Teaching Social Skills to Enhance Work Performance in a Child Care Setting

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Abstract: Adults with intellectual disabilities face difficulty seeking employment in the community workforce. Using a single-subject design, this study examined the utility of role playing and self-management strategies to enhance work performance by promoting the social skills of a young woman with Down syndrome working in a community child care setting. Social behaviors taught included: (a) establishing and maintaining eye contact with adults during conversation, (b) waiting to speak until adults finished speaking, and (c) giving appropriate verbal responses to directions, feedback, or criticism. Results indicated moderate-to-large increases in target behaviors during intervention, with these changes maintained for three months following training. The training protocol was effective in teaching prosocial behaviors which improved work performance. Implications for practice are discussed.

It has long been understood that individuals with intellectual disabilities seeking employment have functional difficulties beyond obvious cognitive or physical limitations (Foy, Massey, Duer, Ross, & Wooten, 1979). Weaknesses in verbal skills such as limited language repertoires and atypical speech patterns (Kroeger & Nelson, 2006; Nientimp & Cole, 1992), emotional and behavioral deficits such as social withdrawal (Mastropieri & Scruggs, 1985–1986), absent or delayed smile and eye contact, as well as deficits in cooperation, turn-taking (Reeve, Townsend, & Poulson, 2007), and poor generalization may result in many individuals with intellectual disabilities working in noncommunity or supported work situations only.

To support the acquisition of appropriate work behaviors by individuals with disabilities, professionals have used a variety of job coaching and workplace support methods. Customized employment (Griffin, Hammis, Geary, & Sullivan, 2008; Luecking, Cuozzo, Leedy, & Seleznow, 2008), self-management interventions (Ganz & Sigafoos, 2005), simulated workplace training combined with direct work experience (Lattimore & Parsons, 2006), job coaching (Mautz, Storey, & Certo, 2001; Ohtake & Chadsey, 2003), team (Gill, 2007; Hogansen, Powers, Geenem Gil-Kashiwabara, & Powers, 2008) and community-based approaches (Carter et al., 2009), and social skills training (Foy et al., 1979; Mautz et al., 2001; Storey & Provost, 1996) have been used, with varying degrees of success, depending on the needs of the potential employee and the demands of the workplace (Duran, 1984; Hughes, Alberto, & Fredrick, 2006; Lattimore, & Parsons, 2006; Mautz et al., 2001).

Recently, self-management strategies have been used to assist individuals as they are transitioning to community workplace settings. Self-management techniques rely on cognitive-behavioral theory which involves the process of changing one’s thinking or private verbal behavior to impact overt behavior (Ganz & Sigafoos, 2005). Researchers in self-management with individuals with intellectual disabilities have reported improvements in work-related social skills including conversation, sharing, peer interactions, and task completion, as well as reductions in stereotypic behaviors and other nonproductive behaviors (Browder & Minarovic, 2000; Ganz & Sigafoos; Hughes et al., 2006).
Lattimore and Parsons (2006) found that direct training in the workplace combined with training in an adult education vocational program with a simulated work setting, assisted four workers with autism or intellectual disabilities to be more successful in a supported employment situation. These workers displayed more rapid acquisition of job skills when work skills were practiced at both the simulated workplace and in the real workplace. Consequently, using a training strategy outside of the immediate job setting may offer promise in acquiring social skills.

Although job coaches have historically been valued partners in community workplaces, some researchers (Ohtake & Chadsey, 2003; Storey & Provost, 1996) suggest that job coaches may sometimes become a barrier to social interactions between workers with disabilities and their co-workers without disabilities. When job coaches were in the community workplace, supported workers were observed to interact more with the job coaches than with their co-workers, lessening the opportunity for social integration. Storey and Provost used a social skills intervention to decrease social interactions between job coaches and supported workers, and increase social interactions between supported workers and their co-workers. Ohtake and Chadsey cited a number of supported worker problems requiring more intrusive job coach facilitation strategies such as challenging behaviors, poor social skills, lack of job completion, and inappropriate verbal comments in the community workplace. For these reasons, professionals need alternative ways to train and maintain appropriate social interaction behaviors for individuals with intellectual disabilities and their co-workers.

