*EVALUATION OF A SOCIAL INTERACTION
COACHING PROGRAM IN AN INTEGRATED
DAY-CARE SETTING*

JO M. HENDRICKSON

THE UNIVERSITY OF IOWA

NANCY GARDNER

WEST LIBERTY (IOWA) COMMUNITY SCHOOL DISTRICT

ANN KAISER

VANDERBILT UNIVERSITY

AND

ANN RILEY

HANDICARE, INC., IOWA CITY, IOWA

We used a multiple baseline design across teachers (with a reversal phase for 1 teacher) to evaluate the direct and indirect effects of a structured coaching procedure on the teaching behaviors of 3 day-care teachers. Structured coaching preceding daily caregiver routines resulted in (a) substantial increases in adult delivery of behavioral support of social interaction during group activities with 2- and 4-year-old children and (b) marked collateral increases in positive interactions of socially withdrawn children. Long-term maintenance effects were demonstrated by both the teachers and target children, and social validity measures indicated that the teachers rated coaching very positively on several dimensions. The results are discussed in relation to in-service training of day-care staff, the concept of coaching as a setting event, and the dissemination of teaching technology related to social interaction of young children.

DESCRIPTORS: social interaction, coaching, day care, staff development, collateral effects, social withdrawal

Social interaction with peers during the preschool years is linked with language acquisition, cognitive development, and the continued expansion of social repertoires (McEvoy & Odom, 1987). Children who do not engage socially with peers or engage at insufficient rates or in inappropriate ways may face problems in their immediate social and emotional adjustment as well as in their long-term development (Schloss, Schloss, Wood, & Kiehl, 1986).

Children who are isolated or socially withdrawn are unlikely to learn to interact in a positive, productive, and reciprocal manner simply through exposure to more socially competent models (Guralnick & Groom, 1988).

Synder, Apolloni, and Cooke (1977), in reviewing the integration literature, concluded that introducing young children with disabilities into preschool settings did not result in spontaneous interaction with peers. Instead of adopting an "integrate and hope" approach, special teaching strategies are critical for interaction and social skills development between typical preschoolers and children with disabilities. Adult- and peer-mediated strategies are two approaches that have contributed to the enhancement of preschool children's social behavior repertoires and reciprocal interactions with peers (McEvoy & Odom, 1987). Adult-mediated

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Please address all correspondence to Jo M. Hendrickson, N 264 Lindquist Center, Iowa City, Iowa 52242.

strategies often employ prompts and models as antecedent events to desired social behaviors and praise, tokens, and other forms of reinforcement as consequences for the target children (e.g., Wolfe, Boyd, & Wolfe, 1983) or peers (e.g., Hendrickson, Strain, Tremblay, & Shores, 1982). Similarly, in peer-mediated approaches, children without disabilities often are trained to initiate social behavior with target children (e.g., Odom, Strain, Karger, & Smith, 1986; Strain, Shores, & Timm, 1977) or to respond positively to the initiations of target children (see Strain & Shores, 1977). In addition, the type of toys (e.g., Martin, Brady, & Williams, 1991), choice of activities (e.g., Stoneman, Cantrell, & Hoover-Dempsey, 1983), and activity structure (e.g., DeKlyen & Odom, 1989) may affect a child's social engagement. Although the research literature documents the influence of setting events (e.g., toys, activity structure) and the power of specific antecedent and consequent events on the acquisition of social interaction behaviors, a technology for securing durable and generalized responding remains a barrier to optimal educational programming for young, socially withdrawn children (Sasso, Melloy, & Kavale, 1990).

A second major challenge is to ensure that young children with disabilities benefit from what is currently known about enhancement of social development. Smith and Strain (1988) and Rule, Killoren, Stowitschek, Innocenti, and Striefel (1985) view ongoing, job-related staff training as essential to the effectiveness of early childhood programs. To date, however, there are very few well-controlled empirical studies related to in-service training of day-care staff who serve young children with disabilities in integrated settings.

