

Table 1. Coding Protocol Used for Selection of Intervention Studies

Participants	Studies that included participants ages 18 to 42 months with a mean age of 36 months or less, and who were identified as late-talking or as having a language delay, vocabulary delay, expressive language delay, or delays in language acquisition. Studies that included children with hearing loss, developmental delays, cognitive delays, autism, pervasive developmental disorder (PDD), or other neurological disorders were excluded. All participants were monolingual and spoke English in the home.
Study design	Research designs included treatment-comparison group designs, single-group designs, and single-subject studies. Case studies that did not incorporate single-subject research design, in which a subject serves as his/her control, were not included. If the author(s) reported measurement design, it was categorized as pre/posttesting, posttest only, pretest/posttest/follow-up, or other.
Dependent variable	Only studies that reported dependent measures of child participants' receptive language, expressive language, or both, were included.
Independent variable	Independent variables included any treatment designed to increase the expressive language abilities of the participants.
Intervention provider	Intervention provider was categorized as provided by the person who provided the intervention and included parent and/or clinician.
Characteristics of parent training	For interventions that were provided by parents or a combination, the type of training was categorized as using a manual, supervision/consultation with a clinician, audio/videotapes, informal or formal training with a clinician, or other.
Intervention setting	The setting in which the intervention took place was categorized as home-based, clinic-/center-based, combination, or not specified.
Level of intervention	The level of intervention was coded as group sessions, individual sessions, or a combination.
Duration of intervention	The duration was categorized (per group) as number of weeks, sessions per week, minutes per session, or total number of sessions.
Intervention focus	The focus was categorized as target word acquisition, expressive vocabulary, mean length of utterance, other, or any combination of these listed categories.
Type of treatment	The type of treatment provided was categorized as general language stimulation, focused language stimulation, milieu teaching, enhanced milieu teaching, or other.
Child participant demographics	Demographic information included total number of participants, number of males/females in a group, mean age in months at the start of the intervention, socioeconomic status, population density, race/ethnicity, languages spoken by child participants, and maternal education level.
Specific therapy methods and major findings	These were described in narrative format.

Table 2. Parent-Implemented and/or Clinician-Directed Intervention Studies for Late Talkers

Author(s)	Participants ¹	Intervention provider(s)	Parent training summary	Child intervention setting(s)	Intervention approach	Outcome measure(s)	Results
DeVney, Cress, & Reid (2014)	<i>n</i> = 3; 29.7 months (range = 25–33 months)	Clinician-directed	N/A	Home-based	Focused language stimulation and milieu teaching	Expressive vocabulary (target word use)	Both treatment approaches were effective for all participants and showed advantage over untreated control word use; no consistent advantage of one approach over the other
Ellis Weismer, Murray-Branch, & Miller (1993)	<i>n</i> = 3; 25.3 months (range = 25–26 months)	Clinician-directed	N/A	Clinic	Focused language stimulation and milieu teaching	Expressive vocabulary (target word use)	One participant responded with better performance to focused language stimulation, one responded better to milieu teaching, and one did not respond effectively to either treatment condition
Gibbard, Cogan, & MacDonald (2004)	<i>n</i> = 22; 24.1 months (range = 22–30 months)	Both parent-implemented and clinician-directed conditions	Eleven 90-minute group sessions over six months; structured teaching, demonstrations, and practice activities	Home-based and clinic	General language stimulation	Receptive and expressive language skills; estimated expressive vocabulary, estimated phrase length; mean length of utterance (MLU)	Child participants had significantly better language skills in parent-implemented than clinician-directed on all measures except estimated expressive vocabulary
Girolametto, Pearce, & Weitzman (1996; 1997)	<i>n</i> = 25; 28.7 months (range = 23–33 months)	Parent-implemented	Eight sessions over 11 weeks; lectures, role-plays, discussions, and individualized feedback and coaching	Home-based	Focused language stimulation (modified Hanen Parent Programme)	Expressive vocabulary (general and target word use); expressive language skills; “talkativeness,” multiword utterances; parent language measures (1996); phonological diversity and accuracy (1997)	Child participants used more target words, more words in general, and reportedly had larger vocabularies in intervention condition than in delayed-treatment group; parent language input slowed, was less complex, and more focused than that of delayed-treatment group (1996); increased phonological diversity, but not accuracy in intervention condition (1997)
Roberts & Kaiser (2015)	<i>n</i> = 97; 30.5 months (range = 24–42 months)	Both parent/caregiver-implemented and clinician-directed conditions	28 sessions over three months; teach-model-coach-review method	Home-based and clinic	Enhanced milieu teaching (EMT)	Receptive and expressive language skills; receptive and expressive vocabulary; caregiver use of strategies; caregiver stress	Child participants had significantly better receptive language skills in caregiver-implemented condition, but not expressive; caregiver interactions improved across language facilitation strategies

Table 2. Parent-Implemented and/or Clinician-Directed Intervention Studies for Late Talkers (continued)

Author(s)	Participants ¹	Intervention provider(s)	Parent training summary	Child intervention setting(s)	Intervention approach	Outcome measure(s)	Results
Roberts, Kaiser, Wolfe, Bryant, & Spidalieri (2014)	<i>n</i> = 4; 30.8 months (range = 25–38 months)	Caregiver-implemented	24 individualized sessions over 12 weeks; teach-model-coach-review method	Clinic	General language stimulation and EMT	Receptive and expressive language skills; MLU; expressive vocabulary use; caregiver use of strategies	Three of four child participants indicated gains across all language measures; caregivers demonstrated increased use of language strategies after instruction
Robertson & Ellis Weismer (1999)	<i>n</i> = 21; 25.1 months (range = 21–30 months)	Clinician-directed	N/A	Clinic	General language stimulation	Expressive vocabulary; MLU; % intelligible utterances; socialization; parental stress	Significant differences were noted across the experimental condition compared with the delayed-treatment group for all outcome measures (increases for vocabulary, MLU, intelligible utterances, and socialization; decrease in parental stress)

¹ Sample size; age at intake in months; age range at intake in months