Group Activity 2:
 - Play promoted with visual assistance
- 2 children/ 2 instructors
- Pictures and play in pairs
- Indirect instruction

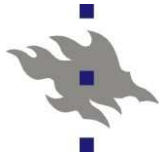




Children in our study

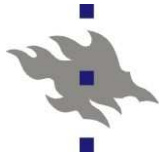
- Experimental group
 - 22 children with SLI
 - Two group actions per week
 - Every child had altogether 44 group sessions during the intervention period

- Control group
 - 19 children with SLI
 - Conventional early education



Experimental and control groups

GROUPS	GENDER			DIAGNOSIS		
	Girls	Boys		Mild	Severe	
Experimental	27 %	73 %	100 %	36 %	64 %	100 %
%						
n	6	16	22	8	14	22
Control	20 %	80 %	100 %	20 %	80 %	100 %
%						
n	4	16	20	4	16	20
Total	24 %	76 %	100 %	29 %	71 %	100 %
%						
n	10	32	42	12	30	42



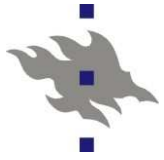
Mild and severe diagnosis

■ Mild diagnosis

- Expressive language more affected than receptive language
- No mention of attention deficits
- No mention of ADHD
- Reynell language scores > 85

■ Severe diagnosis

- Dysfunctions both in expressive and receptive language
- Co-occurrence of attention deficits and/or ADHD
- Reynell language scores < 85



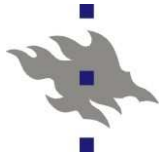
Pretest measurements

- Reynell Developmental Language Scale: Comprehension
 - No significant between group differences

- BoEge: Active vocabulary
 - No significant between group differences

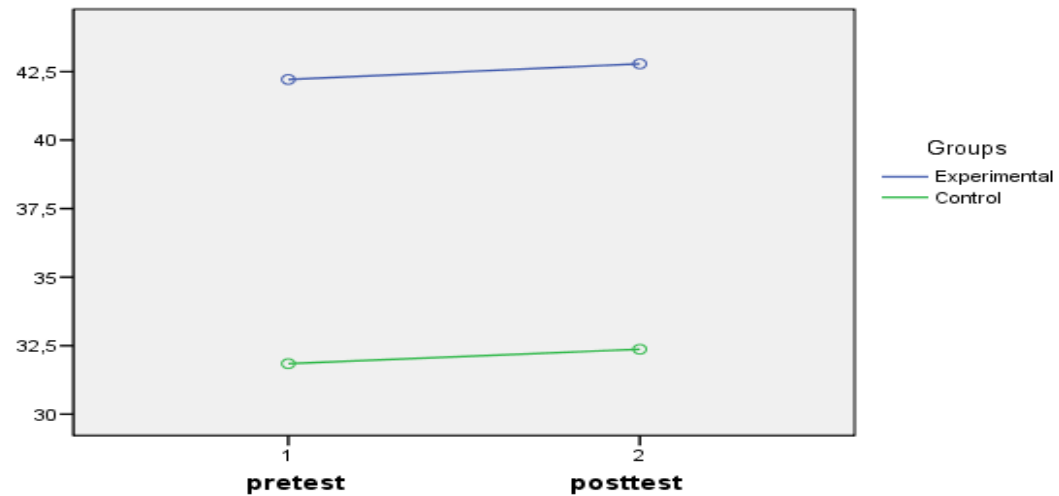
- Wechsler Preschool and Primary scale of Intelligence
 - Verbal Scale: The scores in experimental group were significantly ($p < 0.05$) higher than in control group.
 - Performance Scale: No significant differences

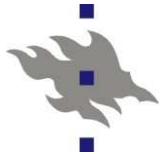
- Symbolic Play Test: No significant differences



