Increasing Independence Within Adult Services: a Program for Reducing Staff Completion of Daily Routines for Consumers with Developmental Disabilities

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Consumers of services provided by a number of behavior analysts include adults with developmental disabilities. A survey by the Association of Professional Behavior Analysts indicated that approximately one third of their membership respondents work with this consumer population (APBA 2009). Although behavior analysts work with adults who have developmental disabilities in a variety of settings, one of the most common is congregate or center-based day programs. Center-based programs (e.g., day habilitation facilities, sheltered workshops) represent the most common day service setting for adults with developmental disabilities despite a current philosophical and professional emphasis on promoting more community-integrated services such as supported employment (Wehman 2011). The number of center-based programs also has been increasing in recent years (Dague 2012).

Center-based, adult day programs are intended to provide a variety of services such as vocational training, paid work opportunities (e.g., sheltered work tasks), leisure activities, and general skills training. Across the various services, a fundamental purpose is to enhance independent functioning among the adult consumers (Parsons et al. 2008). However, these settings have received noted criticism concerning the quality of services provided (Cimera 2011; Dague 2012; Wehman et al. 2001) and specifically due to ineffectiveness in actually promoting consumer independence (Parsons et al. 2008).

The recent increase in behavior analyst practitioners around the USA (Critchfield 2011) could represent a significant opportunity to improve the degree to which consumer independence is promoted in adult services. Although there has been a relative lack of behavioral research in adult day programs (Parsons et al. 2004), and especially compared to other settings (e.g., schools) and populations (e.g., children with disabilities), the research that has occurred suggests that behavior analysts have much to offer. To illustrate, recent applications of behavior analysis technology within adult day programs have demonstrated effective means of training skills for working productively in community jobs (Lattimore et al. 2008), participating in age-appropriate leisure activities (Jerome et al. 2007), and acquiring daily living skills (Parsons et al. 2008).

For behavior analysts who work with adult day programs and strive to help promote consumer independence, a common occurrence within these programs may warrant special attention. Specifically, staff in adult services are often observed to perform important tasks for agency consumers in contrast to teaching or otherwise encouraging the consumers to perform the tasks themselves. Observations of work activities in center-based programs have indicated, for example, that staff frequently complete a major portion of the tasks that adults with severe disabilities are expected and paid to complete (Parsons et al. 2001). Agency staff likewise often perform routine activities of daily living for consumers (Felce et al. 2002). One explanation why staff perform necessary tasks for individuals with developmental disabilities in contrast to teaching or encouraging consumers to perform the tasks is that staff believe it is easier and less time consuming to complete the tasks themselves (Guess et al. 2008). Despite this and other potential explanations, there is general agreement that when staff perform necessary tasks for people with developmental disabilities, individual growth and development is impeded (Guess et al. 2008). Relatedly, a learned helplessness phenomenon is considered to result

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that encourages general passivity and dependence (Cannella-Malone et al. 2011; Felce et al. 2002).

In light of concerns with promoting consumer independence in adult services, we have been engaged in applied research on ways to enhance the independent functioning of adults with developmental disabilities in day program settings. To date, our research has focused on training agency staff how to carry out individualized teaching procedures (e.g., Parsons et al. 2013), design job tasks to promote independent work (Parsons et al. 1999; Parsons et al. 2002), and prompt and reinforce engagement in scheduled activities (Parsons et al. 2004). In conducting such research, as well as performing normative observations in adult day programs in a number of states (Reid et al. 2001), we have observed one particular situation in which staff frequently perform tasks for individual consumers that has not been specifically addressed: routine, transition-related activities. That is, there appears to be a common tendency for staff to perform tasks for consumers during activities that represent transitions between formal instruction and/or paid work duties (e.g., when one work task is completed and materials are replaced for a new work task, preparations are made for consumers to enter or leave an activity site, during snack and break times). Consequently, an additional means of promoting consumer independence in adult services would be to reduce staff completion of transition-related routines and increasing consumer completion of the activities.

