

Teaching Social/Communicative Interventions to Youth with Disabilities

Morgen Alwell (Appalachian State University) and Brian Cobb (Colorado State University)

Purpose

This practice-based systematic review summarizes “scientifically-based” research studies that have been produced in the past two decades from three distinct perspectives:

(a) interventions designed to build social and/or communicative skills, (b) transition or transition-related outcomes, and (c) samples of secondary-aged youth with disabilities. By *scientifically-based research studies* we mean reports of research studies that meet recently enacted federal research standards (Education Sciences Reform Act, 2002), stated in the Act as follows:

The term “scientifically-based research standards” means research standards that – (i) apply rigorous, systematic, and objective methodology to obtain reliable and valid knowledge relevant to education activities and programs; and (ii) present findings and make claims that are appropriate to and supported by the methods that have been employed (p. 4).

By *social/communicative curricular focus* we mean original research studies that reported on the effects of implementing an intervention that had as its defining characteristic acquisition of a social/communicative skill in at least one of four areas: (a) augmentative and alternative communication (AAC) skills; (2) conversation skills; (c) decreasing inappropriate behaviors with competing pro-social communicative behaviors; and (d) social skills training (SST).

By *transition or transition-related outcomes* we mean studies that measured outcomes associated with commonly-held conceptions of transition such as employment, participation in post-secondary education, maintaining a home, and/or experiencing satisfactory personal and social relationships (Halpern, 1994).

Finally, by *samples of secondary-aged youth with disabilities* we mean studies whose samples were either youth with disabilities or were, in part, youth with disabilities and outcome measures for those youth with disabilities were reported separately. These youth must have been enrolled in secondary school environments or, if in non-graded residential or day treatment facilities, the studies must have reported the ages of those youth with disabilities as ages 13-22 inclusive.

Conceptual Framework

The conceptual framework we used to guide our philosophical orientation to this systematic review is grounded in the ecological model of social functioning to help answer “what

works” questions for social/communicative skills acquisition for youth with disabilities. An ecological framework provided the necessary conceptual structure to guide the scope, the methodology, and the development of this research synthesis. The question of “what works” can be translated by the classical ecological question posed by Wachs (1987): “Under what environments (situations, programs, and settings) have what kinds of persons (the diverse characteristics of all youth with disabilities) changed in what kinds of behaviors (social and communicative competence; adaptive behavior)?”

The studies included in this review have been grouped into four categories based on characteristics of their interventions:

1. Augmentative and Alternative Communication (AAC)
2. Conversation Skills
3. Decreasing inappropriate behavior explicitly through teaching functional communication responses, and
4. Social Skills Training (SST)

Background

Social and communicative skills represent critical *student development* skills in a *transition-focused education* (Kohler & Field, 2003). Social competence is arguably central to navigating each of Halpern’s (1994) educational outcome areas: vocational pursuits, postsecondary education, relationships with others, community participation, and maintaining a home. Youth who lack social competence are ostensibly at risk for numerous difficulties, including rejection by peers, academic failure, social isolation and dissatisfaction, aggression, difficulty maintaining employment and developing relationships with others, mental health issues, and contact with the legal system (Maag, 2005, p. 155). Yet a lack of communicative and social competence is a defining characteristic of, at least in part, many disabilities such as autism and other disorders on the autism spectrum, mental retardation, learning disabilities, and emotional/behavioral disorders (cf. Cartledge, 2005; Gresham, Sugai, & Horner, 2001; Janney & Snell, 2000; Maag, 2005; Wetherby & Prizant, 2000).

Social competence/social skills. Janney and Snell (2006) define *social competence* as both an individual’s effectiveness at influencing the behavior of those around them, and, given a variety of settings, contexts, and cultures, the appropriateness of the behavior(s) (p. 13). The latter depicts the ability to adjust one’s behavior in various contexts to fit in, including use of language. Teachers of foreign language commonly refer to this as “code switching” (Numan & Carter, 2001). Generally referring to alternation between languages, code switching might be broadened to include such adjustments as use of formal language versus slang in different contexts. While social competence is the broad category of behaviors, it subsumes numerous specific sub skills, such as social interaction skills, reciprocity, communicative competence, and communication skills.