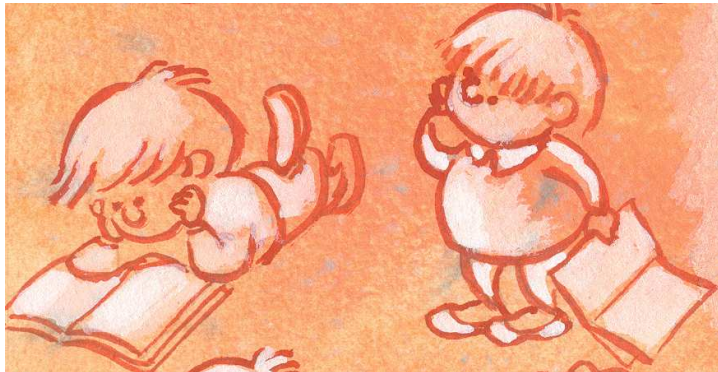
Verbal standard scores (WPPSI) before and after intervention

- The intervention did not have any significant effect on verbal performance

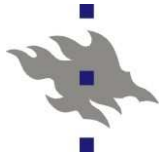




Other verbal measurements before and after intervention

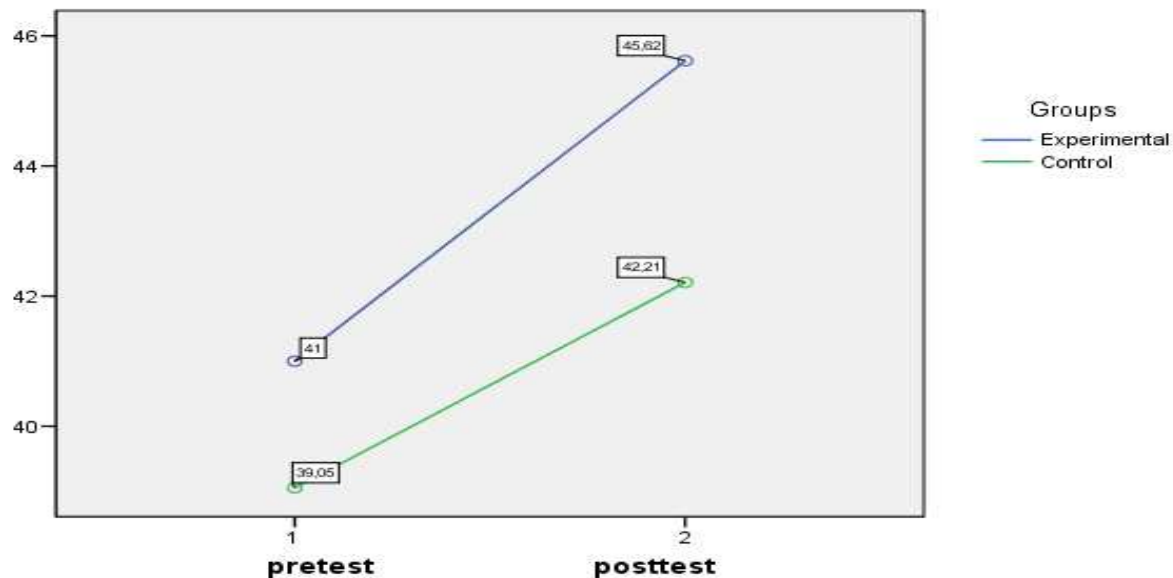


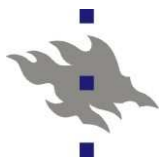
- The intervention did not show any significant positive effect on language comprehension (Reynell)
- The intervention did not show any significant positive effect on active vocabulary (BoEge)



