



Leadership Guide for Successful Implementation of Evidence-Based Practices in Autism Support

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Objectives



PaTTAN Autism Initiative

1. Discuss impact of Autism and related conditions on education and learning.
2. Review evidence based practices related to development and implementation of components of implementation across domains:
 - a. Organization
 - b. Family Engagement
 - c. Internal Coach role
 - d. LRE
 - e. Instruction
 - f. Behavior Management
3. Review specific considerations for administrators to help attract, prepare, and retain staff as well as increase likelihood of successful implementation

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PDE Child Count Data: Students Eligible for IEPs Under Definition of Autism, Ages 3-21



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Autism Definition

• Autism spectrum disorder (ASD) is a complex developmental condition that is characterized by:

- Social communicative deficits
- Restricted and repetitive patterns of behavior, interests, or activities
- Examples of challenges and impact on educational performance:
 - Generalization
 - Discrimination
 - Social interactions
 - Require systematic instruction
 - Problem behavior

• Other such disorders or disabilities may also present with similar deficits

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Quality Educational Programs: Key Features



PaTTAN Autism Initiative

- Focus on addressing core deficits of autism
- Provide high rates of active student responding
- Build Skills: explicit instruction
- Use of positive reinforcement/skill building
- Honor student interests, personality and skills
- Data driven
- Collaborative!

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Autism Initiative and Applied Behavior Analysis

Evidence for effective instructional methods for students with autism has accumulated.

- ABA: most evidence based conceptual framework for autism interventions
NAC Standards Project, 2009; University of North Carolina, Frank Porter Graham Center, 2018
- ABA is a conceptual model consistent with effective instruction
- Pennsylvania has recognized the importance of instructors having competencies in Applied Behavior Analysis (consistent with IDEA mandates for measurable goals and clearly defined interventions)

What is ABA?

- A science devoted to the understanding and improvement of human behavior.
Cooper, Heron & Heward
- We rely on interventions from this science to assess/analyze behavior so we can change it for the better!
- Not exclusive for students with autism

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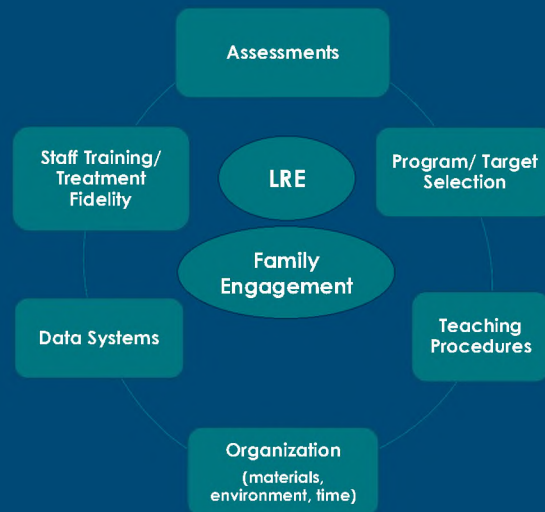
ABA as a conceptual model

- ABA driven by how things that happen in the environment before and after behavior function to alter responding (operant analysis)
- Effective instruction is a relation between teacher behavior and student outcomes (independent and dependent variables) and is NOT dependent on any one variable, including place of instruction

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Autism Initiative Supports

An Integrated System of Effective Instruction



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Site Review: Overview

- Classroom Organization
 - Schedules
 - Classroom environment
 - Materials
 - Data: student notebooks
 - Consultation/Training
 - Inclusive Practices
 - Family Engagement
- Instruction
 - Mand
 - Intensive teaching
 - Natural Environment Training
 - Vocal training
 - ADLs
 - Direct Instruction and group instruction
 - Fluency
 - Social Skills
- Behavior Interventions to reduce problem behavior
 - FBA
 - Implementation (data, treatment integrity, implemented as written, staff training, etc.)
 - Plan design (reduce motivation, teach competing response, extinction)