The purpose of this investigation was to evaluate a systematic approach for reducing staff completion of routine, transition-related activities for adults in a day program. The goal was to demonstrate a practical process that behavior analysts could apply when working with adult services to further promote independence among adults with developmental disabilities.

Method

Setting and Participants

The setting consisted of three classrooms in an adult day program for individuals with severe disabilities. Each classroom provided a variety of services including individualized instruction on teaching goals drawn from Individual Habilitation Plans and supported work activities based on written, task-analyzed plans. The supported work included making products for sale in a retail outlet and performing service jobs within the adult program (e.g., picking up and distributing supplies, delivering mail to offices). In addition to the instruction and work periods, classroom activities included morning and afternoon snack breaks, preparation of materials and space for the paid work activities, and cleaning up after work periods.

Participants were the staff and adult consumers in each of the three classrooms. The staff participants consisted of one lead instructor and one assistant instructor in each classroom. Each lead instructor had at least 18 years of experience working with people with developmental disabilities. Two of the lead instructors (classrooms 1 and 2) were licensed special education teachers. The lead instructor in classroom 3 had a high school education. Each assistant instructor had a high school education and at least 15 years of experience. The consumer participants were 15 adults who had severe intellectual disabilities, 11 of whom had accompanying physical disabilities and were nonambulatory. Each consumer communicated primarily with idiosyncratic gestures, although several occasionally spoke in one- or two-word utterances when prompted and some used a small number of manual signs when prompted. All consumers performed basic self-help skills (e.g., eating, toileting) with some assistance.

Due to the nature of the adult services, there were varying numbers of consumers and staff in each classroom at any point in time. Consumers were not present in the classrooms at various times due, for example, to working in other parts of the adult services program, taking a break in a leisure/lounge area, or using a restroom that was outside of the classroom. A classroom staff person usually accompanied respective consumers to other areas for work and breaks. A maximum of 5, 4, and 5 consumers were present at any one time in classrooms 1, 2, and 3, respectively. During observations conducted as part of the investigation, the number of consumers present averaged between 3 and 4 in each classroom during each experimental condition. For the staff, the lead instructor was present in each classroom throughout all observations. For classrooms 1 and 2, the assistant instructor also was present except during one observation during the intervention condition in classroom 2. For classroom 3, the assistant instructor was present on only three of the observed sessions (all during the baseline condition). The classroom routines remained consistent across all observations even though the presence of the assistants varied slightly across observations (i.e., the routines were primarily under the direction of the lead instructors who were always present).

Target Routines

One existing routine was targeted in each classroom. Each routine represented a daily activity when formal, goal-directed teaching and consumer work was not occurring. The target routine for classrooms 1 and 2 involved snack time that occurred between work periods and formal instruction. For classroom 3, the target routine was the first half hour in the morning when consumers arrived at the class and preparation occurred to begin work in the classroom. Each of the routines involved all of the staff and consumers present in a respective classroom. These routines were selected for the investigation

because pilot observations by the director of the adult day program and a training specialist (experimenters) who worked for the director suggested that each routine involve a high frequency of staff performing activities for the consumers.

Prior to initiating baseline observations, each target routine was observed by the training specialist to develop a general list of each performance task that constituted the routine. Upon development of the initial list, the program director then observed with the specialist until both persons agreed on each task that occurred during a respective routine. For the snack routine in classroom 1, there were 13 tasks (e.g., washing hands, acquiring ice, choosing a snack item, opening a snack or drink container, pouring a drink, disposing of trash). There were 14 tasks for the snack routine in classroom 2, which were very similar to the tasks constituting the routine in classroom 1. The preparation routine in classroom 3 involved 10 tasks (e.g., taking off a coat, hanging up a coat, choosing a work task, taking work materials to the workstation).