Performance standard scores (WPPSI) before and after intervention

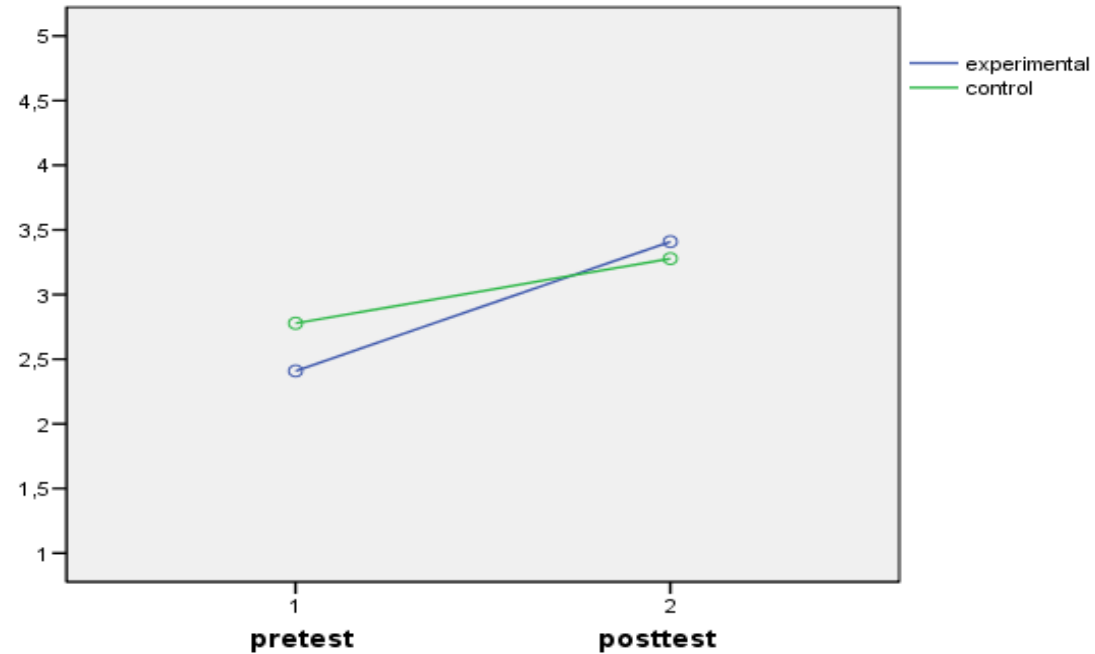
- The intervention did have a significant positive effect ($p < 0.01$) on non-verbal performance



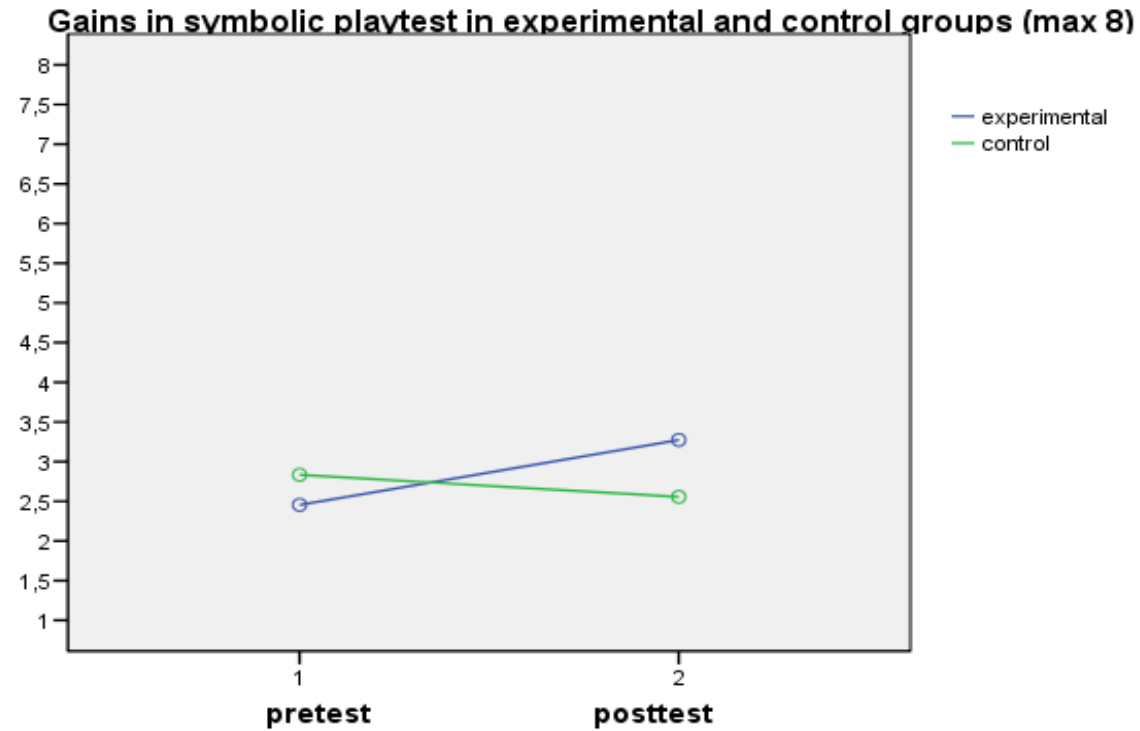
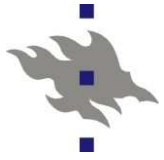


