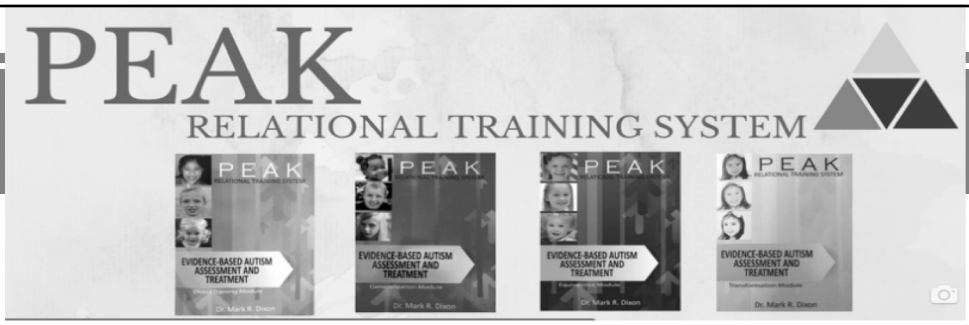


Mark R. Dixon

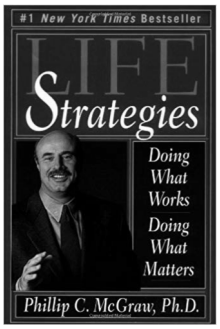
1

DISCLOSURE AND CONFLICT OF INTEREST

- Funding has been made possible through:
  - Illinois Center for Autism
  - The Autism Project of Illinois
  - SIUC– Autism Research and Treatment Center
  - University of Illinois Chicago – LEND
  - 30+ Public school districts
  - University of Illinois Chicago
- Conflict of Interest:
  - I receive disappointing small royalties from sales of some of the books I may be tangentially talking about.

2

"You have to be willing to step outside yourself and say '*what I am doing is not working*'." – Dr. Phil



FAMOUS PHILOSOPHER

3

THE DEVELOPMENT OF PEAK

2006
Awakening to the disconnect between science and practice for ABA services to children with autism

2007-2013
Field testing of PEAK concepts on front lines of school districts and 1:1 care settings

2014-2016
PEAK module releases coupled with a series of publications designed to support the claims of the program

2019
PCA standardized assessment released to ease the assessment process and link it to non-behavioral indices of progress

4

4 MODULES – 4 WAYS TO LEARN

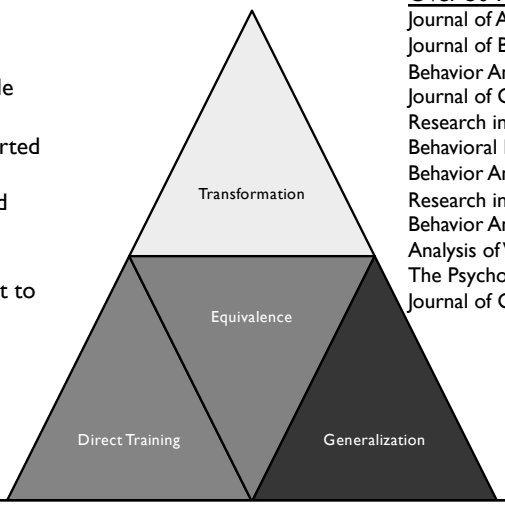
4 Learning Modules

184 Curriculum Items in Each Module

Various Assessment Tools to Get Started

Unique Scoring System for Micro and Macro Analyses

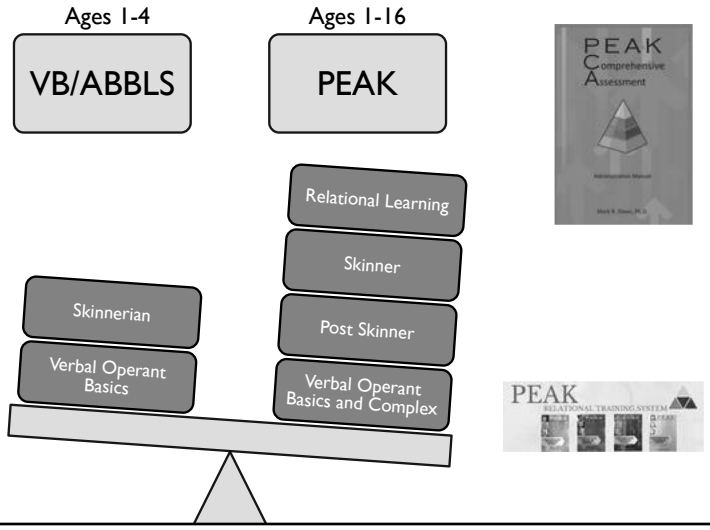
Emphasis on How to Learn not What to Learn



Over 50 Peer-Reviewed Publications in:
Journal of Applied Behavior Analysis
Journal of Behavioral Education
Behavior Analysis in Practice
Journal of Organizational Behavior Management
Research in Autism Spectrum Disorders
Behavioral Interventions
Behavior Analysis Research and Practice
Research in Developmental and Physical Disabilities
Behavior Analyst
Analysis of Verbal Behavior
The Psychological Record
Journal of Contextual Behavioral Science