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Assessment Drives Identification of Goals

- Identification of meaningful goals that are socially valid and addresses core deficits (what to teach):
 - Communication skills
 - Social Skills
 - Academic instruction (directly tied to communication)
 - Appropriate play/leisure skills
 - Self-help, completing independent activities
 - Vocational/job training

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Program and Target Selection

- Derived from assessment
- Consistent with instructional level
- Consistent with component skills
- Appropriate sequence across programs
- Appropriate sequence within programs
- Focus on teaching competencies
- Focus on teaching to fluency and generalization

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Instruction/Teaching Procedures

- Evidence-based
- Result in skill acquisition
- Minimize or avoid student errors
- *Caveat: effective teaching procedures can provide fall sense of skill acquisition.*

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Instruction/ Teaching Procedures:

Intensive Teaching

- Discrete Trial Instruction – used to teach most basic skills
 - Errorless Teaching
 - Error Correction
- Prominent in many programs that address core deficits of autism, but not exclusive
- Used primarily for early and intermediate learners

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Instruction/ Teaching Procedures:

Mand Training

- Addresses head on key issues of autism:
 - Social-communicative issues
 - Repetitive behaviors
- Teaches social initiation
- Complex instructional issue: teachers must learn about what motivates students
- Links to social skills and conversation skills

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Instruction/ Teaching Procedures:

Social Skills Instruction

- Addresses complex social skills – “beyond the mand”
 - Appropriate social responses
 - Rule-governed behavior
 - Coping skills
 - Self-management
 - Problem solving
- Tied to motivation
- Evidence-based teaching

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Instruction/ Teaching Procedures:

Group Instruction

- Active student responding
- Engagement
- Efficiency
- Results in skill acquisition

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Instruction/ Teaching Procedures:

Fluency Training

- Ensures students are able to respond accurately and quickly when needed
- Reduce likelihood of regression – fluency leads to behavior that endures over time

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Instruction/ Teaching Procedures:

Academic Instruction

- Establishing component skills for academic success
- Sequence of instruction
- Alternate curricula when needed

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Instruction/ Teaching Procedures:

ADLs,
Independent
Skills

- Establishing component skills
- Sequence of instruction
- Task analysis (not always the answer)
- Establish independence

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Early Mand Training



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Update on
mands



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Teaching
Imitation Video

**01 Teaching Early
Object Imitation**

Probe

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Teaching Imitation Video (discrimination)



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Early Group



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Group Instruction



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Behavior Management

FBA
PBSP

Function Based

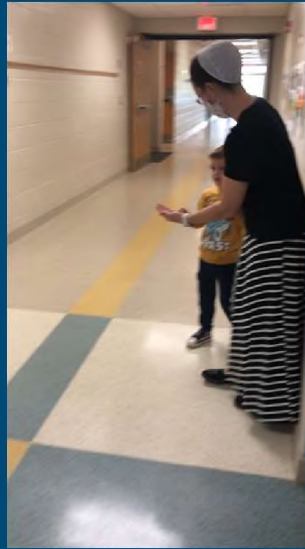
Motivation

Competing skill

Making PB ineffective and inefficient

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Walk with me video



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Organization

- Materials:
 - Materials for instruction available and organized
 - Exemplars allow teaching skill
- Environment:
 - Conducive to allow for learning experiences
 - Furniture is appropriate for student needs
 - Set-up allows teacher to monitor all students and staff
- Time:
 - Schedule that optimizes and focuses on instruction (focused on goals and tied to data system)
 - Minimal to no downtime
 - All students accounted for and monitored at all times

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Data Systems

- Efficient
- Does not interfere with instruction
- Provides conservative, but accurate measure of performance
- Reliable
- Informs decision making