Fostering productive social interactions between supported employees and co-workers without disabilities is critical for success in any community work site (Johnson, Mellard, & Lancaster, 2007). Role playing is one of the most common ways to assess social skills (Bieneck & Swender, 2004). Role playing techniques have also been used to increase appropriate social skills in both school and workplace settings (Foy et al., 1979; Shepherd, 2009). For example, Shepherd describes role playing as a component of a direct modeling approach to increasing opportunities for students to interact appropriately with peers and authority personnel, recognize social cues, and develop social competence in school settings. In a community work program, Foy et al. used role playing to increase eye contact, speech duration, overall assertiveness, and to request a behavior change (e.g., find someone else to stay late on the job) in four adults with interpersonal social skill deficits. Having reliable training methods for teaching effective responses to difficult interpersonal situations is essential since inclusive work settings may not provide sufficient natural reinforcement for individuals with disabilities to foster the development of positive and appropriate community workplace behaviors (Alber, Heward, & Hippler, 1999).

Often, individuals with intellectual disabilities have to learn to elicit reinforcement in inclusive settings by behaving in a manner that promotes positive attention and praise from co-workers. Consequently, developing desirable social behaviors should aid an employee’s acceptance in a workplace. Professionals need a strategy to promote work behaviors that is non-intrusive and yet powerful enough to maintain changes within the actual work setting. Therefore, the present study used structured role playing that promoted the development of self-management skills to improve the social skills of a young woman with moderate intellectual disability working as a volunteer in a community child care setting. Specifically, this study examined if this training protocol would be effective in training, and maintaining, the following prosocial behaviors: (a) establishing and maintaining eye contact with adults during conversation and feedback, (b) waiting to speak until adults were finished speaking, and (c) giving appropriate verbal responses to directions, feedback or criticism from adults.

**Method**

**Setting**

The present study took place at a large public university in a metropolitan area on the Eastern seaboard of Virginia. It was conducted in the university’s child care setting which served young children from 8 weeks through 3-years-old, with and without disabilities. The training was conducted in a conference room outside the child care classroom for 2-year-olds in which the subject was working. The participant worked...
mornings, except for federal and state holidays, as a volunteer, without wages during the five months of the study.

Participant

The participant was a 20-year-old Anglo-American female with Down syndrome who was identified early in the public school setting as having moderate intellectual disability. She completed high school with a special diploma, documenting that she had met her individualized educational program goals. As an adult, her expressive verbal behaviors consisted of fairly well-articulated sentences of approximately 5–10 words. She interacted adequately with the preschool children in their activities at the child care center; however, she required frequent redirection by her supervisor to complete assigned tasks in a timely manner. Throughout the study, the participant did not receive any post-secondary school or disability services.

Social interactions between the participant, her supervisor, and co-workers were limited by her infrequent eye contact and her inappropriate verbal and nonverbal behaviors. In work performance evaluations, the participant’s supervisor indicated that participant frequently tried to engage co-workers in conversation about personal issues while they were performing work tasks and that she did not respond appropriately to constructive criticism. For example, it was noted that when she was given negative feedback about her work performance, she hung her head and typically hit her forehead with the palm of her hand and said, “I’m so stupid,” or something similar to this statement. Despite these negative responses from her supervisor and co-workers, when the participant was questioned during performance evaluations about her overall feelings regarding her work, she stated that the volunteer work was her “dream job” and she strongly wanted to continue. Based on weekly evaluations, it was determined that she was at-risk to lose her volunteer work due to her inappropriate behaviors, low-rate of prosocial behaviors, and a pattern of erratic work performance.

Design

A single-subject, alternating treatments design (ATD) design (Kennedy, 2005) was used to determine the effectiveness of two training protocols upon three specific sets of social skills. The baseline phase covered two or three daily sessions over three days of data collection. The implementation of the first training protocol (Intervention I) consisted of a minimum of 18 days of intervention, followed by the second training protocol (Intervention II), which consisted of an additional 12 days of intervention. During the maintenance phase, which consisted of 14 days at a minimum, no intervention training was conducted but the supervisor and co-workers were encouraged to give appropriate feedback to the participant whenever target behaviors were displayed. The follow-up phase began five weeks after conclusion of the maintenance phase. During this follow-up phase, the supervisor and co-workers were given no guidance in their interactions with the participant and were aware that the training was concluded.