Peck, Killen, and Baumgart (1989) described a nondirective consultative approach for meeting the needs of mainstreamed preschoolers that stresses the use of teachers' existing instructional repertoires, daily classroom routines, and naturally occurring classroom events. To assess effectiveness, Peck *et al.* observed teacher prompts used to encourage a target response and the consequences used by the teacher to reinforce performance of the target behavior. Child behavior change also was docu-

mented. In the first of two experiments, a multiple baseline design showed increased instructional behavior related to the child's educational goals in both training and generalization settings. Results of Experiment 2 demonstrated that review of videotaped lessons by the teacher (Experiment 1) was not essential for positive outcomes, and that a special educator with little training in consultation techniques could fulfill the role of consultant.

Rule *et al.* (1985) used three types of in-service training—a single day workshop, five mini workshops, and micro session training and transfer—to prepare day-care staff from 10 centers to work with 22 preschoolers with handicaps. This three-pronged approach was associated with progress by the children and positive teacher attitudes; however, the evaluation design did not allow determination of the relative contribution of each type of training or other variables.

Two groups of investigators have evaluated the effects of coaching, a consultation approach in which assistance is provided by one teacher to another to develop instructional skills, strategies, or techniques (Strother, 1989). Miller, Harris, and Watanabe (1991) found increases in effective teaching behaviors and decreases in ineffective behaviors as a result of coaching. Hendrickson, Sroka, and Gable (1989) used a seven-step coaching process and protocol as part of an ongoing staff development program and as a component of the practicum experience of preservice trainees in a diagnostic classroom serving elementary-aged children. Improvements in staff communication, teaching effectiveness of the trainees, and children's classroom behavior were linked with coaching. To date, however, evaluations of coaching have been conducted only with teachers of school-aged children.

Given the need for improved staff performance in relation to young children with special needs (e.g., Rule *et al.*, 1985; Smith & Strain, 1988), the goal of socially integrating children with disabilities and their peers is unlikely to be achieved without special intervention (Strain, 1990). No studies have been reported in the literature that specifically examine the relationship between day-care staff development strategies concerning the so-

cial interaction of young children and the subsequent teaching behavior of staff members. This investigation determined whether a structured coaching strategy, previously used in preservice and in-service training of teachers of school-aged children, could be adapted for day-care in-service training to facilitate social interaction among young children with and without disabilities. Second, we wished to ascertain the impact, if any, of coaching on the interaction of severely socially withdrawn 2- and 4-year-old children. Group activities were selected as the teaching arrangement of interest, because group activities are indigenous to day care, are natural contexts for promoting social behavior development in young children with disabilities (McEvoy et al., 1988), and are more cost effective than one-to-one instructional paradigms.

METHOD

Subjects

Three female day-care providers served as target teachers. Teacher 1 was 23 years old, had a bachelor's degree in psychology, and had worked as a teacher's assistant with children in a toddler transition class for several months. Teacher 2 was 21 years old and had earned a 2-year associate degree and a human services certificate. She had been employed for 6 months in an integrated day-care facility and had experience as a summer camp counselor for children and adults with disabilities. Teacher 2 was responsible for teaching infants and toddlers. Teacher 3 was 23 years old and was a certified preschool-elementary school teacher in her 2nd year of teaching in an integrated day-care center. She was the lead teacher for the program for 4-year-olds.

The target teachers were invited to participate in the coaching program based on the recommendation of administrative staff, who expressed a desire for more social interaction to occur among the children, especially those with disabilities, in these teachers' classrooms. Studies by other researchers had been conducted at this center, and the teachers knew they could decline without negative reper-

cussions. After the study was explained, each target teacher agreed to participate.

One child with severe social interaction deficits was linked to each teacher for evaluation purposes. Dee (for Teacher 1) was a 2-year 4-month-old female under the care of Children's Protective Services. According to an earlier evaluation, Dee was functioning approximately 6 months below developmental norms across domains, with motor and language development 9 or more months delayed. She used gestures and spoke with two- to three-word utterances of moderate intelligibility. Six weeks of prebaseline observations revealed infrequent interactions with other children and social behavior characterized as "clinging to adults"; approximately one third of Dee's initiations and responses to peers were negative. Dee had six siblings under protective custody and lived at home with two young siblings.

Clare (for Teacher 2) was a 2-year 7-month-old female with mild cerebral palsy and significant language and motor delays. Prebaseline observations revealed essentially no positive motor or vocal initiations or responses by Clare to peers. She typically screamed and withdrew when approached by other children. Her speech, other than short statements or commands such as "no," was unintelligible. Clare was from a single-parent family and had two brothers.

