



HANDS in Autism Collaborative Classroom Project: Case Study of Staff Training



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Background

The HANDS (Helping Answer Needs by Developing Specialists) in Autism began a community-based demonstration classroom to pilot an integrated collaborative classroom model based on data-driven decision making and the use of empirically supported strategies in working with children with autism and to develop local capacity for training school personnel.

Beginning in the Fall 2007 semester, the HANDS in Autism team provided classroom staff with informal training (in the form of handouts, discussions, and modeling) and coaching (defined as feedback given in the moment to correct or praise a skill demonstrated by the classroom staff) on several areas. The areas addressed included providing positive attention, blocking and ignoring student misbehaviors, and effectively prompting through the use of errorless learning strategies. Concurrently, the research team collected observational data on the demonstration of these skills as well as student's independence during activities and routines. In the Spring 2008 semester, a more structured training was piloted where classroom staff were rated by trainers on their performance of specific components of each skill and had to reach a minimum level of proficiency. Other school staff (i.e., speech and occupational therapists) observed the classroom staff performing the skills but were not directly trained. Data were collected on the other school staff's interactions with the students to indirectly measure the effects of observation on skill performance. Data are reported comparing classroom staff to other school staff on skill performance.

Methods and Participants

Table 1 outlines the three skills targeted for intervention. Table 2 compares the two training methodologies (informal vs. structured). Data were collected by trained research technicians using a computer-based observation platform. Observations were made by observing a student and the interactions staff had with him/her. Each student was observed approximately one time during each 3-week observation period. Results for classroom and other school staff were averaged across each observation period.

Table 1. Skills targeted for intervention.

Skill	Skill Components	Goal
Positive Attention	<ul style="list-style-type: none"> Gave specific praise Was immediate (w/in 5 sec) to appropriate behavior Was consistently given (approx 5 min) for non-occurrence of misbehavior Not given (w/in 30 sec) contingent to target behavior 	Increase the rate of positive attention to 0.2/minute (approximately 1/5 minutes) AND increase the percent of appropriate positive attention given to 80% or greater.
Contingent Response (Block/Ignore)	<ul style="list-style-type: none"> Ignored w/in 5 seconds of misbehavior Ignoring made obvious (turn away, neutral face, no eye contact, etc.) No contingent response (escape, tangible, attn.) w/in 30 seconds of misbehavior Blocked risky, eloping, aggressive, or SIB behaviors 	Decrease contingent response to student misbehavior to less than 10% of misbehaviors observed (i.e., ignored 90% of student misbehaviors observed).
Errorless Learning	<ul style="list-style-type: none"> Gave clear initial instruction before prompting. Used the lowest level of prompting needed. Prompted the student from behind. Proactively blocked errors from occurring. 	Use verbal prompts only when necessary demonstrated by decreasing the percentage of verbal prompts used by the classroom staff.

Figure 1. Average rate and percent of appropriate positive attention given by classroom and other school staff.

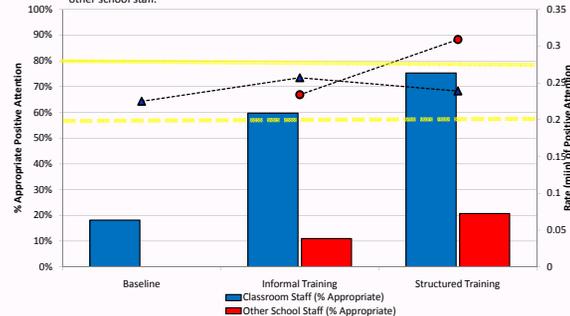


Table 2. Comparison of training methodologies.

	Informal Training	Structured Training
Time Frame:	Fall 2007	Spring 2008
Hours of Training:	11-12 hours/week for 6 weeks (3 trainers) [Other school staff observed approximately 2-3 hours/week]	14 hours/week for 8 weeks (4 trainers) [Other school staff observed approximately 2-3 hours/week]
Groups:	Classroom Staff (n = 4) Other School Staff (observation of training) (n = 2)	Classroom Staff (n = 4) Other School Staff (observation of training) (n = 2)
Definition:	Information given to classroom staff in the moment regarding general skill performance.	Information on specific skill components given to classroom staff in a systematic way and classroom staff performance rated using a 3-point rating scale.
Format:	Discussion, modeling. Information delivery was at the discretion of the trainer and based on the immediate observed needs.	Structured discussion, handouts given and reviewed with staff, reminder posters hung on the classroom wall. Class staff had to demonstrate proficiency on each skill component as indicated by positive ratings (+) on > 80% of the skill components across 6 10-minute observation periods.
Feedback:	Allowed at any time; format at the discretion of the trainer.	Allowed only for the first 3 observation periods; format at the discretion of the trainer.
Skills:	Positive Attention, Contingent Response, and Errorless Learning trained simultaneously as the situation required.	One skill had to be completed before moving on to the next skill. Order of instruction: 1) Positive Attention 2) Contingent Response 3) Errorless Learning

Figure 2. Average percent of contingent response to student misbehaviors.