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Student: _____

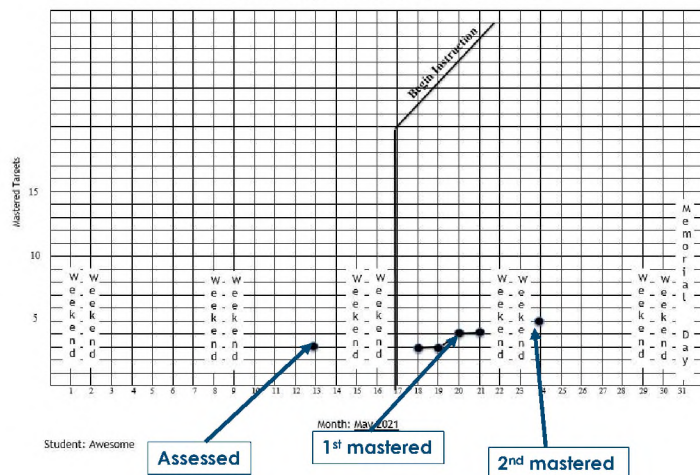
Mastery Criteria: _____

Skill Tracking Sheet

Skill: Tacts for Common Items

	Target	Date introduced	Date Mastered
1	Cup	5-17-21	5-24-21
2	Ball	5-17-21	5-20-21
3	Book	5-20-21	
4	Chair	Assessed	5-13-21
5	Shirt	Assessed	5-13-21
6	Spoon		
7	Table		
8	Shoes		
9	Bowl		
10	Pants		
11	Car	Assessed	5-13-21
12	Apple		
13	Baby		
14	iPad		
15			
16	Popcorn		
17	Paint		
18	Coat		
19	Piano		
20	Bed		

Cumulative Graph for: Tacts for Common Items



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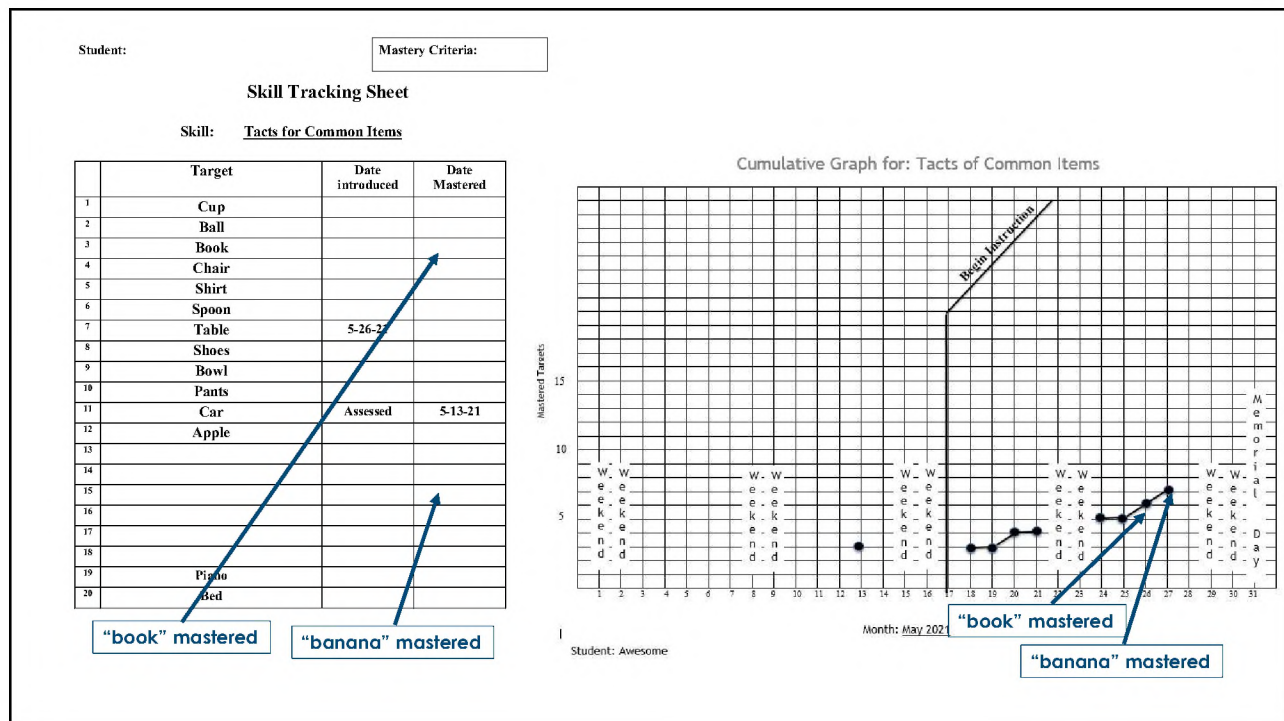
Name: Awesome Week of: 5/24-5/26/21