Janney and Snell (2000) define *social interaction skills* as:

... an array of interpersonal behaviors such as greeting others, commenting/acting on others’ requests or remarks, initiating an exchange, asking others to respond to or engage

in an activity, entering into an ongoing social dyad or group, taking turns, taking actions intended to maintain an exchange or social activity, and terminating an interaction (p. 3).

Social reciprocity, conversely, has been defined as an interdependent exchange of interactions between two individuals that reflects balanced turn-taking (2000, p. 3). In the special education literature, related terms include peer relationships, friendship, social networks, development of friendships, and peer supports.

The literature on social skills training (SST) with students with high incidence disabilities differentiates between social skills and social competence in this way: social skills are behaviors that must be taught, learned and performed whereas social competence is broader and includes judgments or evaluations of social behaviors within and across situations (Gresham et al. 2001, p. 333). In other words, social skills are the specific behaviors targeted in SST, and social competence is the umbrella concept referring to the adequacy of a person's general social functioning (Maag, 2005, p. 156). Social competence is inferred, for example, when the social skills targeted for instruction result in acquisition and lead directly to increased acceptance by peers, and more positive judgments by important others, such as teachers and parents. Whether or not a social skill targeted for intervention leads to improved life quality is a question of social validity (p. 157).

Communicative competence/communication skills. While social competence may include non-communicative behaviors (for example, dressing appropriately for work and arriving on time) – communication skills are specifically relational. By definition, communication requires at least two people (or other sentient beings), a sender of a message and a receiver. The need for communication partners constitutes the essential social aspect of communication (Downing, 2005). Other critical components of communication include *form* or *means* (a way to send a message), *content* (something to talk about) and a reason or *purpose* (communicative *function*) to communicate (p. 4). Communicative means include the primitive, such as screaming, crying, vocalizations, changes in muscle tone, gestures, and facial expressions, to the sophisticated, for example, fluent speech, sign language, and use of complex voice output devices with multiple levels and potentially unlimited messages. Communication topics are self-evident; reasons to communicate include the expression of wants and needs, information transfer, social etiquette and social intimacy (p. 4).

Communication is fundamental to most activities in our lives. The ability to make requests, choices, protests, and comments is integral to early development of self concept, intelligence and self esteem; and remains central throughout life, as we develop interpersonal relationships, and eventually, social networks; and navigate school, work, and the larger community. Much of what we learn is also predicated on making sense of our interactions with others.

Augmentative and alternative communication (AAC). A compilation of methods and technology designed to supplement (or replace) spoken communication for persons with limited speech and/or language skills, AAC is prevalent in educational programs for children and youth with developmental and intellectual disabilities (Wilkinson & Hennig, 2007). According to Beukelman and Mirenda (2005, p. 4), AAC is a system with four primary components: symbols

(including graphic, auditory, gestural, and textural or tactile symbols), aids (any device used to transmit or receive messages), techniques (ways that messages can be transmitted), and strategies (ways in which messages can be conveyed most effectively and efficiently). The development of social and communicative competence can be particularly complex for AAC users, requiring that competent communicators have knowledge, judgment, and skills in both sophisticated socio-linguistic and socio-relational aspects of communication (knowledge of when to speak, when not to, and what to talk about, with whom, when, where, and how). Initiating, maintaining, and terminating conversations, giving and taking turns, communicating varied functions (e.g., requesting, rejecting, commenting), and engaging in different kinds of interactions are all considered sociolinguistic skills. In comparison, socio-relational skills include: an interest in others and a desire to communicate, a positive self concept, active participation in conversational exchanges, responsiveness to partners, and the ability to put partners at ease (Beukelman & Mirenda, p. 12).

What Does This Review Add to the Literature?

This review adds to existing theory in the area of transition in two important ways. First, we have only included studies that combine the use of a transition-related treatment and measurement of one or more transition-related outcomes exclusively (or in large part) for secondary aged youth with identified disabilities, and the effects of the treatment must have been measured and reported in such a way that an effect size could be calculated (except, of course, with studies using qualitative designs). None of the previous reviews on these topics constrained their reviews to this focus on measured effects *across research design types*, disability categories, and social and communicative skills with both broad and specific perspectives, for secondary youth with identified disabilities.