Dependent Variables: Prosocial Skill Behaviors

Dependent variables were eye contact, waiting to respond, and appropriate verbal response to directions, feedback, or criticism. Eye contact was operationally defined as the participant maintaining her eyes on the face of the supervisor or co-worker with whom she was speaking throughout the conversation. A conversation was considered to begin when the participant, a supervisor, or co-worker initiated a verbal statement toward the participant. A conversation was considered to end when the participant, a supervisor, or co-worker broke off the conversation, or when there was a five-second lapse in the conversation (e.g., latency). Eye contact during directions, feedback, or criticism was defined as maintaining eyes in the direction of the speaker when receiving direction, feedback, or criticism. Observers used a digital timer to measure duration and latency of time in seconds and minutes.

Waiting to respond and providing appropriate verbal response were defined as follows:

When a supervisor or co-worker initiated a verbal exchange by giving either directions, feedback or criticism, the participant maintained her eyes on that individual’s face throughout this verbal exchange; waiting
until the individual was finished speaking, and then provided an appropriate verbal response to the co-worker or supervisor. The participant was trained to answer with the following responses, or successive approximations, which were defined as appropriate verbal response: (a) thank you for sharing that with me, (b) that’s a good idea, and (c) I’ll work on that.

Observation and Recording

During all phases of the study, the rates of occurrence of the dependent variables were measured using a frequency count. Using time-sampled event recording, the frequency of these target behaviors were counted during an observation session of 10 minutes measured with a digital timer and manually recorded on pencil and paper data collection sheets. When an opportunity for a target behavior occurred, observers notated a “1” on the data sheet when the participant responded as defined and a “0” when the participant did not respond as defined in the study. If there were no opportunities for the participant to exhibit any of the target behaviors during an observation time (e.g. no supervisor or co-worker interaction occurred during the observation period), observers noted “no opportunity,” and then waited at least 10 minutes before another observation session was begun. Data were collected at random intervals between 9:00 am and 12:00 noon, Monday through Friday, through a two-way mirror in the participant’s childcare observation room.

During the intervention phases of the study, two trainers/observers took the participant out of her childcare classroom daily to a small conference room located within the childcare center for approximately 20 minutes to teach her the target behaviors using a training protocol script. Immediately following this training session, when the participant returned to work in the classroom, an observation session was normally conducted. Intervention phases continued until the data showed a clear reversal in trend from the baseline data, for four consecutive observation sessions. Following the intervention phases, data collection was continued on the dependent variables for the maintenance and follow-up phases, although no training was provided.

Interobserver Reliability

Inter-observer agreement was collected and recorded on 20% of all observation sessions in each experimental condition. Overall inter-observer agreement was calculated by dividing the total number of agreements by the number of agreements plus disagreements, and then multiplying by 100 percent (Kazdin, 1982). An agreement was scored when both observers recorded the occurrence of the presence of a target behavior and a response when it was relevant to the target behavior. Prior to the study, observation and data collection training continued until the observers achieved 90 percent agreement for three consecutive observation sessions. The inter-observer agreement ranges and means are as follows per each target behavior: a) eye contact (range = 82%–98%, mean = 90%), waiting to respond (range = 80%–100%, mean = 90%), and appropriate verbal responding to directions, feedback, or criticism (range = 80%–100%, mean = 90%).