Target Behaviors and Definitions

An *opportunity* for a task to be completed was defined as someone (staff or consumer) initiating a task on the general task list or a staff person instructing a consumer to perform one of the tasks. In contrast, *no opportunity* was defined as neither of the components occurring that constituted the definition for an opportunity. A variety of events could occur that resulted in no opportunity for a performance task to be completed. For example, during the snack routines in classrooms 1 and 2, there was no opportunity for the task involving obtaining ice for drinks if only hot drinks were chosen, no opportunity for the task of disposing of trash after the snack if there was no trash to be disposed, and no opportunity for the task of opening a food or drink container if no containers needed to be opened. Similarly, during the preparation routine in classroom 3, there was no opportunity for the task of opening the classroom door if someone previously left the door open and no opportunity for the tasks of taking off and hanging up a coat if a consumer did not wear a coat into the classroom.

If an opportunity to perform a task of a given routine occurred, then one of three other behavior categories could occur. First, *staff completion* was defined as a staff person completing a task (e.g., a staff person choosing one of two snack items and providing it to a consumer, a staff person hanging up a consumer's coat). Second, *consumer independence* was defined as a consumer completing a task without prompting by a staff person. If a staff person provided an initial instruction for a consumer to perform a task and the consumer then completed the task with no subsequent prompting, consumer independence was also scored. Third, *staff teaching* was defined as (1) an instructor or assistant using a least-to-most assistive prompt sequence (cf. Libby

et al. 2008) to promote consumer completion of a task following an initial instruction to perform the task if the consumer did not complete the entire task following the initial instruction and (2) providing a reinforcing consequence (typically praise) following the consumer's completion of the entire task.

Observation System and Interobserver Agreement

The observation system involved an observer (experimenter) initiating an observation at the beginning of a target routine, with a maximum of one observation per day. The tasks constituting the routine were listed on an observation sheet in the order in which they typically occurred. Next to each task that was listed were five columns (one for each possible consumer) in which the target behaviors were listed (no opportunity, opportunity, staff completion, consumer independence, teaching). Initially, the observer recorded for each consumer whether there was an opportunity for a target task as the routine occurred for that consumer. If there was not an opportunity as described previously, the recording for that task for an individual consumer was then completed. If there was an opportunity, then the observer recorded whether that task occurred with staff completion, consumer independence, or staff teaching. Due to the severity of each consumer's intellectual disability, staff interactions with consumers occurred on an individual consumer basis such that consumers were rarely participating simultaneously in a given task, which facilitated observations and recording of each consumer's participation in each task as just defined.

Interobserver agreement checks were conducted by two observers observing simultaneously and independently during 36 % of all observations, including during both experimental conditions for each classroom (44 % of the checks during baseline and 56 % during the intervention). Interobserver agreement was conducted on a task-by-task basis for each routine and was calculated using the formula of number of agreements divided by number of agreements plus disagreements, multiplied by 100 %. For opportunities for a task, overall agreement averaged 97 % (range, 91 to 100 %), occurrence agreement averaged 95 % (range, 80 to 100 %), and nonoccurrence (or occurrence of no opportunity) averaged 91 % (range, 67 to 100 %). For staff completion of a task, overall agreement averaged 95 % (range, 91 to 100 %), occurrence averaged 76 % (range, 50 to 100 %), and nonoccurrence averaged 92 % (range, 81 to 100 %). Respective averages for consumer independence were 95 % (range, 88 to 100 %), 83 % (range, 67 to 100 %), and 92 % (range, 80 to 100 %) and for staff teaching were 95 % (range, 91 to 100 %), 78 % (range, 60 to 100 %), and 94 % (range, 89 to 100 %). The somewhat lower averages for occurrence of staff completion and staff teaching were due to low frequencies during several observations such that a small number of disagreements deflated the averages (for occurrence agreement for

both behavior categories, the number of disagreements between observers averaged less than two per observation).

Experimental Conditions

Baseline During baseline, the target routines were conducted within each classroom as they typically occurred. Observations were conducted as described previously. Staff were informed that observations would be occurring during various routines but not informed about the specific focus of the observations nor the exact days of the week during which the observations would occur. No feedback was provided to the staff following observations. Classroom staff were well accustomed to observations being conducted by the program director and training specialist, which typically occurred on at least a weekly basis for general supervision purposes and quality assessment.