Second, we also required every study included in this review to meet minimum standards of internal and external validity. Our rubric was adapted from early design work completed by meta-analysts and systematic review experts at both the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) at the University of London, and at the What Works Clearinghouse (WWC) in the U. S. Department's Institute of Educational Sciences (see their respective websites at <http://eppi.ioe.ac.uk/EPPIWeb/home.aspx> and <http://www.whatworks.ed.gov/>).

Hence, our review would be considered evidence-based and systematic (Cook, Mulrow, & Haynes, 1997). While some of the previous reviews incorporated meta-analytic techniques, little or no attempts to screen studies with weak designs out of the review were reported.

Search Strategy

Information on sources and search terms used in the review can be found in the full document located at www.nsttac.org.

Results

Results in the areas of participants, settings, research designs and calculation of effect sizes, outcomes, and calculated effect sizes can be found in the full document located at www.nsttac.org. Overall finding indicated:

- Little support was found for AAC interventions
- Modest support was found for interventions designed to increase conversation skill acquisition and for Social Skills Training interventions
- Interventions designed to decrease inappropriate social behavior displayed narrative support from the authors, but were not subjected to meta-analytic statistical techniques due to effect size calculation formula problems with this class of studies

What Conclusions can be Drawn from this Review when Compared with Prior Studies?

- First, we can conclude that our review supports the efficacy of SST interventions with secondary aged youth with disabilities across all design typologies. For example, it is clear that practitioners employing SST have something to gain from examining the low incidence intervention literature in social/communication skills acquisition; that is, there appears to be value to paying close attention to matching social skills interventions to individual students' skill deficits (now being called replacement behavior training, or RBT, in the high incidence literature) and exploring whether increasing duration and intensity of treatment leads to stronger, more sustained treatment effects.
- Second, our findings on the efficacy of AAC interventions are modest.
- Third, we found additional support for interventions designed to enhance conversation skills of students with disabilities.

In conclusion, we return to Paula Kohler's notion of a *transition-focused* education. In truth, we serve secondary youth with disabilities for a handful of school years, in comparison to the adult lives we send them to upon exiting the public school system. We have an ethical responsibility to make the most of their time in school. In this context, we are challenged as a field to make paramount issues of social validity in all our research efforts. While teachers may quite practically rely on suppressing inappropriate student behaviors to gain classroom control, for example, investing the time and energy to actually assess and teach replacement social and communication skills and empower students meets this same end, but with different and essential outcomes for youth. This review affirms this important challenge for youth with disabilities: promoting the acquisition, performance, and generalization of pro-social behaviors; reducing competing problem behaviors, and enhancing interpersonal relationships with peers and adults; thus ultimately improving transition outcomes and overall quality of life for youth with disabilities.

References

The list of references used in the review can be found in the full document located at www.nsttac.org

Table 1. Sample and Participant Characteristics of Studies Used in the Review

Intervention Subgroup	Study	Sample Size	Setting	Participant Characteristics		
				Disability Label	Mean Age or Grade	Percent Female
Augmentative Communication Intervention	Abrahamsen, Romski, & Sevcik (1989)	10	Residential facility	Severe MR & related disabilities: CP, autism, hearing loss, Down syndrome	16.42 years	No gender information given
	Hamilton & Snell (1994)	1	Special ed. classroom and surrounding area, school cafeteria, surrounding community, home	Autism	15 years	0%
	Heller & Allgood (1996)	5	Vocational training sites: drugstore, greenhouse, grocery store, restaurant, hair salon, hospital, and amusement park.	Mild to severe MR & Dual Sensory Impairments: Low vision and moderate to profound hearing impairment	17.90 years	67%
	Kennedy & Haring (1993)	2	Special classes in typical public schools in Santa Barbara, CA	Profound multiple disabilities	19	50%
	Sternberg & Owens (1985)	3	Residential institution for profound MR students	Profound MR	17.66 years	0%
Conversation Interventions	Downing (1985)	3	Center school for students w/moderate to severe cognitive disabilities within public school system (urban)	Moderate MR	15.67 years	66.7%
	Hughes, Rung, Wehmeyer, Agran, Copeland, & Hwang (2000)	5	Classrooms and lunchroom in large urban comprehensive HS	MR w/ secondary dis: speech/ language, autistic-like behaviors, hearing impairment	16.6	20%