Social Validity Data

The social validity of teaching the targeted prosocial behaviors was determined by the use of a five-item pre-post questionnaire administered to one supervisor and two co-workers of the participant. Questionnaire items included closed-ended questions using a Likert-type 10-point scale [e.g., “learns new tasks with great difficulty” (1) to “learns tasks easily” (10)] and one open-ended question which asked respondents to describe specific social interactions the participant needed to improve in the workplace. The questionnaire was designed to provide qualitative and quantitative information regarding co-workers’ experiences and perceptions about working with a co-worker with disabilities. The questionnaire was pilot-tested, prior to the study, with a selected group of three co-workers to determine the ease of use, clarity of questions, and relevance of questions to the intent of the study. The pilot-test determined that the questionnaire needed revision which was completed prior to its implementation in the study.
Procedure

Training protocols. The independent variable included two training protocols that used role-playing and focused instructional interventions conducted outside the immediate workspace by two trainers/observers. Both training protocols involved written scripts in which the participant and trainers alternately role-played the participant’s role as worker and the role of the participant’s supervisor. The scripts specified who played which role, what the situation would be, when roles were to be alternated, and what each individual would do and say as a function of her role. The scripts were updated on a daily basis, based on the supervisor’s daily feedback about the participant’s work performance and areas of concern. The scripts simulated work-related social interactions between the participant, supervisor and/or co-workers that had actually happened or those that were likely to occur on the job. Each scripted training session included several (4–6) role-playing opportunities for the participant to respond to simulated social interactions that required the use of the target behaviors. For example, the participant was given directed instruction on how to establish and maintain eye contact during conversations and interactions, how to wait until the other speaker was finished, and how to provide appropriate verbal responses to criticism, feedback or when given directions while establishing eye contact. An abbreviated excerpt of one of these scripted sessions follows. A full protocol of the participant’s and trainers’ scripted dialogue is available upon request from the first author.

Trainer 1: “We are here to role-play social skills. One of the skills is maintaining eye contact. Let’s role-play how we pay attention by focusing our eyes on each other’s faces when we talk.”

Trainer 2: [supervisor role] “The way you model songs and hand motions helps children participate in music activities.”

Participant: [in her own role] “Thank you.” (while looking at the trainer)

Trainer 2: “Good job! Three appropriate responses we want to role-play with you are, ‘Thank you for sharing that with me. That is a good idea. I will work on that.’ Now, let’s practice showing how we maintain eye contact, waiting until the person is finished speaking, and responding.”

Trainer 1: [supervisor role] “I need for you to finish all your duties for the children, like cleaning the tables at snack time, before you take a break.”

Participant: [in her own role] “That is a good idea. I will work on that.”

Trainer 1: “You did a nice job! Professionals follow directions, listen to feedback, or accept criticism by keeping their eyes on the person talking, waiting and responding appropriately as you just did.”

Interventions I and II were differentiated by the script content and subsequent role playing dialogue between participant and trainers, and focusing instruction upon teaching specific prosocial targeted behaviors. The instructional focus of Intervention I was initially on establishing and maintaining conversational eye contact, while the focus of Intervention II also included waiting to respond, and providing appropriate verbal responses to directions, feedback, or criticism.

Fidelity of implementation. Data of fidelity of implementation were collected daily during the intervention phase using a checklist developed directly from the training protocol. The occurrence or non-occurrence of each step on the checklist was noted for 20% of the intervention sessions. Fidelity of implementation was maintained at 90% throughout the study (range = 80%–100%, Mean = 90%). The scripts were crosschecked with the procedural checklist to verify fidelity of implementation data.

Results

Results revealed positive changes in the occurrence of all target behaviors from baseline levels following intervention. The outcome of each target behavior will be discussed separately.

Conversational Eye Contact

Figure 1 shows the data point values measuring conversational eye contact behavior when the participant, a supervisor, or a co-worker...
initiated conversation. During the baseline phase, six data points were collected on the percentage of conversational eye contact to the number of opportunities provided during an observation session ($M = 45.56\%$). During the intervention phases, 18 data points were collected ($M = 62.70\%$). For the maintenance phase, 15 data points were collected ($M = 77.07\%$); and four data points were gathered during the follow-up phase ($M = 97.75\%$).

Figure 1 reveals moderate to large gains in the mean levels of conversational eye contact behavior occurred between baseline and the maintenance phase (31.51\%), and the initial baseline and the follow-up phase (52.19\%). Small gains in the mean levels of conversational eye contact behavior occurred between the intervention and the maintenance phases (14.37\%), and between the initial baseline and intervention phases (17.14\%).