Mikee (for Teacher 3) was a 4-year 6-month-old male with a primary diagnosis of mild mental disability (IQ below 70) and a secondary diagnosis of attention deficit hyperactivity disorder. He also exhibited a significant expressive language delay. He typically spoke in three- to four-word phrases, and seldom initiated conversation with adults or children. Only infrequently did peers approach Mikee. He typically roved the perimeter of activities or engaged in isolated play. Approximately one third of his interactions with peers were negative or aggressive. His attention span averaged less than 30 s. Mikee came from a bilingual home with a Laotian father and an American mother. The family changed residences frequently.

The 3 children were selected because they exhibited the lowest rates of social interaction in each

classroom, and they were present at least 80% of the time.

Setting

The study was conducted in an integrated day-care center that served children from 6 weeks to 5 years of age. Approximately one quarter of the 60 to 75 children had multiple disabilities; one third were considered to be at risk or to have an identified single disability, and the remainder were developing typically. The facility was a large open space partitioned into five classroom areas in which children were grouped according to their developmental level. At various times throughout the day, children of different levels played, ate a snack, or were placed physically in proximity to one another.

Observations of the target teachers and children occurred in the pretoddler and toddler classrooms for Teachers 1 and 2 and in the 4-year-old classroom for Teacher 3. Observations occurred between 8:30 and 11:00 a.m. during periods when the teachers were working with or supervising a group of children ($n = 3$ to 17). A wide variety of group activities regularly took place during these hours (e.g., show and tell, story time, large motor play, center and transition times, and snack). Tables, rugs, and portable walls were moved daily to create different activity areas.

Materials and Equipment

Center classrooms often shared materials, equipment, and supplies, all of which were common to day-care and preschool settings. Toddler materials included blocks and building materials, toy cars, miniature figures, folder games, story books, kitchen toys and equipment, puppets, indoor slides, and snacks. In the 4-year-old program, materials often included show-and-tell items the children brought, arts and crafts materials, board games, computer activities, measuring and cooking utensils, puzzles, story books, building materials, and snacks.

Procedure

Training the coach. The second author, who served as the primary coach, reviewed and rehearsed each step of an eight-segment coaching process (see

Figure 1 for seven of the eight steps) before the first coaching session with Teacher 1. For the first three sessions with Teacher 1, an experienced coach (the first author) served as the coach, and the second author participated as an observational learner. After three coaching sessions with Teacher 1, the second author assumed the role of primary coach, and the first author served as an observational participant for several additional sessions. For the remainder of the study, the second author served as coach, with intermittent participation by the first author.

The coaching session. A 15- to 25-min coaching session preceded classroom observations made during the intervention condition for all teachers. Figure 1 presents a sample of a completed coaching protocol and reveals the first seven segments of the eight-step coaching sequence. The first three coaching sessions for each teacher began with the coach explaining the purposes of peer coaching in day care. The following points were stressed: (a) Peer coaching is intended to help the teacher and observer become more aware of different teaching techniques and children's responses to these techniques, (b) peer coaching is an opportunity for two or more staff members to reflect on their teaching and to develop ideas for strategies and activities they would like to try, (c) peer coaching is an opportunity to think of strategies for better integrating high-risk children, children with disabilities, and socially withdrawn children into the regular classroom activities, (d) peer coaching is not an evaluation—the teacher is not expected to perform in a given way or to change her behavior to please the coach, and (e) differences of opinions are expected and welcomed.

At the end of each coaching session, the original protocol was kept as a permanent product and a copy was given to the target teacher. Most coaching sessions included two to three people—one or more observers, the target teacher, and either Teacher 1 or 2 if they were in the process of learning to coach.

Each session began with a brief reminder of the activity last observed, an activity that typically had occurred 1 to 3 days previously. The coach recorded each step in the coaching process on the coaching

Coaching for Day Care Settings

Teacher: Suzanne Date: 6/12/90 No. Children: Coach(es): Nancy Activity: Snack

Teacher: What did you like about the lesson/session?

1. Kids liked idea of choosing partners for snack.
2. Good opportunity to interact.
3. Teacher feeling more comfortable promoting interaction.

Teacher: What would change about the lesson/session?