Intervention Subgroup	Study	Sample Size	Setting	Participant Characteristics		
				Disability Label	Mean Age or Grade	Percent Female
Conversation Interventions (continued)	Hunt, Alwell, & Goetz (1988)	3	High school classroom for children with severe disabilities, on regular high school campus	Severe disabilities (MR plus CP, MR, MR, aphasia)	15.33 years	67%
	Hunt, Alwell, Goetz, & Sailor (1990)	3	Variety of classroom and school settings, job sites during work breaks (urban, northern CA)	Severe disabilities	17.67 years	67%
	Lamb, Bibby, & Wood (1997)	29	Special schools for children w/mod. learning difficulties in Nottingham, England	MR	14 years	37%
	Newman, Buffington, & Hemmes (1996)	3	Special class in public school -urban (NYC)	Autism	not given	0%
	Plienis, Hansen, Ford, Smith, Stark, & Kelly (1987)	3	high school classroom at special school for adolescents w/ EBD	EBD	18.67	67%
	Smith & Griffin (2002)	8	Incarcerated youth at Diagnostic Development Center in Albuquerque, NM	LD in oral language skills, BD	15-18 years	0%
	Storey & Allardice (1987)	3	Vocational training site in community: nursing home (where students work)	MR	17-18 years	100%
Decreasing Inappropriate Behavior Interventions	Durand & Kishi (1987)	3	State institution with segregated program, and group home/segregated school	Severe to profound MR, with dual sensory impairments	20.6 years	40%
	Embregts (2000)	3	Residential facility in the Netherlands	Mild MR	16 years, 9 months	0%

Intervention Subgroup	Study	Sample Size	Setting	Participant Characteristics		
				Disability Label	Mean Age or Grade	Percent Female
Decreasing Inappropriate Behavior Interventions (continued)	Horner, Day, & Day (1997)	3	Kitchen and living rooms of 24 hr group homes	Autism, severe MR & secondary disabilities, including cerebral dysgenesis, and bilateral hearing loss	14.33 years	0%
	Hunt, Alwell, & Goetz (1988)	3	High school classroom for children with severe disabilities, on regular high school campus	Severe disabilities (MR plus CP, MR, MR, aphasia)	15.33 years	67%
	Hunt, Alwell, Goetz, & Sailor (1990)	3	Variety of classroom and school settings, job sites during work breaks	Severe disabilities	17.67 years	67%
	Masia, Klein, Storch, & Corda (2000)	6	Regular public HS in Long Island, NY	BD	15.2 years	50%
	O'Neill & Sweetland-Baker (2001)	1	Various locations within student's special education classroom	Autism/severe MR	15 years	0%
	Seybert, Dunlap, Ferro & Smith (1996)	3	Large vocational classroom, courtyard on school campus (regular HS) at a table	Moderate-Severe MR and challenging behaviors	16.67 years	33%
Social Skills Training Interventions	Baum, Clark, McCarthy, Sandler, & Carpenter (1987)	4	Adolescent Day Treatment Program at Florida Mental Institute, 2 separate rooms outside of classrooms	Conduct Disorder (socialized, non-aggressive, one aggressive)	13 years	0%
	Browning & Nave (1993)	98	Special classrooms in 12 public schools	EMR and LD	17 years	No gender information given
	Duan & O'Brien (1998)	3	Living room of group home	MR	19 years	33%