Weekly Probe Sheet

#	Days	Object	Target Skill	Probes	Mon	Tue	Wed	Thur	Fri
1	1	Tact	"What is it?" Book	0	Y	Y	Y	Y	Y
2	New	Tact	"What is it?" Banana	New	N	Y	Y	Y	Y
3	New	Tact	"What is it?" Table	New	N	N	N	N	Y
4					Y	Y	Y	Y	Y
5					Y	Y	Y	Y	Y
6					Y	Y	Y	Y	Y
7					Y	Y	Y	Y	Y
8					Y	Y	Y	Y	Y
9					Y	Y	Y	Y	Y
10					Y	Y	Y	Y	Y
11					Y	Y	Y	Y	Y
12					Y	Y	Y	Y	Y
13					Y	Y	Y	Y	Y
14					Y	Y	Y	Y	Y
15					Y	Y	Y	Y	Y
16					Y	Y	Y	Y	Y
17					Y	Y	Y	Y	Y
18					Y	Y	Y	Y	Y
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25					Y	Y	Y	Y	Y
26					Y	Y	Y	Y	Y
27					Y	Y	Y	Y	Y
28					Y	Y	Y	Y	Y
29					Y	Y	Y	Y	Y
30					Y	Y	Y	Y	Y
31					Y	Y	Y	Y	Y
32					Y	Y	Y	Y	Y
33					Y	Y	Y	Y	Y
34					Y	Y	Y	Y	Y
35					Y	Y	Y	Y	Y

Criteria for mastery: 2 consecutive correct (Y) days
 Notes:

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PATTAN Autism Initiative Data Systems

Site review provides systems level data: it is a measure of consultative effectiveness

Calibrated through inter-observer agreement
Broad coverage of many components of instruction

Teacher Level Data collected through fidelity measures

Intensive Teaching Transcription
Mand Training Transcription
Various Treatment Integrity Checklists

Student Level Data

Assessment of Social Communicative Skills
Program Level Data (Probe Sheet, Skill Tracking Sheet, Cumulative Graph)
Other curricular tracking systems (Record of lessons mastered in Direct Instruction, Social Skills Checklists, Skill Streaming)

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Staff Training and Treatment Fidelity

- Effective interventions will only yield benefits with fidelity of implementation
- Objective measures of implementation and feedback result in behavior change

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PaTTAN Autism Initiative Training Model

Competency Based Trainings

Intensive Skills Training in Evidence Based Practices for Classroom Teams ("Boot Camp")

Intensive Skill Training for Establishing Early Verbal and Functional Skills for Students with Autism ("Early Learner Training")

Intermediate and Advanced Verbal Programs for Students with Autism ("Advanced Training")

Number of Trainings	Boot Camp	Advanced	Early Learner
Mean Written Pre test	54%	50%	42%
Mean Written Post test	93%	95%	88%
Mean Oral Test	95%	97%	96%