1. Free up teacher to promote more interaction (instead of feeding Brian).
2. Have aide promote more interactions themselves.
3.

Observational Data: Teacher Data

1. 15 Support Behaviors
2. 20 Intervals preparing food

Observational Data: Child Data

1. 28 - Interactions
2. 5 - Interactions with Sam

Anecdotal Observations: Things to continue

1. Advance Organizer - Explained clearly to kids what would happen.
2. Kids easily adapted from choosing center partners to snack partners.
3. Giving kids topics to talk about and reinforcing them.

Anecdotal Observations: Things to consider modifying

1. Possibly have aide/child do more snack preparation for Brian.
2. Move chairs closer to each other.
3.

Teacher Goal Statement

1. Catch and praise children interacting.
2. 15-20 support behaviors

Figure 1. Sample of a completed coaching interview protocol.

protocol (see Figure 1). As a first step in the coaching process, the teacher was asked to tell three things she liked about the lesson, and the coach paraphrased and recorded each positive self-assessment statement. Second, the teacher was asked if there was anything she would change. Next, the coach shared the data on the teacher's teaching behavior (Step 3) and then on the target child's behavior (Step 4). The coach emphasized that the child's data were to be thought of as representative of the interactions of all the children. Definitions and examples of teacher and child behavior were discussed at this time. After sharing the data, the coach stated and recorded three positive observations based on the data and her anecdotal notes (Step 5). Positive comments (and suggestions) were made at the discretion of the coach. After the first three sessions, the coach was instructed to base at least one comment on the objective data presented to the teacher. Additional comments could be based on the data or on anecdotal observations. The sixth step was for the coach to offer suggestions for the teacher's consideration. Once three sessions had been completed, the coach asked the teacher to set a goal for herself (e.g., to increase positive social interactions to a certain level) (Step 7). The coach suggested the teacher set a goal that was observable and related to her teaching behavior or the children's behavior. Finally, the teacher was asked to discuss with the coach possible behaviors she might use in her next session to support interaction among her children (Step 8). The ideas were recorded, dated, and maintained as permanent products.

The coaching sessions were informal and conversational in nature, and lasted about 20 min each. Questions could be asked at any time by either the coach or teacher. Coaching sessions were conducted in any available quiet area of the day-care center not being used for children; brief interruptions were not uncommon. Teachers 1 and 2 assisted in coaching and observing one other teacher. After Teachers 1 and 2 had attended three coaching sessions, they were invited by the primary coach to take responsibility for one or all of the eight steps in the coaching process. Each teacher was encouraged to begin with Steps 1 and 2, but decided for themselves the number of steps they wished to handle.

By the final session, each teacher had participated in each step of coaching. Teacher 1 observed and participated in the coaching of Teacher 2, and Teacher 2 observed and participated in the coaching of Teacher 3. Teacher 3 did not have an opportunity to collect data or coach formally.

Measurement

An average of two to three observation sessions were scheduled weekly, with the actual number varying as a result of staff work schedules, absenteeism, and special events (e.g., field trips). All observations were carried out during group activities. The average number of children present during observations of Teachers 1, 2, and 3, respectively, was 12, 4.5, and 9. On most occasions, another adult was in the classroom but did not participate in directing the activity.

Observations of teacher and child behaviors were conducted for 10 min with a 5-s momentary time sample recording procedure. If the target child was engaged in a social initiation at the time of the cue, the observer watched for 3 s to determine whether an interaction resulted. Data were collected on the teacher and child in alternating minutes across the 10-min observation. Thus, a total of 60 teacher and 60 child behavior counts were possible each observation. Observers wrote anecdotal notes during and after each observation on specific interactions, the type of activity and materials, teaching strategies, and the children's responses. Aspects of the lesson that the observer thought were positive were written on a separate section of the data sheet immediately following the observation session.

Three observers were trained to a criterion of at least 90% agreement on each teacher and child behavior category (described below) before beginning baseline. Two observers served across all phases of the study, and a third was available. The observers were familiar to all participants before the study began.