Intervention Subgroup	Study	Sample Size	Setting	Participant Characteristics		
				Disability Label	Mean Age or Grade	Percent Female
Social Skills Training Interventions (continued)	Hall, Dineen, Schlesinger, & Stanton (2000)	3	Treatment facility: examination rooms in Child Development and Mental Retardation Center	Mild-Moderate MR	21 years	33%
	Malouf, MacArthur, & Radin (1986)	31	Large suburban high schools	LD and mild MR	10 th -11 th grade	Exact # not stated, but matching procedure included gender
	Montague (1988)	49	Special education classes	Not stated- but groups matched on disability labels	10 th -12 th grade	Exact # not specified, but two groups equal on gender
	Moore, Cartledge, & Heckaman (1995)	3	Self-contained urban school for EBD	EBD	14.3 years	0%
	Ozonoff & Miller (1995)	8	Not stated, in Utah	Autism	13.8 years	0%
	Staub & Hunt (1993)	4	HS campus, usually just outside special education classroom	Severe MR, moderate MR, mild MR w/ multiple orthopedic disabilities, CP with mod. MR	16.3 years	50%
	Stermanc & Josefowitz (1985)	7	State institution for persons with disabilities	Autism, behavior disorders, a variety of psychotic disorders	13-17 years	Exact # not stated

Table 2. Social/Communicative Interventions, Designs, Features, Duration and Intensity, and Outcomes

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Augmentative Communication Interventions	Abrahamsen, Romski, & Sevcik (1989)	Between groups design: Pretest-posttest control group ($n = 10$; severe MR and MD)	Teaching lexicons on augmentative communication system and measuring generalized effects	1 hour/day, 5 days per week for approx. 18 months	Increases in task attn, sociability, and intentional communication through acquisition of lexicons
	Hamilton & Snell (1994)	Single-participant design: MB x settings ($n = 1$; autism)	Milieu approach and prompts to increase spontaneous communication book use in classrooms, cafeteria, community, and home (mostly requests for activities or food)	40-90 (5-30 second) sessions	Increased communication book use in all areas except home/ concomitant decrease in inappropriate behavior
	Heller & Allgood (1996)	Single participant design: MB x participants with reversal (B-A-B) ($n = 5$; mild – severe MR and dual sensory impairments)	System of least prompts used to teach use of dual communication boards (expressive and receptive) to Ss	10 – 20 sessions over 10 months	Increase in communication responses using communication boards
	Kennedy & Haring (1993)	Single participant design: Multiple probe with alternating treatments ($n = 2$; profound MD)	Prompting strategy to teach students to activate request (e.g., “Let’s do something else.” recorded on tape player) for new stimuli in social situations with peer and assorted toys/ games.	3-5 (25-40 minute) sessions /week for 10 weeks	Acquisition of choice making using micro-switch (control over stimulus presentation)
	Sternberg & Owens (1985)	Single participant design: MB x participants ($n = 3$; profound MR)	Coactive movement routines are context for teaching through prompting/shaping a signal to continue activity when interrupted	55-70 ten- minute sessions	Acquisition of expressive signal (movement) to reinstate coactive

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Conversation Interventions	Downing (1985)	Single participant design: reversal (ABAB) and replications with two additional participants ($n = 3$; moderate MR)	Verbal explanation and prompting with time delay	20 min./day, 4 days/week for 9 weeks	Conversational competence: cuing the listener to speak (topic initiation and turn-taking)
	Hughes, Rung, Wehmeyer, Agran, Copeland, & Hwang (2000)	Single participant design: MB x participants ($n = 5$, moderate-severe MR and associated disabilities)	Peer trainers provided structured (prompting strategy) turn-taking w/ conversation book	10-45 (5-13 minute) sessions	Increase in social interactions and conversation skills with variety of ND peer partners
	Hunt, Alwell, & Goetz (1988)	Single participant design: MB x participants ($n = 3$; moderate-severe MR and associated disabilities)	Prompt/fade; differential reinforcement to teach students to use conversation book with variety of ND peer partners	50-80 (10 minute) sessions	Increase in conversation (initiation and turn-taking) skills
	Hunt, Alwell, Goetz, & Sailor (1990)	Single participant design: MB x participants ($n = 3$; moderate-severe MR and associated disabilities)	Prompt/fade; differential reinforcement to teach students to use conversation book with variety of ND peer partners	60 (8 min.) sessions	Generalized increase in conversational competence (initiations and turn-taking with untrained peer partners)
	Lamb, Bibby, & Wood (1997)	Within subjects design: crossover ($n = 29$; moderate MR)	Reminding, prompting, and giving feedback through praise and reassurance.	12 weekly one hour sessions	Increase in communication skills: answering, asking and checking for understanding
	Newman, Buffington, & Hemmes (1996)	Single participant design: reversal ($n = 3$; autism)	Prompt/fade; differential reinforcement with emphasis on self-monitoring and reinforcement	40 daily sessions that were 5 -7.5 min. in length	Increased levels of appropriate "conversation"- in this case, comments and responses with adults after hearing a short story read aloud