Routines Teaching Program The intervention consisted of the *routines teaching program* that was implemented in a step-wise fashion in each classroom. First, the task list for the target routine was provided to the respective classroom staff and each task on the list was described by the training specialist. Second, staff were informed that it was desired for them to increase their teaching of consumers to perform tasks for themselves in lieu of the staff performing tasks for the consumers. Third, results of the baseline observations were shared verbally with the staff in terms of average percentages of tasks that were performed by staff, taught by staff, and completed independently by consumers. Fourth, staff were requested to review those tasks that typically were completed by them for consumers and to consider how they could begin teaching the consumers to perform those tasks (using least-to-most assistive prompting following an initial instruction to complete a task and contingent reinforcement). The training specialist also demonstrated how to use prompting and reinforcement to increase a consumer's independence in completing a given task within an ongoing classroom routine. Fifth, staff were instructed to begin including more teaching interactions within the routine and that the training specialist and/or director would be returning to the class to observe their activities. Sixth, following each subsequent observation, verbal feedback was publicly provided to all staff present regarding the degree to which they were providing teaching and the level of consumer independence. The feedback followed a set protocol (Parsons and Reid 1995) that consisted of beginning the feedback with a positive statement overall, specification of desired teaching that was observed, specification of instances of where staff completion of tasks occurred, indication that the latter could be taught by staff, prompting questions or clarification by the staff regarding the feedback that was presented, informing staff about forthcoming observations if so planned, and ending the feedback session with a general positive

statement. Additionally, after four observations, results of the observations were shared in terms of comparing the occurrence of staff completion of tasks, teaching, and consumer independence relative to the averages during baseline that were previously shared, including by discussing the respective averages and showing a graph of results of all observations.

Follow-up Following completion of four observations after the routines teaching program had been initiated, staff were instructed to continue their teaching attempts during the target routine as part of their daily activities. The program director continued to observe within each classroom as part of her usual supervisory duties on at least a weekly basis and provided feedback to the staff as described previously. Short-term follow-up observations were conducted after 5 or 6 weeks for the three classrooms and long-term follow-up observations after 26, 22, and 18 weeks, respectively, for classrooms 1, 2, and 3.

Experimental Design

The experimental design was a multiple probe design across the three classrooms.

Acceptability Measures

To assess staff acceptance of the routines teaching program, an acceptability survey was provided to classroom staff following completion of the short-term follow-up observation. Participants completed the survey without putting their names on the survey form and placed the form in a folder on a secretary's desk to ensure anonymity. There were three questions on the survey to be answered on a 7-point Likert scale, with "4" representing the neutral point. The first question asked, "How useful or nonuseful was participating in the program for learning skills relevant to your job and profession?" (1 = extremely nonuseful and 7 = extremely useful). The second question asked, "How useful or nonuseful was the program for helping your consumers function more independently?" (1 = extremely nonuseful and 7 = extremely useful), and the third question asked, "How enjoyable or not enjoyable was it for you to participate in the program?" (1 = extremely not enjoyable and 7 = extremely enjoyable). A fourth question asked if the participant would recommend the program to her colleagues in similar roles ("yes" or "no" response options).

Results

Following implementation of the routines teaching program, there were decreases in staff completion of tasks constituting the routines for consumers in each of the three classrooms

(Fig. 1). In classroom 1, staff completion decreased from an average of 52 % of opportunities (range, 47 to 59 %) during baseline to 17 % (11 to 21 %) after implementation of the program. In classroom 2, staff completion decreased from a baseline average of 38 % (range, 32 to 49 %) to 13 % (range, 0 to 31 %) and in classroom 3 from 50 % (range, 48 to 52 %) to 22 % (range, 18 to 25 %). Staff completion of tasks for consumers remained low during the short-term follow-up observations for each classroom, averaging 15, 10, and 9 % for the three respective classrooms as well as during the long-term follow-up observations with respective averages of 15, 9, and 21 %.