Behavior definitions. Teacher behavioral supports and positive social interactions of target children were observed. *Teacher support* was defined as the teacher providing a verbal or nonverbal cue, model, or instruction to set the occasion for social interaction (i.e., antecedent event) or providing

feedback following an interaction (i.e., consequent event). Teacher support included antecedent and consequent events presented to the class as a group, to nontarget children, and to target children. *Social interaction* was defined as any motor or verbal behavior initiated to another child and responded to within 5 s with a motor or verbal behavior. Interactions were not considered positive if a child hit, pushed, kicked, screamed, or otherwise displayed threatening or hurtful behavior as an initiation or response to an initiation. (Complete definitions and examples of observational categories are available from the first author.)

Interobserver Agreement

Interobserver agreement was assessed by having two observers independently but simultaneously record the behaviors of the teachers and target children for 35% of the sessions during each phase of the study. An agreement was scored when both observers recorded the same behavior at the same time. Agreement was computed by dividing the number of agreements of occurrence by the number of agreements plus disagreements and multiplying by 100%. The two primary observers were aware of the experimental phases; the third observer, who collected data on eight occasions, was not informed of the experimental condition. Interobserver agreement with Observer 3 was consistently within the range of the other two observers. Interobserver agreement on teacher support for Teacher 1 averaged 93% (range, 78% to 100%) and 95% (range, 88% to 100%) on social interactions for Dee. The mean interobserver agreement on teacher support for Teacher 2 was 95% (range, 83% to 100%) and 95% (range, 75% to 100%) for interactions for Clare. Interobserver agreement on teacher support for Teacher 3 averaged 99% (range, 92% to 100%) and 93% (range, 75% to 100%) for the social interactions of Mikee. Interobserver agreement on nonoccurrence of key behaviors ranged from 94% to 100% and averaged 98%.

Procedural Fidelity

Independent observers evaluated each protocol and the written documentation of ideas discussed to determine whether these records indicated that

each of the seven segments of the coaching process had been conducted. Interobserver agreement was 100%. Results revealed that all steps had been executed in the coaching process for Teachers 2 and 3. For Teacher 1, records of the ideas segment (Step 8) had been omitted on 5 days of coaching. This represents 5 of the 152 total steps (2%) of all coaching sessions. Videotapes of coaching sessions were independently assessed and revealed 100% correct execution of the major elements of the coaching process, in concordance with the permanent products of those sessions.

Experimental Design

A multiple baseline across subjects design was used to evaluate the effects of the intervention. During baseline, observations were conducted as teachers engaged in routine activities, after which coaching was introduced sequentially across the 3 teachers. Coaching was subsequently discontinued, and maintenance data were collected on a short-term (i.e., once every week for 3 weeks) and long-term basis (i.e., after a 3-month delay). Complete follow-up data were unavailable for Mikee because his family moved.

A reversal design also was used with Teacher 1. During the withdrawal phase, coaching was discontinued and the teacher was asked to conduct her activities as she had before coaching.

Consumer Satisfaction

A 15-item questionnaire (see Table 1) was administered to the teachers (after initial review for clarity, content, and appropriateness by five teachers and two teacher educators). Responses to the statements were made by marking one of four columns ranging from "strongly agree" to "strongly disagree," or from "very high" to "very low." The questionnaire also included four open-ended items that requested the respondent to (a) describe the three most beneficial aspects of participating in peer coaching, (b) give specific recommendations for making peer coaching easier to implement and/or more beneficial, (c) name a skill needing personal improvement, and (d) list the skill the respondent had learned the best. Each teacher received and

Table 1
Mean Responses to Items on the Teacher Feedback
Questionnaire (with Ranges in Parentheses)

Item	Score
1. Research on coaching was worth my effort.	3.7 (3–4)
2. Research in day care is important to learn to better teach high-risk children/children with disabilities.	3.3 (3–4)
3. Research in day care is important to learn to better teach all children.	3.7 (3–4)
4. Research in day-care centers can improve specific staff teaching skills.	3.7 (3–4)
5. Research in day-care centers can improve staff teaching in general.	3.7 (3–4)
6. I would participate in a similar project in the future.	3.3 (3–4)
7. I would share my coaching skills with other teachers.	3.7 (3–4)
8. I believe coaching can be used in most centers to help integrate high-risk children/children with disabilities.	4.0 (4–4)
9. Overall, I rate my learning about enhancing social interactions:	3.3 (3–4)
10. Overall, I rate my learning about modifying small/large group activities to increase social interaction:	4.0 (4–4)
11. Overall, I rate my ability to adjust my curriculum and teaching strategies to promote social interactions:	3.7 (3–4)

Note. For Items 1–7, 4 = strongly agree and 1 = strongly disagree; for Items 8–11, 4 = very high and 1 = very low.

anonymously responded to the questionnaire 3 to 6 weeks after the discontinuation of coaching.

