Helping Answer Needs by Developing Specialists (HANDS) in Autism: Year Three Training Evaluation and Fidelity

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Abstract

One mission of HANDS in Autism (Helping Answer Needs by Developing Specialists in Autism) is to provide practical and applicable information to a variety of caregivers from an ABA-based framework and to provide an option for training that promotes practical learning opportunities through an innovative and intensive hands-on and coaching experience. Participants in the week-long training program provided daily feedback on several aspects of the training program, including rating the thoroughness of information presented, the materials provided, and the hands-on experiences. In addition, both training staff and participants were rated on their fidelity to the training curriculum. Results indicated that participants were highly satisfied with several aspects of the training program. Training staff and participants were also able to maintain fidelity to the training curriculum. Taken together, the results suggest that the HANDS in Autism model of training is well-received by participants and easy to implement with proper training.

Introduction

The HANDS in Autism model of training was developed in 2004 as a result of foundational funding from the Centers for Disease Control (CDC) and primarily supported ongoing by the Indiana Department of Education (INDOE). It had been noted that caregivers educated at traditional conferences and with excitement to implement what they had learned were not appropriately tooled to apply this knowledge. They became promptly discouraged with the strategies and methods as they struggled to effectively apply and individualize them in their naturalistic setting. It was hypothesized that caregivers would benefit most from a more active learning process that would allow them to better comprehend, envision the application, maintain, and generalize information. The framework for this intensive training model have been developed over several years, with primary consideration provided to an intensive, hands-on training rooted in ABA principles and best practices methodology and guidelines outlined in several documents (e.g., National Research Council, 2001; New York State Program Quality Indicators, 2001; Iovanne, Dunlap, Huber, & Kincaid, 2003). The program seeks to bridge the gap between information learned in more traditional didactic/lecture training modalities and hands-on practical experience. Participants learn in an active environment through didactic, intensive hands-on practice, and feedback sessions. Ultimately, participants are asked to apply the principles learned through the didactic and observation opportunities presented during the training to diverse real life situations as they interact with a variety of child participants differing in age and behavioral and developmental profiles.

A major question regarding the ability of the HANDS model to effectively meet the training needs of its participants is how well the training staff are able to follow the guidelines outlined in the curriculum, how effectively the strategies being taught are demonstrated by the participants, and how satisfied the participants are with the training. By demonstrating that the HANDS in Autism model is both practical and well-received by participants, we are able to argue for the use of this model in other settings.

Hypotheses

Participant ratings of the training program across several variables will demonstrate overall satisfaction with the training and provide feedback for improving subsequent training sessions.

Participants and training staff will be able to demonstrate high fidelity to the training program. Specifically, participants will adhere to the strategies being taught and staff will adhere to the training curriculum.

Both high satisfaction and high fidelity will suggest that this model is both practical and well-received by participants.

Methods and Participants

Thirty-nine individuals working in an educational environment with children across the autism spectrum attended eight hours of training per day for a five-day period in one of three training sessions. At the end of each training day, educator/professional participants were asked to complete an evaluation corresponding to the material covered that day. Additionally, the two lead HANDS trainers assessed both participant and staff fidelity to the training program curriculum.

There were 39 participants, 14 in session 1; 14 in session 2; and 11 in session 3. Across all sessions, 4 school psychologists, 11 special educators, 12 paraprofessionals, 5 speech therapists, 3 behavior specialists, 2 resource teachers, 1 occupational therapist, and 1 administrator participated. Due to low and non-comparable samples, participants are not reported by position. Furthermore, analyses revealed there were no differences in either satisfaction or fidelity to the training program across positions (all $p > 0.05$).

The following is a brief overview of the topics covered in the curriculum over the 5-day training:

- Diagnosis & Best Practices – Diagnostic criteria for autism spectrum disorders, evidence-based practices and HANDS Model introduction
- Structure & Choreography – Group activities, collaboration with classroom staff, positive approaches to behavior
- Assessment – Informal and standardized assessment, data collection, development of teaching materials
- Academics – 1:1 teaching, visual structure, independent work systems, developing IEP goals and objectives
- Social Skills – Social development, assessment of individual strengths and needs, developing and implementing social skills goals

Measures & Coding Procedures

Program Evaluation Data

The program evaluation asked participants to rate their satisfaction with topics presented each day and for the overall training on a five-point scale (1 = Not at all satisfied; 5 = Very much satisfied). Factors evaluated for each training module include:

- Outlining goals and objectives
- Didactics/Lectures
- Quality of the speaker
- Hands-on classroom activities
- Hands-on group activities
- Materials provided
- Facilities
- Level of knowledge
- Observing HANDS Staff
- Feedback/coaching provided
- Knowledge of staff
- Working with students