Symbolic Play Test

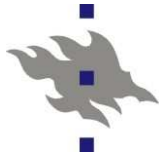
Gains in nonsymbolic play in experimental and control groups (max 5)



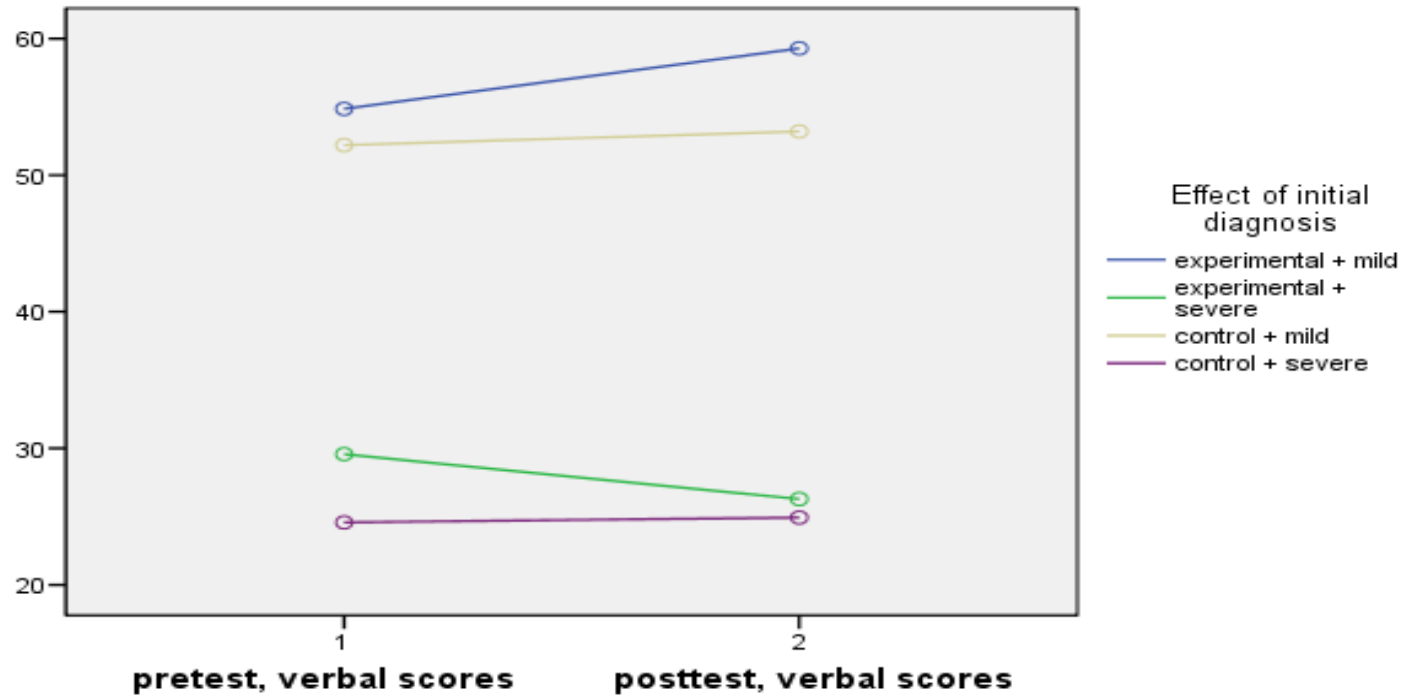
- There were statistical significance in experimental group [F (1, 21) 15,4, $p < .001$] in non-symbolic play