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Competencies

"Boot Camp" Competencies	Mean
1. Fluency for tact of trial type by verbal operant	26/m.n
2. States errorless procedure	100%
3. Demonstrates errorless procedure	100%
4. States error correction procedure	100%
5. Demonstrates error correction procedure	100%
6. Data systems, notes mastered items	100%
7. Data systems completes probes, enters data, introduces new skills, graphs	100%
8. Mand prompt transfer procedures; states and demonstrates	100%
9. Mand error correction; states procedures and demonstrates	100%
10. Sets up materials for intensive teaching and tacts procedure and data system	99%
11. Demonstrates 4 Run throughs for Intensive Teaching	99%

"Advanced Training" Competencies	Mean
1. State/demo errorless teaching of facting actions	100%
2. State/demo error correction of facting actions	100%
3. State/demo errorless of noun verb tact	100%
4. State/demo error correction of noun verb tact w/contrast	100%
5. State/demo errorless teaching of part/feature	100%
6. State/demo error correction of Part/feature w/contrast	100%
7. State/demo errorless teaching for adjectives	100%
"Early Learner" Competencies	Mean
1. Assess approach behavior	100%
2. Assess contextually controlled responses	100%
3. Demo procedures for "come here" protocol	100%
4. Behavior plan structure, identify function & interventions	100%
5. Demo shaping procedures for early mands training	100%
6. Demo prompt procedures for early mands training	100%
7. Demo sequence of context controlled trials	100%
8. Demo object imitation protocol	100%

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PATTAN Autism Initiative Training Model

2. Videos, manuals and resources

Online resources

<https://www.pattan.net/Disabilities/Autism/Video-Resources-2>

Resource file:

<https://tinyurl.com/PAIResources>

3. Access to Developments in Field of Autism/ABA

National Autism Conference Partnered with Penn State University

<https://autism.outreach.psu.edu/archive/>

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PaTTAN Autism Initiative Training Model

4. Site Review

Classroom Organization

- Schedules
- Environment
- Materials
- Data

Consultation/Training

Team Meetings

Inclusive Practices

Family Engagement

Instruction

- Mand
- Intensive Teaching
- Natural Environment Training
- Vocal Training
- ADLs
- Direct Instruction
- Group Instruction
- Fluency
- Social Skills

Behavior Management

- FBA
- Implementation (data, treatment fidelity, implemented as written, staff training, etc.)
- Plan design
 - Reduce MO
 - Teach competing response
 - Extinction or other consequence

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PATTAN Autism Initiative Training Model

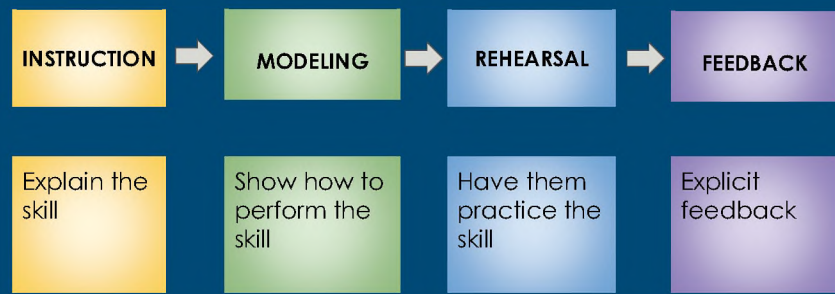
5. On-site consultation

- Modeling
- Guided practice with performance feedback
- Treatment fidelity with objective feedback
- Documentation of consultation
 - Observational data
 - Procedural description of recommendations

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Behavior Skills Training Model

“a procedure consisting of instruction, modeling, behavioral rehearsal and feedback that is used to teach new behaviors or skills”
(Miltnerberger, 2004, P. 558)



<https://bsci21.org/behavior-skills-training-in-4-steps/>

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<div> <h2>INSTRUCTION</h2> </div> <div> <h3>Training Sequence</h3> </div>	<ul style="list-style-type: none"> Active Adult Participation Establishing Approach Behavior Verbal Operants ABC's of Behavior Mand Background Knowledge Mand Teaching Procedures Mand Data Collection Errorless Teaching Procedures Teaching LR/Imitation Skills Count and Mand
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<div> <h2>INSTRUCTION</h2> </div> <div> <h3>Principles of Effective Instruction</h3> </div>	<ul style="list-style-type: none"> Frame Rationale Assessment <ul style="list-style-type: none"> Active participant responding Opportunities to practice skills taught Teaching procedures Explicit Feedback Sequence of instruction Review and practice of previous content
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INSTRUCTION