A best-fit-line approach (least squares regression) found a small negative trend within the initial baseline phase (slope $= -0.10$) and a small to moderate positive trend within the intervention phase (slope $= 1.62$). A small positive trend was revealed from the initial baseline to the intervention phases (slope $= 1.49$). A small positive trend was revealed from the initial baseline to the follow-up phase (slope $= 1.15$). An overall reversal in trend for this target behavior was found. The stability of data based on a criterion of plus or minus 50\% of the mean found the data values to be stable during the maintenance and follow-up phases. The initial baseline and intervention phases showed only mild variability in data.

**Eye Contact during Directions, Feedback, or Criticism**

Figure 2 presents the data point values measuring participant’s eye contact behavior during directions, feedback, or criticism. During baseline, nine data points were collected on the percentage of eye contact displayed when given an opportunity to receive directions, feedback, or criticism given by a supervisor or co-worker ($M = 41.66\%$). During interventions, 30 data points were collected ($M = 61.89\%$). For the maintenance phase, two data points were collected ($M = 100\%$) while...
in the follow-up phase, two were collected ($M = 100\%$).

Figure 2 shows moderate gains in eye contact occurred during directions, feedback, or criticism between baseline and the maintenance phase (58.34%). There was a 58.34% change between baseline and the follow-up phase and intervention and a 38.11% change between the maintenance phases. Similar to the results found for appropriate verbal response behavior, the smallest gain in eye contact occurred during directions, feedback, or criticism between the initial baseline and the intervention phases (20.23%), although these still represent a socially valuable behavioral change.

A best-fit-line approach (least squares regression) revealed a high positive trend within the baseline phase (slope = 10.91) and a low negative trend within the intervention phase (slope = -1.11). A small positive trend was revealed from the baseline to the follow-up phase (slope = .61). In general, these results represent an overall trend reversal. The stability of data based on a criterion of plus or minus 50% of the mean showed the data values to be stable during the maintenance and follow-up phases. The baseline and intervention phases showed variability in data.

**Waiting to Respond**

Figure 3 summarizes the data point values measuring the participant’s waiting to respond behavior. During the baseline, eight data points were collected on the percentage of participant’s waiting to respond to the number of opportunities given for directions, feedback or criticism by a supervisor or co-worker ($M = 19.79\%$). During the intervention phases, 30 data points were collected ($M = 56.39\%$). In the maintenance phase, two data points were collected ($M = 100\%$), and during follow-up, two data points were collected ($M = 100\%$).

Large gains in the mean levels of the participant’s waiting to respond behavior, shown in Figure 3, occurred between the baseline and the maintenance phase (80.79%) and the baseline and follow-up phase (80.79%). Moderate gains occurred between the intervention and the maintenance phases (43.61%), and
between the baseline and intervention phases (36.60%).

A best-fit-line approach (least squares regression) to estimating trends in the slope of the data within and between phases found moderately high positive trend within the initial baseline phase (slope = 6.05) and a small positive trend within the intervention phase (slope = 1.40). A small to moderate positive trend was revealed from the initial baseline to the intervention phases (slope = 1.67). A small to moderate positive trend was revealed from the baseline to the follow-up phase (slope = 1.89). These results demonstrate an overall reversal in trend, as well as small to moderate gains in this target behavior. The stability of data based on a criterion of plus or minus 50% of the mean found the data values to be stable during the maintenance and follow-up phases. The initial baseline and intervention phases showed variability in data.

Appropriate Verbal Response to Directions, Feedback, or Criticism

The data point values measuring the appropriate verbal response behavior are shown in Figure 4. During baseline, eight data points were collected on the percentage of appropriate verbal responses to opportunities to respond to directions, feedback, or criticism from a supervisor or co-worker during 10-minute sessions (M = 0%). During the interventions, 29 data points were collected (M = 34.44%). For the maintenance phase, two data points were collected (M = 100%) while during the follow-up phase, two data points were also collected (M = 87.50%). The percentage of appropriate verbal response with slope line is shown in Figure 4.