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Conversation Intervention (continued)	Plienis, Hansen, Ford, Smith, Stark, & Kelly (1987)	Single participant design: MB x behaviors ($n = 3$; E/BD)	Group training: Skill instruction, modeling, behavioral rehearsal, feedback, and shaping procedures (conversation and social problem solving)	22 sessions, held twice weekly for 45 minutes	Increased conversational skills: questions, high interest comments, self-disclosure, responses to partner queries
	Smith & Griffin (2002)	Between groups design: Pretest-posttest control group ($n = 8$; LD and E/BD)	Group format: tangible rewards for introducing, maintaining or expanding a topic (without book or other visual referent)	Six 45-min. sessions over a 3-week period	Acquisition of conversation skills: eye contact, head nodding, asking questions, taking the perspective of others
	Storey & Allardice (1987)	Single participant design: MB x participants ($n = 3$; MR)	Student/teacher role-play, then cue/correction procedure with least to most prompts	3-14 training sessions distributed over times at work	Increased use of appropriate greeting steps and number of topics of conversation with co-workers
Decreasing Inappropriate Behavior Interventions	Durand & Kishi (1987)	Single participant design: MB x participants ($n = 3$; severe-profound MR and dual sensory impairments)	Behavior management and curriculum design: taught students to use signs or tokens as means of communication through prompting and shaping procedures	3-5 days	Decrease in problem behavior and increase in functional communication (e.g., break requests, requests for attention)
	Embregts (2000)	Single participant design: MB x participants ($n = 3$; mild MR)	Videotaping and self-management package	Between 103 and 179 days	Reduction in inappropriate social behavior

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Decreasing Inappropriate Behavior Interventions (continued)	Horner, Day, & Day (1997)	Single participant design: Reversal (ABAB) ($n = 3$; severe and multiple disabilities)	Taught clients to replace inappropriate behaviors with requests for and participation in “neutralizing routines” such as taking a nap, drawing pictures, writing repetitive phrases, reviewing a yearbook, and rescheduling events on calendar	40 instructional sessions: held 1-3x/week for 15 minutes	Reduction in problem behaviors
	Hunt, Alwell, & Goetz (1988)	Single participant design: MB x participants ($n = 3$; moderate-severe MR and associated disabilities)	Prompt/fade; differential reinforcement	50-80 (10 minute) sessions	Decrease in inappropriate social interaction behaviors (Increase in conversation [initiation and turn-taking] skills)
	Hunt, Alwell, Goetz, & Sailor (1990)	Single participant design: MB x participants ($n = 3$; moderate-severe MR and associated disabilities)	Prompt/fade; differential reinforcement	60 (8 min.) sessions	Generalized effects of reduction in inappropriate social interaction behaviors [and increase in conversation skills]
	Masia, Klein, Storch, & Corda (2000)	Single group pretest-posttest design	Group training conducted over 14 sessions: Skills for Academic and Social Success, SET-C, <i>Overcoming Shyness and Social Phobia</i> , CBGT-A	14 sessions	Decrease in social anxiety