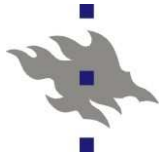


- There were almost statistical significance in experimental group [F (1,17) 4,74, $p < .05$] in symbolic play



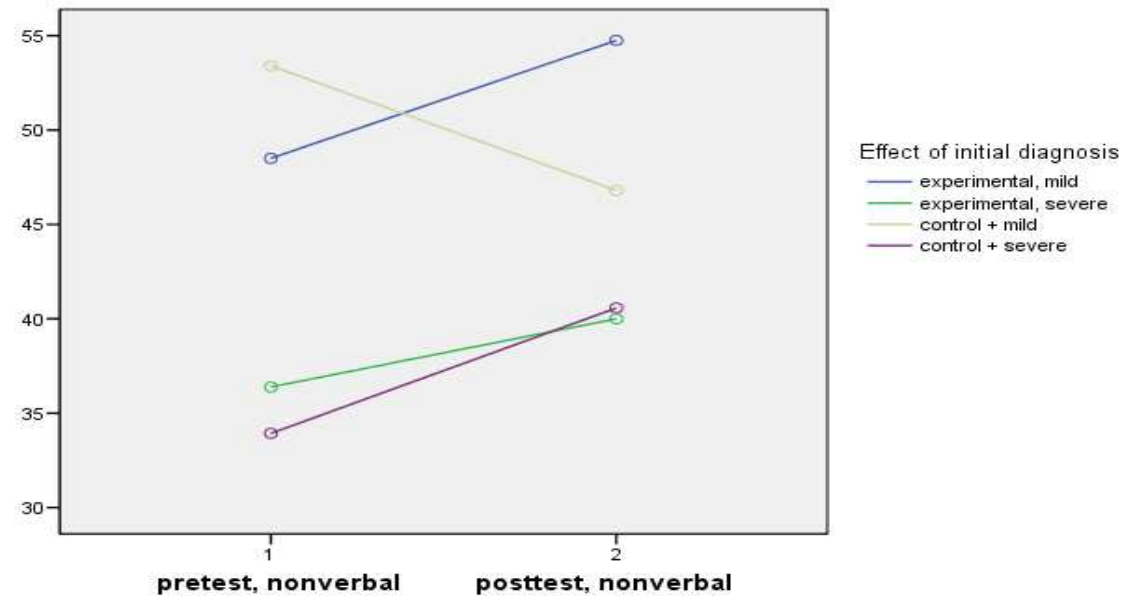
The influence of initial diagnosis on posttest measurements, verbal scores (WPPSI)

