

Increasing therapist rate of trial delivery in Intensive Behavioral Intervention: Self-monitoring and audiovisual feedback



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Introduction

Background:

- Intensive Behavioral Intervention (IBI) therapists are trained to deliver trials at high rates to maximize learning
- Research has currently evaluated training packages to influence pace of trial delivery, but often through the use of role play situations with new staff rather than in situ with clients and trained staff (May et al., 2010; Weinkauff et al., 2011)

Purpose:

- To compare two in situ trial delivery interventions to typical video-based staff training

Setting: All sessions video recorded in client's home.

Participants:

Convenience sample of three staff with same client. See Table 1 for staff information. Each staff was in study for 11-18 weeks and averaged 1.4 shifts per week.

Client:

5 years, 9 months old boy diagnosed with ASD. Receiving 33 hours/wk of in-home IBI. Has received services for 2 years, 1 month.

Participant #	Sex	Position Title	Employment duration (years,months)
1	F	Behavior Therapist	2,6
2	F	Senior Therapist	4,5
3	M	Behavior Therapist	4,0

Methods

Interventions:

- Pace video training.** 120 minute training used as part of staff 'booster' trainings
- BT teleprompter:** MP3 player (Mobil IT, Ativa) with screen. Goal pace recordings and slide shows created with audible tones to signal trial timing, countdown in 10 second increments to signal transitions. **See figure 1a on top right.**
- Self monitoring graph:** Graph of staff's own previous week average trial pace and a goal for the current week. Goal paces based on staff's baseline rates. Increases were made in increments of 10%. **See figure 1b on top right.**

Experimental Design:

- Alternating treatments with returns to post-staff training baselines design replicated across 3 staff.

Reliability: Assessed on 30% of sessions from video coded by study authors. IOA sessions spread across all experimental conditions. Calculated as A/A+D

Dependent variable: # of trials delivered per 30 minute period

- Definition of trial:** a staff delivered SD consistent with one of the child's current programs, excluding error correction

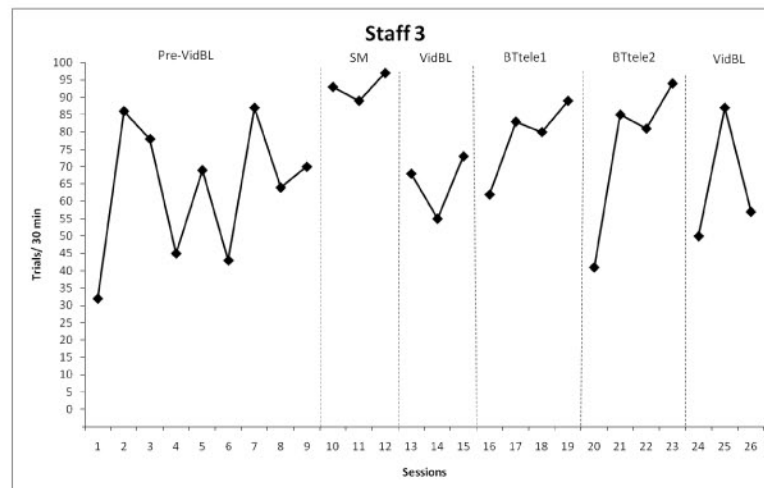
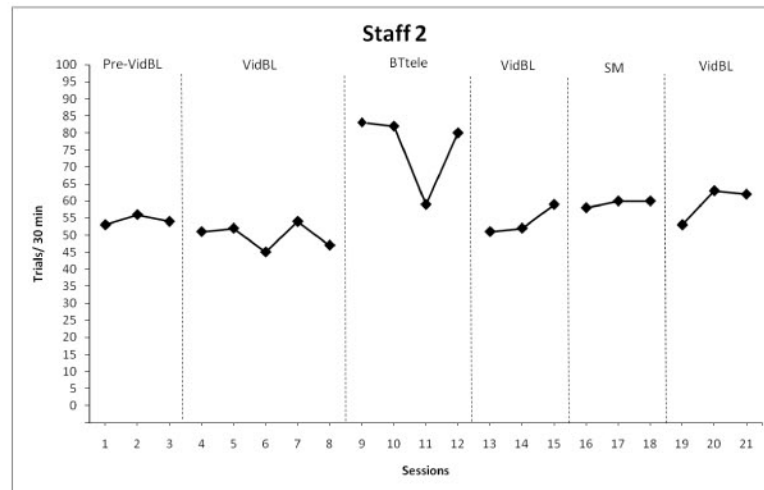
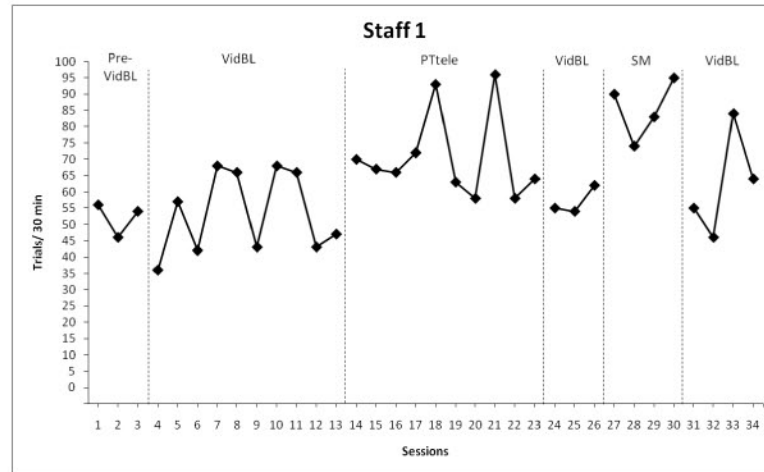


Figure 2a (top). Figure 2 b(middle). Figure 2c(bottom)



Figure 1a. (below) BT teleprompter next to a coin to show scale 1b. (right) Example self monitoring graph with goal line.



Results

- Pace video training:** No difference between before and after video training for any participants
- BT teleprompter:** Somewhat effective for Staff 1 and 3, most effective intervention for Staff 2.
- Self monitoring:** Somewhat effective for Staff 1, effective for Staff 3
- Reliability:** Overall reliability=99.7%, Staff1=94.6% range[85-98%], Staff2=98.5%[94-100%], Staff3=98.7%[42.3%-100%]

Discussion

- Staff pace increased by interventions. Some interventions more effective for some staff.**
- Possible order effects
- Possible ceiling effects
- Observer effects examined between observers present and other days of service, but unknown between before study and during study
- Effects of increased pace on child learning rate not shown

Next Steps

- Incorporate staff choice of intervention
- Generalize to other clients/staff
- Examine effects of increases in pace on child learning rate in multiple baseline design

References

May, R. J. et al. Effects of a stimulus prompt display on therapists' accuracy, rate, and variation of trial type delivery during discrete trial teaching. *Research in Autism Spectrum Disorders* (2010), doi:10.1016/j.rasd.2010.04.013

Weinkauff, S. M., Zeug, N. M., Anderson, C. T., & Ala'i-Rosales, S. (2011). Evaluating the effectiveness of a comprehensive staff training package for behavioral interventions for children with autism. *Research in Autism Spectrum Disorders*, 5(2), 864-871.