Program Fidelity Data

Training Participants. There were three days of training during which participants had an opportunity to practice skills learned in didactics with students in the laboratory classroom. During these hands-on activities, participants were divided into three teams of three to five participants. The HANDS lead trainers rated each team on their fidelity to the strategies being taught. Teams were rated on a 3-point scale (0 = Not Done; 1 = Done less than half the time; 2 = Done greater than half the time). Factors evaluated for each team include:

- Taking data
- Using data to inform task
- Visually structuring tasks
- Individualizing task for child
- Dealing with challenging behavior
- Organizing task presentation
- Correct prompting used
- Quality of feedback given

HANDS Staff. Each day, the HANDS lead trainers assessed the staff's fidelity to the training program. The staff as a whole was rated on a 3-point scale (0 = Not Complete; 2 = Completed). Factors evaluated for each training day include:

- Use of daily morning meeting
- Review of schedules/assignments
- Presenting full lectures
- Use of multi-media
- Explained daily roles/goals
- Maintained structured environment
- Modeled skills correctly
- Adherence to training schedule

Ratings for both participants and staff were then summed across items and divided by the total number of points possible to get a per cent fidelity score.

Figure 1. Mean participant evaluation ratings, participant fidelity, and staff fidelity per cent scores across all 3 sessions.

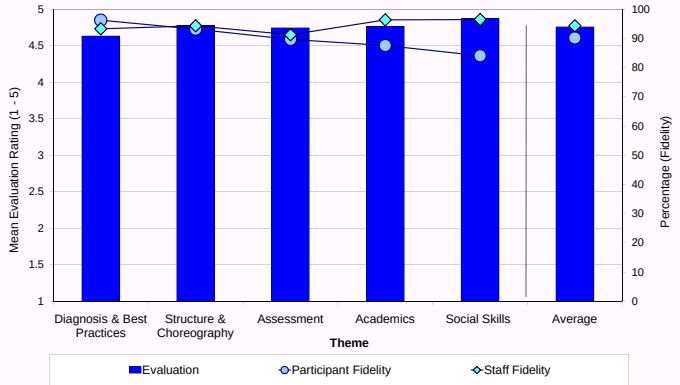

Table 1. Mean staff and participant fidelity scores and mean evaluation ratings by session.

	Session 1			Session 2			Session 3		
	SF (%)	PF (%)	EV	SF (%)	PF (%)	EV	SF (%)	PF (%)	EV
Diagnosis & Best Practices	90.00	100.00	4.60	97.50	88.89	4.73	92.50	100.00	4.57
Structure & Choreography	88.10	98.15	4.86	97.50	81.48	4.78	97.50	100.00	4.70
Assessment	91.30	92.71	4.81	93.48	85.72	4.84	89.13	90.71	4.59
Academics	100.00	85.42	4.90	97.83	88.89	4.72	91.30	88.54	4.68
Social Skills	93.85	87.78	4.94	97.73	79.16	4.87	97.82	85.41	4.80
Average	92.65	92.81	4.82	96.80	84.83	4.78	93.65	92.93	4.67

NOTES: SF = Staff Fidelity Score; PF = Participant Fidelity Score; EV = Evaluation Rating.

Results

Across all three sessions and all five days of the training, participants reported being greatly satisfied ($M = 4.76$, $SD = .09$). Evaluation ratings for session 3 ($M = 4.67$, $SD = .09$) were significantly lower compared to both session 1 ($M = 4.82$, $SD = .13$) and session 2 ($M = 4.78$, $SD = .07$) evaluation ratings ($p = .012$ and $.034$, respectively). While not statistically significant ($p > .05$), participants generally rated Diagnostics & Best Practices day lower compared to other days. This day does not involve any hands-on work with the students and, as a foundation building day, has mainly lectures, which may err on redundant for some participants.

Across all three sessions and all five days of training, both participants ($M = 90.19\%$, $SD = 4.75$) and training staff ($M = 94.37\%$, $SD = 2.17$) were able to maintain high rates of fidelity to the training curriculum. There was no statistically significant difference among fidelity scores for either participants or staff across days or sessions (all $p > .05$). Important to note, anecdotally, participant fidelity scores did tend to decrease somewhat as the week went along. In general, training takes skills learned from previous days and builds on new and complementary skills. Participants are asked to learn, demonstrate, and retain a large amount of information. Therefore, it is possible that as the week progresses and more skills are learned, that the participants fidelity drops slightly.

Conclusions & Future Directions

Overall, it appears that participants were highly satisfied with the training program and both participants and staff were able to maintain high levels of fidelity to the training curriculum. Using these results, the HANDS training program was revised again to incorporate more activities and less lecture-based instruction, and more reinforcement of primary principles.

Additionally, to maintain high levels of staff fidelity and to make this model transportable to other settings, a HANDS Model staff training 2-day workshop was developed and will be implemented for the Summer 2008 training season.

Results presented above suggest that the HANDS in Autism model of professional training is highly satisfactory to participants, easy for participants to follow, and easy for staff to implement based on curriculum training.

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