As staff completion of tasks decreased following implementation of the routines teaching program, there were increases in staff teaching and consumer independence in each classroom, although the amount of increase varied noticeably across classrooms (Fig. 2). In classroom 1, there were increases after implementation of the program in both teaching ($M=37$ %; range, 29 to 52 %) and consumer independence ($M=46$ %; range, 31 to 56 %) relative to baseline (M for teaching of 18 %; range, 9 to 26 %, and M for consumer independence of 30 %; range, 25 to 40 %). In classroom 2, the change involved primarily an increase in teaching following implementation

of the program ($M=48$ %; range, 44 to 57 %) relative to baseline ($M=28$ %; range, 19 to 42 %), with only a slight average increase in consumer independence from a baseline average of 34 % (range, 25 to 48 %) to an average of 40 % (range, 25 to 51 %) during the program. In classroom 3, the change involved primarily an increase in consumer independence following implementation of the program ($M=60$ %; range, 50 to 69 %) relative to baseline ($M=40$ %; range, 30 to 50 %), with only a small increase in teaching from a baseline average of 11 % (range, 0 to 20 %) to an average of 19 % (range, 6 to 30 %) during the program.

During follow-up, consumer independence remained within or above the ranges during the intervention proper for each of the three classrooms for both the short- and long-term follow-up observations. The short- and long-term follow-up observations for staff teaching indicated that staff teaching was within the intervention range for each classroom with the exception of one observation for classrooms 1 and 2 (during which the observation of student independence was at the highest level of all observations for those respective classrooms).

Individual consumer results closely paralleled the overall classroom changes. An analysis for each of the 14 consumers

Fig. 1 Percentage of opportunities with staff completion of target activities for each classroom for each observation during each experimental condition

Fig. 2 Percentage of opportunities with consumer independence and staff teaching for each classroom for each observation during each experimental condition

who were present during baseline observations and during the routines teaching program condition (Table 1) indicated that there was an average decrease in staff completion of task steps for 12 of the 14 consumers from their respective baseline averages to the program condition. Additionally, there was an increase in consumer independence and/or teaching for 13 of the 14 consumers across the two conditions. For the one consumer exception, independence during baseline was already quite high (95 %), which continued during the program condition (96 %). These individual results generally maintained during the follow-up observations. Of the 11 consumers who were present during the first follow-up and the 11 during the second follow-up, staff completion was lower than their respective baseline averages for 10 of the 11 for both observations. Additionally, consumer independence was higher than the baseline averages for 10 of the 11 consumers during the first follow-up and 9 of the 11 during the second.

Throughout the investigation, the percentage of task opportunities remained relatively consistent, though there was a slight average increase from baseline in each classroom ($M=79, 64$, and 64% for classrooms 1, 2, and 3, respectively) to the routines teaching condition ($M=85, 68$, and 73% , respectively). Hence, across the three classrooms, the decreases in percentages of opportunities with staff completion and the

Table 1 Average (mean) percentage of target behavior categories for each consumer during baseline (BL) and the routines teaching program (RTP)

Behavior categories									
		Staff completion		Independence		Teaching			
		BL	RTP	BL	RTP	BL	RTP	BL	RTP
Classroom 1	Consumer A	57	0	21	60	22	40		
	Consumer B	66	36	30	28	5	36		
	Consumer C	55	9	10	46	36	46		
	Consumer D	48	21	43	50	9	29		
Classroom 2	Consumer E	29	0	46	63	25	38		
	Consumer F	45	5	17	30	39	66		
	Consumer G	62	13	22	40	16	48		
	Consumer H	40	11	30	33	30	56		
Classroom 3	Consumer I	7	19	77	57	16	25		
	Consumer J	20	16	40	34	40	50		
	Consumer K	86	23	8	63	6	14		
	Consumer L	92	45	8	30	0	25		
Classroom 3 (Follow-up)	Consumer M	0	0	95	96	5	4		
	Consumer N	100	25	0	0	0	75		

increases in teaching and/or consumer independence that occurred during the routines teaching condition relative to baseline were not due to a decrease in opportunities for the specific behavior categories to occur (i.e., as opposed to a similar frequency of the categories but reduced opportunities that would have resulted in higher percentages).