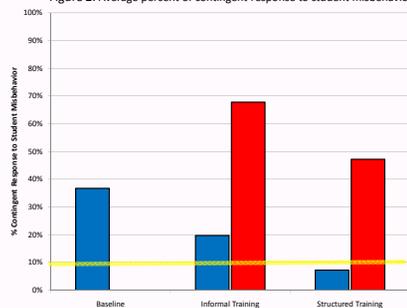


Figure 3. Average percent of verbal prompts used during errorless learning.

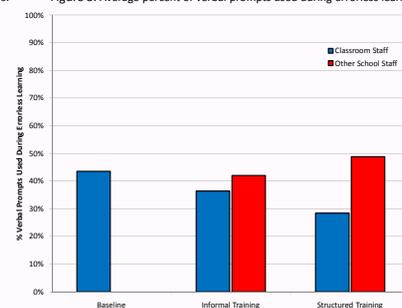


Table 3. Goal achievement by group and skill.

Skill (Goal)	Group	Goal Achieved?	
		Informal	Structured
Positive Attention (Rate: ≥ 0.2 /min; % ≥ 80 %)	Class:	Rate: YES (.257/min) %: NO (59.7%)	Rate: YES (.239/min) %: NO (75.25%)
	Other:	Rate: YES (.234/min) %: NO (11.03%)	Rate: YES (.309/min) %: NO (20.69%)
Contingent Response (% ≤ 10 %)	Class:	NO (19.71%)	YES (7.24%)
	Other:	NO (67.78%)	NO (47.22%)
Errorless Learning (decreasing pattern of % verbal prompts used from baseline or previous intervention average)	Class:	YES (36.37%)	YES (28.40%)
	Other:	N/A (42.00%)	NO (48.78%)

NOTES: Class = Classroom Staff; Other = Other School Staff; N/A = Not Applicable.

Results

Data on classroom and other school staff interactions with students were compared on positive attention, contingent response to student misbehavior and prompts used during errorless learning. Compared to baseline rates, classroom staff improved their performance on each skill. Positive attention went from a baseline rate of 18.18% appropriate and .225 positive attention statements given per minute to 59.7% appropriate and .257/minute with the informal training and 75.25% appropriate and .239/minute in the structured training. The greatest improvement was in the percent of appropriate positive attention which nearly reached the goal of 80%. The percent of student misbehaviors which staff provided contingent attention to also decreased dramatically from a baseline rate of 36.71% to 19.71% in the informal training and 7.24% (under the goal) for the structured training. The percent of verbal prompts used during errorless learning also declined steadily as the increased training structure was imposed. As training had already commenced prior to collecting data on the other school staff, their baseline rates of performance are unknown. However, aside from the use of verbal prompts by other school staff, it appears as if merely observing the training sessions was enough to change performance, although not to the degree of those classroom staff participating in the training. The pilot data gathered on the use of these two different training approaches give support for the further exploration of training methodologies and their generalization to other school staff. This is important in the development of local capacity for school systems to deliver effective classroom practices to individuals with autism.

Conclusions & Future Directions

Due to time constraints and methodological issues, these results should be analyzed with caution. Plans are currently underway to test the structured methodology in a more systematic way and with different skills, controlling for several of the disparate variables between the training methodologies. Conducting the training sessions in a community-based school setting, we were bound by the length of a given semester as well as the uncontrolled aspects of a working classroom. During the structured training portion of the project, there were several unanticipated classroom staff changes which delayed some of the training protocols from being implemented. However, despite the methodological concerns, there does appear to be a pattern in the data suggesting that given more time, the goals may have been met for all of the skills. The structured training modules are currently being revised and will be piloted during the 2008-2009 school year. Following that, the structured training modules will be implemented in a new classroom and tested for efficacy and practicality of use in a community-based setting.



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