All items on the questionnaire were responded to positively by the 3 teachers, with the lowest average score of 3.3 (three items), 3.7 the most frequent average response (six items), and a 4.0 (most positive response) rating made on two items. Skills the teachers reported improving upon the most included “reinforcing positive interactions,” “prompting abilities,” and “providing supports for interaction.” The teachers reported having learned the best how to “have children interact with one another rather than only teacher to child,” “manipulate the amount and type of social interaction,” and “promote social interaction during story time.”

Examples of benefits included “teaching the children turn-taking and how to ask others to join without much teacher involvement,” “observing

the impact of my teaching on the amount of social interaction and participation in all group activities (by children with disabilities),” “experimenting with various teaching materials and methods,” “seeing that someone else is learning right along with you,” and “it’s easier to take criticism and suggestions from someone you already know.” Recommendations included “explaining coaching to all center personnel before beginning,” “having extra staff available,” and “having teachers in different rooms work together.”

Six months after the last maintenance check, Teachers 2 and 3 (Teacher 1 had moved from the area) were asked two questions: (a) Did they still use any strategies they had learned? If so, (b) could they give a recent example? Both teachers reported that they continued to use support behaviors in their teaching, and both gave examples of applications.

RESULTS

Figure 2 presents the number of intervals of support behaviors for Teachers 1, 2, and 3. The number of intervals for Teacher 1 increased substantially from baseline ($M = 0$) to Intervention 1 ($M = 12.6$). The reversal condition resulted in a return to baseline levels. The mean number of intervals of support behaviors during the second condition increased to 24. These levels were maintained during short-term maintenance checks ($M = 21$) and at the 3-month follow-up ($M = 21$).

For Teacher 2, support behaviors occurred only twice during 15 baseline observations. With the introduction of coaching, the mean number of intervals of support behaviors increased to 19 (range, 9 to 42). Follow-up observations revealed an average of 28 intervals of support behavior for 3 weeks and 29 intervals at the 3-month follow-up.

Observations of Teacher 3 revealed only one occurrence of support behavior during 26 days of baseline. With the introduction of coaching, the mean number of intervals increased to 18. After the termination of coaching, Teacher 3 maintained an average of 18 for the first 3 weeks of follow-up and 16 at the 3 month follow-up.

Figure 2. The number of intervals of support behavior for Teachers 1, 2, and 3 during group activities across experimental conditions.

Figure 3. The number of intervals of child-child interactions for Dee, Clare, and Mikee during group activities across experimental conditions.

Figure 3 shows the number of intervals of social interaction for the 3 target children. For Dee, the daily number of intervals of child-child interaction increased from a mean of four during baseline (range, 0 to 8) to a mean of seven during the first coaching condition, although there was considerable variability during the latter phase (range, 0 to 24). During the reversal condition, there was a decrease to a mean of 0.7 (range, 0 to 1). With the reintroduction of coaching, increases in the number of intervals of social interaction appeared to covary with teacher support behavior (see Figure 2) ($M = 13$; range, 7 to 22). Follow-up observations showed that the number of intervals of social interaction were maintained substantially above the baseline level ($M = 18$ short-term, $M = 20$ at long-term follow-up).

The number of intervals of social interaction for Clare increased from a mean of 1.4 (range, 0 to 4) to a mean of 15 (range, 5 to 32) with the introduction of coaching. Maintenance levels were well above baseline ($M = 15$ for 3-week follow-up, $M = 27$ for 3-month follow-up).

Data were collected for Mikee for 8 weeks, although his baseline is shown for only the last 4 weeks of Teacher 3's baseline. The shortened baseline for Mikee was due to withdrawal of the original target child from the study. Mikee's data reveal a slight, gradual increase in the number of intervals of social interaction during 11 baseline observations ($M = 2$; range, 0 to 4). The number of intervals of child-child interaction increased beginning on the 2nd day of coaching ($M = 15$; range, 0 to 31). As with Dee, the number of intervals of social interaction for Mikee appeared to covary with the level of teacher support behavior. One maintenance check was made on Mikee during the 1st week following coaching ($M = 17$).