Errorless Teaching

Prompt – Transfer – Distract - Check

- × **Prompt:** to make sure they get it correct
- × **Transfer:** how we start to fade prompts
 - × *Run it again without the prompt*
- × **Distract:** to put some other responses between transfer and last trial
 - × *Run easies*
 - × *Generally 2 3*
 - × *Can be less (early learner, hard skill, poor instructional control)*
 - × *Can be more (cooperative student, easier skill)*
- × **Check:** to check if student can respond correct after being distracted
 - × *Run target again without prompt*

REINFORCE!!

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MODELING

Demonstrate the Skill

All procedures were modeled prior to having staff demonstrate the skill

Multiple exemplars

Formats for modeling:

Group trainings:

In person

Video examples

1:1 coached modeled with the staff or another coach

Modeling with a student

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REHEARSAL

Practice the Skill

Group trainings:
staff members worked in pairs - 1
"student," 1 "instructor"
internal coaches provided materials

In vivo rehearsal with a student

1:1 staff/coach rehearsal



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FEEDBACK

- Effective interventions will only yield benefits with fidelity of implementation
- Objective measures of implementation and feedback result in behavior change
- Explicit and objective based on observation and data

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Transcription

Code for IT transcription from PaTTAN Transcription Manual

IT Transcription

Main Codes:

T= Tact
IV= Intraverbal
E= Echoic
M= Mand
TC= Task Completion

LR= Listener Responding
I= Imitation
MS= Match to Sample
TX= Textual
Sr= Positive reinforcement
Sr= Negative reinforcement

Superscripts:

P= Prompted
tt= Transfer Trial
√= check trial
pp= Partial Prompt
None = easy

- = error responses
? = uncertain coding
nr = no response
↓ = Fade to lesser prompt

Subscripts:

pb = problem behavior
vp= verbal praise
I_o = imitate actions on objects
I_m = or motor imitation
// = break in transcription

fe= feature
fn= function
fo= class
... = time passes between trials
3 or other number= number of steps

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Transcription Example

				Remember to repeat your SD following the error and before you prompt. Great job remembering your transfer trial and check trial!
				Need to repeat SD before prompting. Watch the number of demands. This run through would have been better split up by reinforcing Andrew a little on the first transfer trial and completing the check on the next run through. You may have been able to prevent the second error due to motivation to respond remaining higher with denser reinforcement. His VR is a 3.

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Internal Coaches

Sustainability maintained by collaboration with local professionals, manualization of training process, and systems design.

Each participating LEA designates an Internal Coach.

Internal Coach works with PATTAN consultant and eventually assumes consultative responsibility when site achieves model or model independent status

Model and Model Independent status determined by Internal Coach skill level and site level of implementation as measured by site review

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Family Engagement

Meaningful family engagement is associated with:

- Better School Attendance
- Higher Test Scores
- Higher Grades
- Better Social Skills
- Better adaptation to School
- Post Secondary Education more likely

Family goals, perspectives and concerns should be considered in educational planning

Caveat: parent preference is not always consistent with evidence base

Parent training and communication

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What can you do to help with implementation?

- Visit classrooms and encourage staff
- Review consultation notes and follow up on them
- Expect implementation
- Provide behavior specific reinforcement and performance feedback
- Review data
- Present a collaborative front

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In Closing




PaTTAN Autism Initiative

Do the best you can until
you know better.
Then when you know better,
do better.

-Maya Angelou

- Resource files link:
<https://tinyurl.com/PAIResources>

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PaTTAN Autism Initiative

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