Results of the acceptability survey suggested that staff found the routines teaching program acceptable. The average rating on the Likert scale question regarding how useful the program was for the staff participants was 6.8 (between “extremely useful” and “very useful,” range, 6–7). The average rating regarding how useful the program was for helping their consumers function more independently was 7.0 (“extremely useful”). Regarding how enjoyable participating in the program was, the average rating was 6.3 (between “very enjoyable” and “extremely enjoyable,” range, 5–7). No participant rated any question below “mostly” on the scale. All participants also indicated that they would recommend participating in the program to their colleagues.

Discussion and Recommendations for Practitioners

Results suggested that the routines teaching program reduced staff completion of transition-related activities for consumers with developmental disabilities in the adult day program. Reductions in staff completion of routine tasks occurred in all three classrooms after the program was implemented. Correspondingly, average increases in consumer independence in performing the activities occurred in the three classrooms. The increases in consumer independence generally were most apparent during the follow-up observations for each classroom.

As indicated previously, adult day programs have received considerable criticism due in large part to frequent ineffectiveness in promoting independence among their consumers with developmental disabilities (Parsons et al. 2008). One reason for the ineffectiveness may be that staff often complete activities for consumers in contrast to teaching or otherwise encouraging consumers to complete the tasks themselves (Felce et al. 2002; Parsons et al. 2001). The routines teaching approach described in this investigation represents a potential means for behavior analysts who work in adult day settings to enhance consumer independence in one specific area—regularly occurring transition-related activities that staff tend to perform for consumers.

When concerned with reducing staff completion of transition-related activities for consumers, it is recommended that a behavior analyst initially specify the activities as a series of behavioral steps and then observe the degree to which the steps are performed by staff, taught to consumers, or completed by the consumers. Subsequently, the behavior analyst could work with staff using the components of the routines teaching

program. First, the steps constituting target activities should be shared with staff. Next, staff should be encouraged to teach consumers to perform activity steps that they have been performing for the consumers while sharing results of the previous observations regarding the percentage of steps that had been performed by staff. Staff also should be provided with instructions and demonstrations for using least-to-most assistive prompting and reinforcement with those activity steps that they usually performed for consumers. Finally, the behavior analyst should follow up the initial work with staff with on-the-job feedback to support and correct (if necessary) staff’s application of the teaching procedures with consumers as well as to review the observed progress (see practice guidelines in Table 2 for a summary of the recommendations).

In considering the above recommendations for behavior analysts, several qualifications with the investigation warrant mention. In particular, the classroom staff had received performance- and competency-based training in previous years on how to conduct least-to-most assistive prompting and reinforcement when carrying out written teaching plans with individual consumers (Parsons et al. 1996). Consequently, it may have been that the component of the routines teaching program that involved review of those teaching strategies was not necessary, although this is unclear and represents a limitation of the current investigation. However, our experience has indicated that such training is not always the case in adult day programs such that behavior analysts may need to initially provide training on these teaching procedures. There are a number of evidence-based, behavioral skills training models for instructing staff in these basic teaching procedures that usually can be carried out within a few hours (Miles and Wilder 2009; Parsons et al. 1996; Parsons et al. 2009). In this regard, the meeting with staff to initiate the routines teaching program required less than 1 h and subsequent on-the-job feedback delivery involved only a few minutes. Even if staff have received training in prompting and

Table 2 Practice guidelines for reducing staff completion of transition-related activities for consumers

1. Specify each transition-related activity as a series of performance steps and then observe the steps to determine the percentage of steps completed by staff for consumers, completed independently by consumers, and taught by staff to consumers.
2. Describe the performance steps constituting each activity for staff.
3. Share results of the observations above and encourage staff to begin teaching consumers to complete the steps that they have been completing for the consumers.
4. Provide instructions and demonstrations about how to prompt and reinforce consumer completion of the steps that staff have been performing.
5. Provide subsequent on-the-job feedback to staff to support and correct as necessary their application of the teaching procedures and review the current level of observed progress.

reinforcement for implementing individualized teaching plans though, additional training as occurred in this investigation is recommended regarding application of the teaching procedures within ongoing routines (i.e., in contrast to more formal or circumscribed one-to-one instructional sessions which often represent the focus of programs designed to train staff how to teach). The latter recommendation is based on our experience as well as research indicating that proficiently applying teaching procedures in formal instructional sessions does not equate to proficiency in applying the procedures during routine activities; specific training in how to apply the procedures naturalistically during ongoing routines is necessary (Schepis et al. 2001).

