

**A Report on Achievement of Children at the Moog Center
Family School and Preschool Programs
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We recently conducted a study to evaluate the effectiveness of spoken language instruction for the children in the Moog Center programs. Vocabulary skills were assessed first at age three, as the children entered preschool and then again at age five, after two years in the preschool program. All 43 children, who had attended our Toddler class between 2001 and 2006 for at least one year, were included in the testing at age three and the 34 children who had turned five by 2008 were included in the testing at age five.

We measured receptive vocabulary (understanding words) using the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1997) and expressive vocabulary (naming pictures) using the Expressive One-Word Picture Vocabulary Test (EOWPVT; Brownell, 2000). The PPVT and EOWPVT have been standardized on large populations of hearing children and a standard score of 100 represents average performance as compared with hearing peers of the same chronological age. Scores that range from 85 to 115 (representing one standard deviation of 15 below and above the mean of 100) are considered to be within the average range for hearing children. The mean standard scores of the children at age three were 93 for receptive vocabulary and 96 for expressive vocabulary, both well within the average range for hearing age-mates. Table 1 shows that of the 43 children in the sample, 35 or 81% scored within or above the average range in receptive vocabulary, and 37 or 86% in expressive vocabulary when compared with hearing children of similar age.

Table 1: Results from vocabulary testing of three-year-olds who attended the Moog Center Family School program. Standard scores are reported and results categorized based on below average, average, and above average performance by hearing peers of the same age.

		Standard scores		
		< 85 (below average)	85 – 115 (average)	> 115 (above average)
Receptive vocabulary				
	N children	8	34	1
	Proportion of total sample	19%	79%	2%
Expressive vocabulary				
	N children	6	35	2
	Proportion of total sample	14%	81%	5%

Although not all children achieved age-appropriate vocabulary skills by age three, the overwhelming majority of children in this study had vocabularies that were comparable in size to their hearing peers. We believe these results provide strong evidence of the efficacy of the intense, focused instruction that these children received in the Moog Center Family School program.

Of the original 43 children, 34 of them participated in the follow-up study at age 5. The PPVT and the EOWPVT were again used to assess vocabulary. In addition, the Clinical Evaluation of Functional Language (CELF; Semel, Wiig, & Secord, 1987; 1995) was used to measure language skills. The verbal portion of the Weschsler Preschool and Primary Scale of Intelligence (WPPSI; Wechsler, 2002) yielded a verbal intelligence quotient (VIQ) and was used to measure verbal knowledge and verbal reasoning. Results are shown in Table 2.

Table 2: Results from follow-up language testing of five-year-olds who had attended the Moog Center Family School program. Standard scores are reported and results categorized based on below average, average, and above average performance by hearing peers of the same age.

		Standard scores		
		< 85 (below average)	85 – 115 (average)	> 115 (above average)
Receptive vocabulary				
	N children	2	29	3
	Proportion of total sample	6%	85%	9%
Expressive vocabulary				
	N children	1	28	5
	Proportion of total sample	3%	82%	15%
Receptive language				
	N children	3	27	4
	Proportion of total sample	9%	79%	12%
Expressive language				
	N children	8	23	3
	Proportion of total sample	23%	68%	9%
Verbal intelligence				
	N children	7	23	4
	Proportion of total sample	20%	68%	12%

In receptive vocabulary, 32 or 94% scored within the average range; in expressive vocabulary, 33 or 97% were within the average range; in receptive and expressive language, 91% and 77% respectively had average skills as compared with hearing peers; 80% of the children had verbal intelligence scores in the average range.

These remarkable results demonstrate the impact of the focused early intervention program we provide in our Family School and Preschool programs at the Moog Center. Such extraordinary levels of achievement should serve to raise expectations and set a new standard for children with hearing loss.

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FOR DEAF EDUCATION
Where Deaf Children Talk