As shown in Figure 4, large gains in the mean levels of appropriate verbal response were found between the baseline and the maintenance phases (100%) and the baseline and follow-up phase (87.50%). A best-fit-line approach (least squares regression) to estimating trends in the slope of the data within and between phases found high positive trends between the initial baseline (slope = 0), and the maintenance (slope = 9.70) and follow-up phases (slope = 8.64). On the other hand, a more moderate positive trend was found between the baseline (slope = 0) and
intervention phases (slope = 2.13). In sum, these findings show clear reversals in trends, as well as, consistent gains from baseline to the follow-up phase (slope = 3.00), and from the intervention phase extending to the follow-up phase (slope = 2.37).

The stability of data based on a criterion of plus or minus 50% of the mean found the data values to be stable during the initial baseline, maintenance, and follow-up phases. The intervention phases showed variability in the target behavior data. There were adequate lengths of data points collected across all phases of this behavior, and those described above. One possible explanation for increased variability in data may be that the data points represented percentages. Using the multiplier of 100%, may have expanded the range of data by a factor of 100, thus increasing the overall variability. Additionally, this outcome was represented in the other target behaviors previously described.

Social Validity Data

The social validity data from the pre- and post-intervention questionnaires (answered by one supervisor and two co-workers) were collected and analyzed using both quantitative as well as qualitative measures, such as content analysis (Kennedy, 2005). Results suggested the respondents perceived that the social skill target behaviors were improved following intervention. According to the anonymously answered questionnaires (N = 3), the participant’s abilities to learn new tasks easily and to accept verbal directives were rated as 30% higher post-intervention. The participant’s ability to accept feedback was rated as 20% higher post-intervention, and her ability to accept criticism was rated as 7% higher post-intervention. However, some concerns about the participant’s discussion of personal topics during work continued to be an issue of need in the workplace as indicated by written responses to the survey’s open-ended question.

Discussion

The present study used a structured role playing strategy that supported the promotion of self-management skills for improving the social skills of a young woman with moderate...
intellectual disability working as a volunteer in a community child care setting. The results revealed improvement in all target social behaviors and a perceived positive change in the participant’s work performance involving these skills by her supervisor and co-workers after the study was concluded. Analyses showed a clear trend reversal in the data when baseline and post-intervention phases were compared. Specifically, the study found that this type of training protocol which was given outside the immediate workspace, was efficacious in training the following prosocial behaviors: (a) establishing and maintaining eye contact with adults during conversation, and directions, feedback, or criticism, (b) waiting to respond until adults were finished speaking, and (c) giving appropriate verbal response to directions, feedback, or criticism from a supervisor or co-worker.

Results of this study are consistent with previous research (Ganz & Sigafos, 2005) that found that teaching self-management skills to young adults with intellectual disabilities could promote the use of cognitive strategies which students appeared to be able to use independently at a later time to increase target trained behaviors. The role-playing and focused instruction of the training protocol had four components which appeared to have positively influenced the outcomes of this study. First, the training protocol relied heavily on encouraging the participant to use cognitive strategies to think about the behaviors she was attempting to learn and how those new responses might impact those around her. She was required to tell the trainers how she would feel if someone displayed the target behavior with her and how she felt when she displayed them. Because the participant’s communication skills were good, this strategy appeared to be a reasonable and effective choice for her. This technique also appeared to reinforce for the participant that she did indeed have control over these behaviors herself. However, informal discussion with the participant’s supervisor and informal observations of the participant following the study suggested that she continued to have some difficulty recognizing that she needed to use the target behaviors with co-workers, especially when co-workers were close in age to the participant and she viewed them as a peer. Second, the training placed an emphasis on developing the skills that were described to the participant as those that “professionals use.” That is, during training the trainer might say something like: “Professionals keep their eyes on the person talking to them” when introducing and rehearsing this skill. Third, the participant was given a role-play sequence each training which varied in some way. In the role-play, the participant might first take her own role, and then assume the role of her supervisor. The repeated rehearsal of the target behaviors in a number of work-specific situations was undoubtedly useful for this participant. Situations which had already occurred (and she had reacted in a way that her supervisor communicated was inappropriate or unacceptable to the setting) were used. Additionally, the participant role-played situations that had not occurred but were likely to occur. These situations were recommended by her supervisor and/or co-workers. Every effort was made to keep the training as “authentic” as possible. As training progressed, the trainers gradually removed the number of verbal prompts offered to support the participant’s target behaviors. And fourth, the participant was very committed to continuing her work as a volunteer in the setting. Her personal desire may have strengthened the impact of the training.