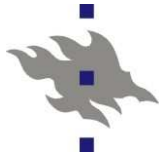




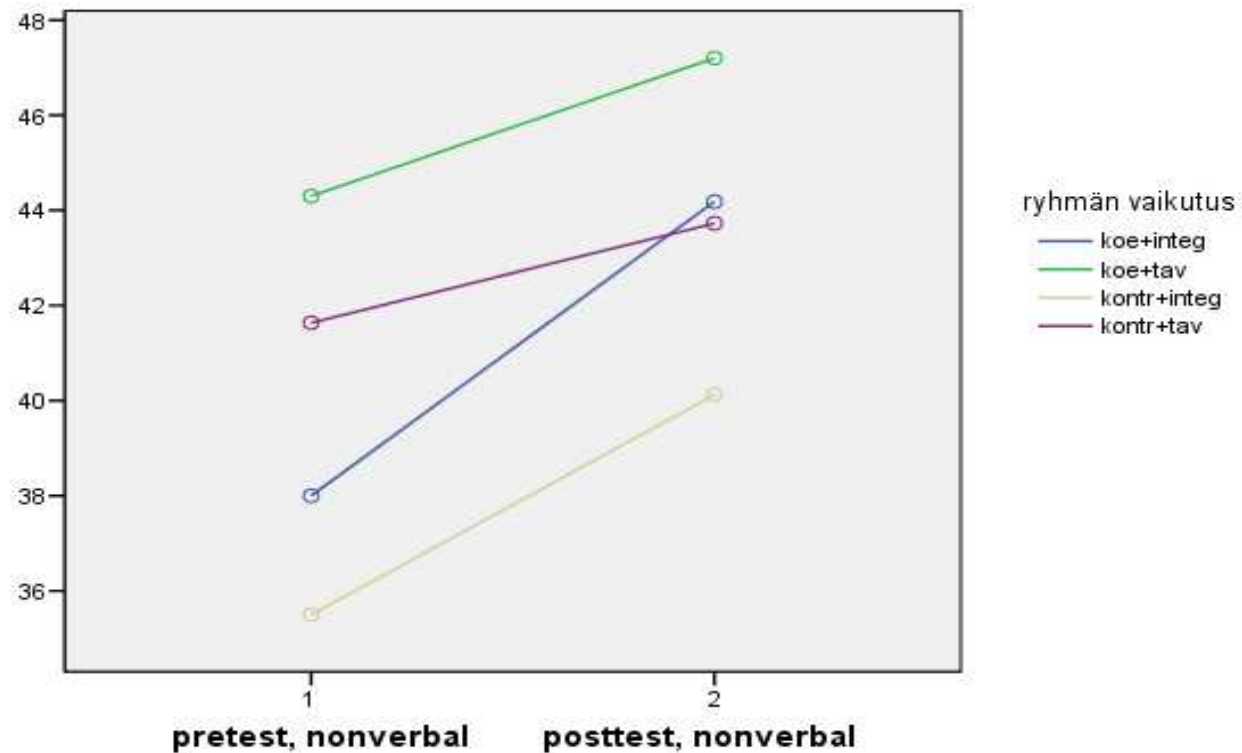
The influence of initial diagnosis on posttest measurements, nonverbal scores (WPPSI)

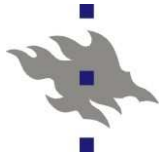
- The scores in nonverbal performance scale impaired in control children with mild diagnosis





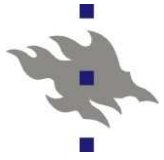
The influence of early special education on nonverbal performance after intervention





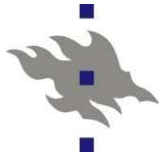
Discussion

- The intervention did have a significant and positive effect on non-verbal performance and play behavior
- However, the intervention did not improve language development in our study
 - The children with mild diagnosis in intervention group were the only ones with slightly increased verbal scores in posttest measurements.



Who did benefit most from the intervention

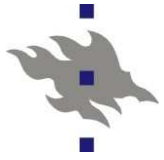
- Children with mild diagnosis
- Conclusion: The intervention was not necessarily a special education intervention
 - The intervention did not improve performance in children with severe diagnosis
- The intervention might improve behavioral organization and self-regulation
 - Improved non-verbal performance
 - That might have far reaching impact on language development



Who did not benefit from the intervention

- The intervention did not reach children with major special educational needs
 - however the children in special education (both in experimental and control groups) improved more than children in conventional early education
 - early special education tended to strengthen the influence of intervention

- Conventional individualized early special education was rehabilitative to children with most severe diagnosis



Shortcomings

- Out service experts carried out the intervention, which was disconnected from familiar group and every day activities
- Disconnected intervention is challenging for emotional regulation
 - Children with major needs have difficulties in self-regulation which might increase stress and decrease possibilities to generalize
 - Children who did benefit from intervention were mildly affected with perhaps more optimal self-regulation