DISCUSSION

Social interaction is a context in which both young children (McEvoy & Odom, 1987) and adults (Joyce & Showers, 1980) learn. Coaching, as examined in the present study, provides a social milieu in which adults interact in a semiprescribed manner

to examine past teaching behavior, receive objective and subjective feedback, and discuss instructional techniques. Our results show beneficial changes in teachers' support of child-child interaction and in the interactions of socially withdrawn 2- and 4-year-old children. Indeed, the results suggest that an adaptation of the coaching model used with pre-service teachers of school-aged students (e.g., Hendrickson et al., 1989; Miller et al., 1991; Strother, 1989) may hold promise for addressing social interaction training needs of day-care providers in integrated settings. As in the investigation by Peck et al. (1989), this study measured the effects of the intervention by assessing two critical outcomes—adult teaching behavior and targeted child behavior. Antecedent and consequent supports to social interaction of target children, peers, and the class during routine day-care activities were observed. Peck et al. recorded antecedents and consequences to target behaviors selected from children's individualized education programs, whereas social interaction was the focal behavior in the present study.

Several limitations in the design of this investigation require caution in interpretation of the results. Although the coaching procedure closely approximated the manner in which it would be implemented in a day-care setting, the possibility of teacher reactivity to observers who functioned as coaches cannot be overlooked. All 3 teachers described ways in which they incorporated supportive strategies into their activities throughout the day and after the study was terminated; however, given the limitations of self-report, it is unclear how frequently they supported child-child interactions during these times. As Peck et al. (1989) found, teachers expressed enthusiasm for the training method, and in the present case, dedication to the goal of promoting social interaction. These anecdotal accounts suggest that the teachers were motivated to facilitate social interaction throughout the day. Relatedly, the teachers initially had difficulty thinking of ways to promote interaction during classroom routines, and that developing ideas and feedback helped them to be more creative and better able to adapt activities spontaneously.

Second, the generality of these results is unclear.

Throughout the study, a person who was well known to the teachers and children but who was not employed at the center fulfilled the role of primary coach. It is unclear how well staff would cooperate and how coaching might affect teams composed only of site-based personnel. The teachers, however, reported that it was easier to take recommendations from someone they knew, they liked learning side by side with others, and they appreciated the opportunity to work with teachers whose children were at different developmental levels—all of which suggest some degree of receptivity on the part of staff. Future research with site-based teams also should be directed to the question of whether coaching can be used by teachers who are responsible for supervising paraprofessional staff.

A third issue is the question of observer bias by individuals serving as both coaches and data collectors. We attempted to address this by using a third observer for reliability purposes on eight occasions. The consistency with which results were replicated adds credence to the observed outcomes.

A number of factors may be hypothesized to account for the positive effects of coaching on teachers. In this investigation, coaching may be viewed conceptually as a general setting event. Setting events do not control, but rather influence, behavior (Kantor, 1959). Coaching, which occurred 10 to 120 min prior to each observation, at least initially may have functioned to set the stage for supportive behavior by the teacher. Positive and sustained changes may have been partly a result of coaching and teaching activities in which subjects and target children were trained loosely and exposed to multiple exemplars and common stimuli—strategies associated with the technology of generalization (Stokes & Baer, 1977; Stokes & Osnes, 1986).

From a practical point of view, coaching has the advantages of being relatively low in cost and easy to implement. It is an approach to staff development that involves teachers in evaluation and goal setting. The relationship between teacher behavior and child-child interaction obtained in this investigation indicates that teachers had achieved greater instructional control, a highly desirable and noteworthy outcome in day care (a field that relies on

personnel with less training than programs for school-aged children).

In spite of encouraging results, conclusions cannot be drawn about the general applicability of coaching or why the approach in this study was successful. Much remains to be done in the research and development of in-service models for improving services to children with disabilities in integrated day-care settings. Cost-effective user-friendly strategies are sorely needed and conspicuously absent from the literature on social behavior of young children. Structured coaching, a strategy receiving attention from administrators and teacher educators serving elementary and secondary students, appears to warrant further clinical and experimental trials.

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