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Decreasing Inappropriate Behavior Interventions (continued)	O'Neill & Sweetland-Baker (2001)	Single participant design: MB x settings/ tasks (n = 1; autism and severe MR)	Following tasks- verbal praise, gesture/physical prompting, decreasing to facilitate independence	8-10 sessions for 10 min. each	Reduction in disruptive behaviors and acquisition of requests for a break
	Seybert, Dunlap, Ferro, & Smith (1996)	MB x subjects with Reversal (ABAB) components (n = 3; moderate- severe MR and BD)	Taught choice-making and measured effects on task performance	Two 7-minute tasks, distributed over 20 - 28 sessions	Decrease in problem behaviors for 2/3 subjects in MB design, and 2/3 subjects in reversal design (increase in choice making)
Social Skills Training Interventions	Baum, Clark, McCarthy, Sandler & Carpenter (1987)	Single participant design: MB x participants (n = 4; E/BD)	Group training : role-playing, modeling and rehearsal	10 sessions	Increase in social skills and self relaxation
	Browning & Nave (1993)	Between groups design: Single group pretest-posttest design (n = 98; mild MR and LD)	Social problem solving group curriculum through <i>cognitive behavior modification</i> , strategies included video training, slides, discussion, role-playing	One class period per day for 5 days	Increase in social problem solving skills
	Duan & O'Brien (1998)	Single participant design: MB x participants (n = 3; MR)	Cue cards, modeling, rehearsal, feedback (provided by coached peer tutors)	2-4 times per week for a total of ten (30-60 minute) sessions	Increased social skills (demonstrated in group home)

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Social Skills Training Interventions (continued)	Hall, Dineen, Schlesinger, & Stanton (2000)	Single-participant design: MB x tasks and participants ($n = 3$, mild- moderate MR)	Group instruction: provision of information, modeling, behavioral rehearsal, feedback, homework assignments	1 hr/day; 4 days/week for 6 weeks	Increase in conversation and related social/ communicative skills, as follows: 1. Conversation; 2. Asking someone to social event; 3. Saying no to request; 4. Giving criticism; 5. Differing in opinion; and 6. Receiving criticism.
	Malouf, MacArthur, & Radin (1986)	Between groups design: posttest only control group design ($n = 31$; mild MR)	Videotape, workbooks, discussion; social skills at work	45 min./day for 2 weeks	Increase in social skills as measured by oral curriculum-referenced test, such as asking for help and role playing
	Montague (1988)	Between groups design: pretest-posttest non-equivalent comparison group ($n = 49$; mild- moderate disabilities)	Rehearsal, scripted lessons, cue cards, simulation activities/ social skills at work	Ten scripted lessons over 10 weeks, 3 days per week	Perceived increase in social skills
	Moore, Cartledge, & Heckaman (1995)	Single participant design: MB x subjects, settings, and behaviors ($n = 3$; E/BD)	Instruction for appropriate reactions to winning and losing taught through 5 steps: rationale, modeling, role-play, personal experience, and homework assignments	23 sessions over 5.5 week period; 4-5 times per week for 30 min.	Improvement in game-related social skills (reactions to peers [with disabilities], winning, and losing)
	Ozonoff & Miller (1995)	Between groups design: pretest-posttest non-equivalent comparison group ($n = 8$; autism)	Group lessons, modeling, role-play, videotape role-play, discussion	14 (90 minute) sessions distributed over 4.5 months	Increase in ability to take perspective of others

Intervention	Studies	Designs	Intervention features	Duration/ intensity	Outcome features
Social Skills Training Interventions (continued)	Staub & Hunt (1993)	Single participant design: MB x participants ($n = 4$; various severe disabilities)	Information about different abilities in general, and atypical communication skills of individual students in particular, given to ND peer tutors—changes in social interaction behaviors then measured in the students with disabilities with informed peer partners	5 twenty-minute sessions over 5 consecutive days	Increase in appropriate social skills
	Stermac & Josefowitz (1985)	Single group design: pretest-posttest ($n = 7$; autism and/or severe E/BD)	Social skills board game-players earn points by solving/role-playing social situations encountered on board	Two 1- hour sessions per week for 14 weeks	Increase in social skills, decrease in “bizarre” behavior by participants

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NSTTAC
 Dept. of Special Ed. & Child Development
 9201 University City Blvd.
 UNC Charlotte
 Charlotte, NC 28223
 704-687-8606
 704-687-6327(TTY)
 704-687-2916(fax)
chfowler@uncc.edu, www.nsttac.org