

## Pivotal Response Treatment

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## What is Pivotal Response Treatment?

### Basic Assumptions

- Treatment in the Natural Environment  
McGee, Krantz, McClannahan (1985); Koegel, O' Dell, & Koegel (1987); Miranda-Linne & Melin (1992)
- Family Involvement  
Koegel, Bimbela, & Schreibman (1996); Koegel & Koegel (2006)
- Treatment of Pivotal Areas  
Koegel & Koegel (2006)

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## Pivotal Areas

- Motivation
- Multiple Cues
- Initiations
- Self-Management
- Empathy (in progress)

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## Motivation

- Core Motivational Variables of PRT
  - Experimental evidence and discovery of variables
    - Child choice (Koegel, Dyer, & Bell, 1987)
    - Direct (Natural) Reinforcement (Koegel & Williams, 1980; Williams, Koegel, & Egel, 1981)
    - Interspersal of Maintenance & Acquisition Trials (Dunlap, 1984)
    - Task Variation (Dunlap & Koegel, 1980)
    - Reinforcing Attempts (Koegel, O' Dell, & Dunlap, 1988)
    - Overall Motivational Package (Koegel, O' Dell, & Koegel, 1987; Koegel, Koegel, & Surratt, 1992; Koegel & Koegel, 2006)

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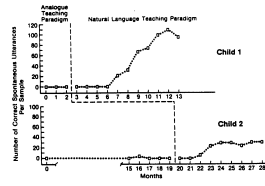
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## Structured ABA vs. PRT

- Results: (Koegel, O' Dell, & Koegel, 1987)
  - Increase in immediate and deferred imitations
  - Increase in spontaneous utterances
  - Generalization of imitative and spontaneous utterances




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## PRT: Communication

- Child Choice
- Maintenance Tasks
- Task Variation
- Natural Reinforcers
- Reinforce Attempts



Baseline



Intervention

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## Using Individualized Orienting Cues to Facilitate First-Word Acquisition for Nonresponders with Autism

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### Successes and Failures

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- Behavioral interventions have been shown empirically to be successful for many symptoms of autism.
- For young children, as many as 95% may acquire speech with behavioral interventions.
- Fewer older children acquire speech.
- Many in the nonresponding subpopulation exhibit a single speech sound or word for all referents.

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### Orienting Cues

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- Intact basic processes of visual orienting among children with autism, even in a situation where attentional processes are taxed by the presence of distractors in the visual field (Burack et al., 1997; Iarocci & Burack, 2004; Minshew et al., 2000)
  - Use of orienting cues to facilitate discrimination learning in children with autism
    - (Koegel, Dunlap, Richman, & Dyer, 1981; Lovaas et al., 1971; Ross & Greer, 2003; Tsiouri & Greer, 2003)
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**Method: Participants**

**Child 1: Zane**

- 3 years 0 months
- Nonverbal
- VABS communication: 0-10
- ROWPVT/EOWPVT: non-testable
- CDI-WS: no words
- In PRT program for 2 months (total = 8 months)

**Child 2: Parker**

- 4 years 1 month
- Nonverbal
- VABS communication: 1-2
- ROWPVT/EOWPVT: non-testable
- CDI-WS: no words
- In PRT program for 4 months (total = 10 months)

**Child 3: Alex**

- 4 years 8 months
- Nonverbal
- VABS communication: 1-0
- ROWPVT/EOWPVT: non-testable
- CDI-WS: 1 word
- In PRT program for 7 months (total = 13 months)

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**Method**

**Design**

- Multiple baseline across participants

**Procedure**

- Baseline PRT
- Identification of individualized orienting cue
  - Engaged in stimulus activity
  - Oriented to clinician
  - Typically took less than 2 hours
- Orienting cue intervention – present stimulus immediately (< 1 sec) preceding the verbal model.

**Dependent Measures**

- Percent of correct verbalizations to verbal models
- Total number of spontaneous words

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**Individualized Orienting Cues**

**Zane**

- Attempted modeled motor actions – unsuccessful.
- Attempted high-five gesture – successful.
  - High-fives presented immediately before verbal models.

**Parker**

- Attempted modeled motor actions – unsuccessful.
- Attempted high fives – unsuccessful.
- Attempted novel stimuli, such as hugs, kisses, tickles, and novel sounds – successful.
  - Novel stimuli prior to presentation of verbal models.

**Alex**

- Attempted modeled motor actions – successful.
  - Modeled motor actions presented prior to verbal models.

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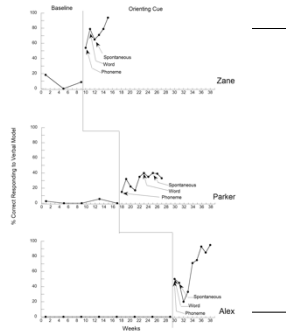
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## Results

Figure 1. Correct Responding to Verbal Models Presented by the Clinician.




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## Results

Table 1. Total Number of Words Produced on the MacArthur-Bates CDI-WS Before and After Intervention and at a 6-Month Follow-Up

Child	Pre	Post	Follow-up
Zane	0	38	94 (2 to 3 word combinations)
Parker	0	4	4
Alex	1	245	328 (FullSentences)

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## Future Directions

### Potential variables involved

- "Stimulus overselectivity" – attention to relevant cue (i.e., speech model) (Lovaas, Schreibman, Koegel, & Rehm, 1971; Rincover & Koegel, 1975)
- Novelty – change stimulus properties of verbal opportunities (e.g. Carr, Newsom, & Binkoff, 1986)
- Behavioral momentum – affecting resistance to change (Nevin, 1996; Romano & Roll, 2000; See dissertation, 2007; Ross & Green, 2003)
- Maintenance tasks – increasing motivation to attend (Koegel et al., 1989; Koegel & Koegel, 2006)
- Short inter-trial intervals (ITI's) – maintain attention (Koegel, Dunlap, & Dyer, 1982)

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## Motivational Academics

Will the use of motivational procedures during writing and math tasks:

- Result in faster completion?
- Decrease disruptive behaviors?
- Increase interest?

Will gains maintain and generalize?

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## Procedure

Differences Between Baseline and PRT Intervention		
	Baseline	PRT Intervention
Materials & Setting	Chosen by Adult	Chosen by Child
Task	Fixed Difficulty Level	Interspersal of easy and difficult tasks
Reinforcer	Unrelated to the Task	Embedded within the Task

Examples: Writing and Math

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## Results

- Faster Completion
- Decreased Disruptive Behavior
- Increased Interest
- Maintained and Generalized

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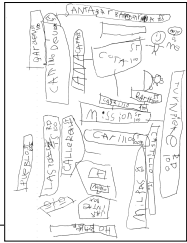
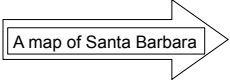
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## Self-Initiated Writing

- Playing Teacher
- Hangman
- Writing Stories
- Drawing Pictures



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- Eli and Edythe L. Broad Foundation
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- Proposition 10 (Child and Family Commission)
- Graduate Students
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## Interactive Website

[www.education.ucsb.edu/autism](http://www.education.ucsb.edu/autism)  
Koegelprt.com

Thank you!

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