It should also be noted that the personnel who implemented the routines teaching program with the staff had supervisory authority over the staff. Behavior analysts who work in adult day programs may not have direct supervisory authority over staff, which could affect the degree of staff responsiveness to the behavior analysts' instructions and feedback. In the latter case, it is recommended that behavior analysts seek the support of the staff supervisors before initiating work with staff to promote increased teaching and consumer independence and, where possible, involve the supervisors in the staff training and feedback components (cf. Reid 2004).

Several aspects of the results pertaining to staff teaching and consumer independence across the three classrooms may likewise warrant attention by behavior analysts when considering implementing the routines teaching program. In classrooms 1 and 3, consumer independence increased quickly (i.e., within the first two observations after the program had been initiated). These results suggest that a number of the consumers likely had the skills to perform the designated activities but were not provided the opportunity due to staff completing the activities. Once staff began teaching and allowed consumers time to initiate activity steps in accordance with the use of least-to-most assistive prompting following an initial instruction, the consumers then had opportunities to perform the activities themselves. In contrast, in classroom 2, consumer independence increased more gradually, with the most notable increase during the 22-week follow-up observation. The latter results suggest that the consumers in classroom 2 did not have the prerequisite skills necessary to complete the activities until staff increased their teaching during the activities. Situations where behavior analysts have good familiarity with consumers or other information to suggest that the consumers have the skills to perform certain tasks (that staff are performing for them) would seem advantageous for beginning their work with staff via the routines teaching program. Those situations are likely to result in quickly observable progress (e.g., as in classrooms 1 and 3) that may reinforce staff efforts as well as serve as a model for staff in other situations. However, in the current investigation, no formal evaluation occurred to assess whether the results generalized to other

transition-related activities that were not specifically targeted. Future research would be desirable to assess such generalization.

Another aspect of the results that may warrant attention of behavior analysts is that despite noticeable decreases in staff completion of transition-related activities, staff continued to complete some activities for consumers in each classroom. One reason for such results likely relates to the previously noted explanation regarding why staff perform daily activities for individuals with developmental disabilities—it is easier for staff to perform the activities themselves relative to teaching consumers to perform the activities (Guess et al. 2008). Our experience in a number of day settings supports this explanation. In other cases though, we have found that staff perform transition-related activities for consumers because there are management expectations (either real or perceived by staff) to minimize time spent in transitions in order to maximize time for formal instruction or work-related duties. This is another reason that prior to beginning attempts to reduce staff completion of activities for consumers, it is recommended that behavior analysts seek support from staff supervisors. Attempts should be made with supervisors to resolve possible concerns over time spent with transition-related activities. Of course, it would seem reasonable that as consumers eventually gain more independence, the amount of increased time due to staff teaching during the activities would be reduced.

The lack of total elimination of staff completion of activities (and lack of 100 % consumer independence) in the current investigation was also likely due to the severe nature of the intellectual disabilities of the adult consumers, many of whom had multiple physical disabilities. Attaining total consumer independence was likely beyond the capacity of some consumers, at least without increased teaching trials in individual sessions relative to the naturalistic approach constituting the routines teaching program that generally involved only one instructional trial per day. Alternatively, continuation of the routines teaching program over time may further increase independence as suggested by the long-term follow-up results. However, even enhancing independence of adult consumers in completing some of the tasks constituting transition-related activities can still be beneficial from a partial participation perspective (Ferguson and Baumgart 1991).

In summary, despite noted criticism, center-based programs continue to represent the most common day service setting for adults with developmental disabilities (Wehman 2011) and are increasing in number across the USA (Dague 2012). Consequently, attempts to improve the quality of adult services seem important. Behavior analysts who work with adult day programs would appear to have much to offer for bringing about needed improvement through application of behavioral technologies such as the routines teaching program.

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