The intervention data showed variability in the target behaviors that were measured, which may be partially due to changes in personnel assignments unique to this workplace setting. For example, the child care center used for this study setting is also a teacher-preparation practicum site that has a new cohort of teacher-candidates rotating through the classrooms on a bi-monthly basis. These personnel changes, while representative of real workplace situations, posed an additional challenge for the participant requiring her to interact with new people on a regular basis. The challenge posed by changes in personnel affecting variability in target behaviors would need to be addressed in future studies conducted at this child care center. Although the data demonstrated considerable variability, there remained a clear trend toward acquisition of the target behaviors at the conclusion of intervention. In addition, target behaviors continued to occur at a rate
of 87%–100% of the time during observation sessions conducted during the maintenance and follow-up phases of the study, suggesting that the natural interactional consequences which the target behaviors tended to draw (such as smiles, words of thanks, and a decrease in criticism from the supervisor) were sufficient in maintaining these skills for the three months following training. The results of this study are promising in that they may offer professionals who support individuals with moderate intellectual disabilities an additional option for improving work-related skills without the potential intrusion and social dependence that may occur with the use of job coaches according to Mautz and colleagues (2001).

Of the target behaviors trained, eye contact during directions, feedback and/or criticism and providing appropriate responses seemed to be the most challenging for the participant. This too appears consistent with the evidence that task-oriented conversations are more challenging for individuals with intellectual disabilities than socially-oriented conversations (Hughes, Carter, Hughes, Bradford, & Copeland, 2002). But the reality is that any workplace presents a high rate of task-oriented conversations so potential workers must develop competence in managing this style of verbal interaction to be integrated successfully, particularly in community-based work sites. Similarly, the participant of this study appeared more at ease with socially-oriented conversations than task-oriented interactions. That is, she seemed to believe that if she used socially-oriented conversations, she was less at-risk for receiving nonpositive feedback on her work performance. Ironically, this is the opposite of the case in this work site and others.

Several limitations of the present study merit comment. First, only a small, discrete set of target behaviors were identified and trained. There were several other behaviors, such as child-directed conversations, that could have been addressed to maximize the participant’s job skill repertoire. Second, implementing the training fidelity proved to be a challenge at times. There were times in which the trainers found it difficult to bring the training back to the script when the participant asked a question that was relevant but not an assigned component of the training protocol. Third, the child care center used was established as a training site for pre-service teachers so it was equipped with observation rooms from which the observers could collect data unobtrusively. Others might find this impossible and may have to be visually available to the subject which may influence the outcomes. Fourth, as noted the participant had good communication skills, was a fairly independent worker, and may have required less direction from her supervisor and co-workers than others who may be classified with the same level of intellectual disability. This increase in independence frequently led to a decrease in verbal responding opportunities, and a number of observation sessions in which no opportunities were recorded. Consequently, these sessions were omitted from the reported data. A final limitation of the study was that the trainers and data collectors were the same individuals which exposed the study to the threat of researcher bias. However, when interrater reliability and fidelity of treatment were determined, two non-trainers were used.

Despite these limitations, the present single subject study demonstrates the efficacy of using a structured role playing training protocol outside the immediate workspace to promote the development of self-management skills and prosocial behaviors for improved performance in a workplace. Future research should replicate this study to help develop an evidence base for practical application, as well as extend it to include individuals with a variety of disabilities, such as autism to determine generalization of the training strategy. In addition, research in community settings that differ from this one would be useful. Recently, developing a community-based partnership involving employers, high schools, vocational training programs, and similar organizations has also been shown to improve work opportunities for youth with disabilities (Carter et al., 2009). As the hope for community-based work for individuals with intellectual disabilities increases, it becomes even more critical for professionals to identify time-effective methods to better support the work performance of these youth and adults.
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