5

THE CORE DIFFERENCES



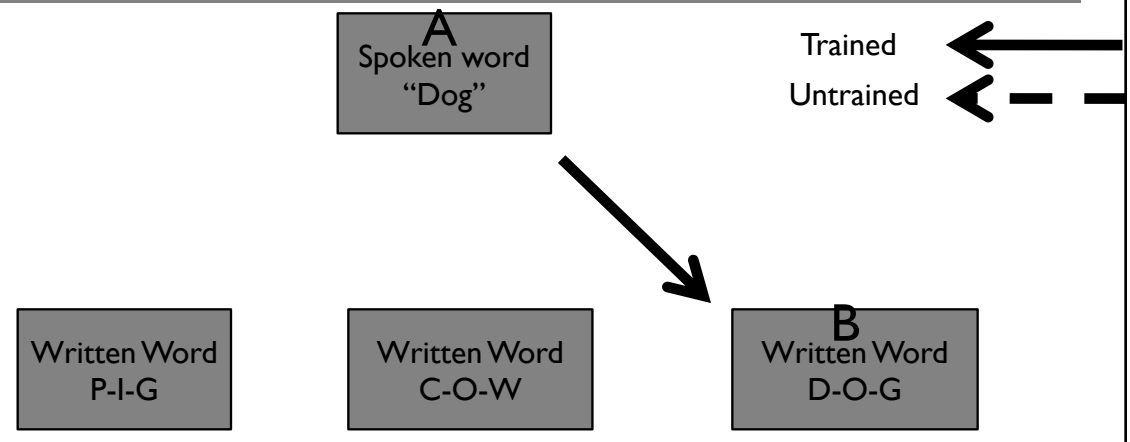
6

THE GROWTH OF DERIVED RELATIONAL RESPONDING APPLICATIONS

- Traditional language training approaches work great. However, a number of limitations have been noted in ABA that DRR may overcome:
  - Complexity of the Response
  - Efficiency of the Training Time
  - Emission of Novel Untrained Responses
  - Skills Appearing Beyond Skinner's Account of Language

7

WHAT IS THE BASIC DRR PARADIGM?



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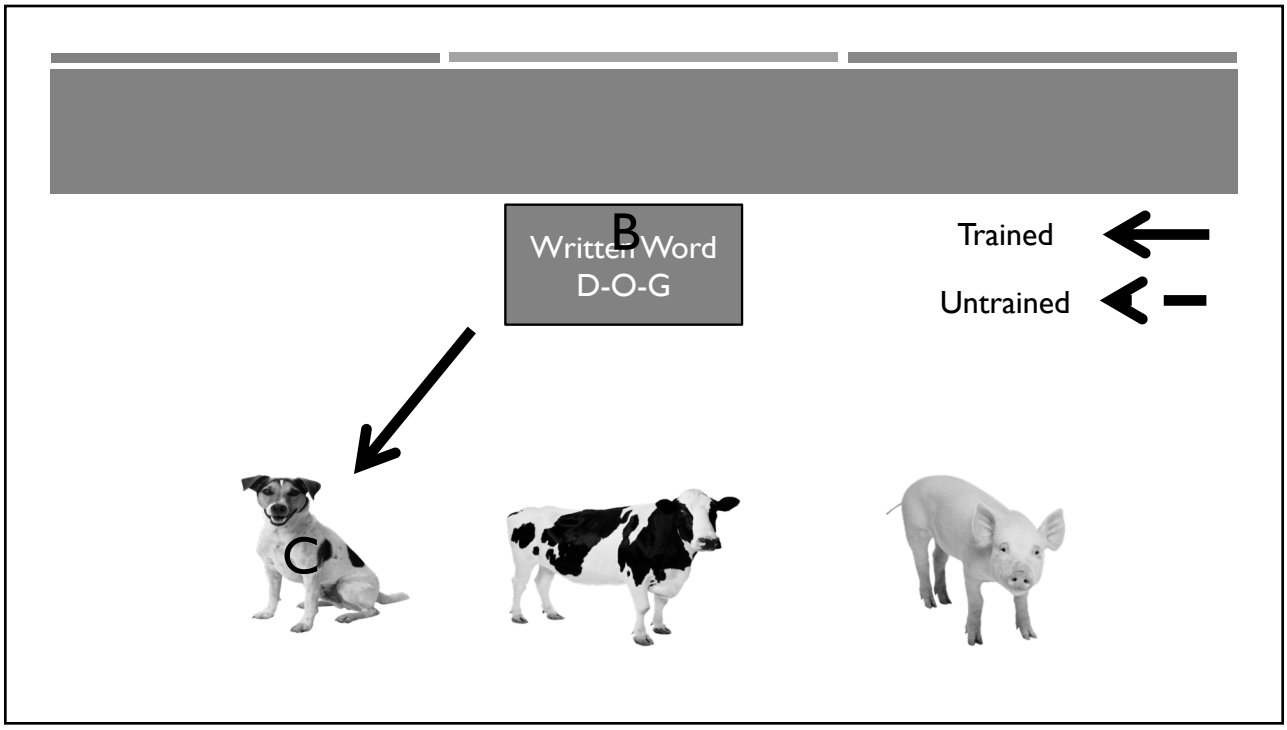
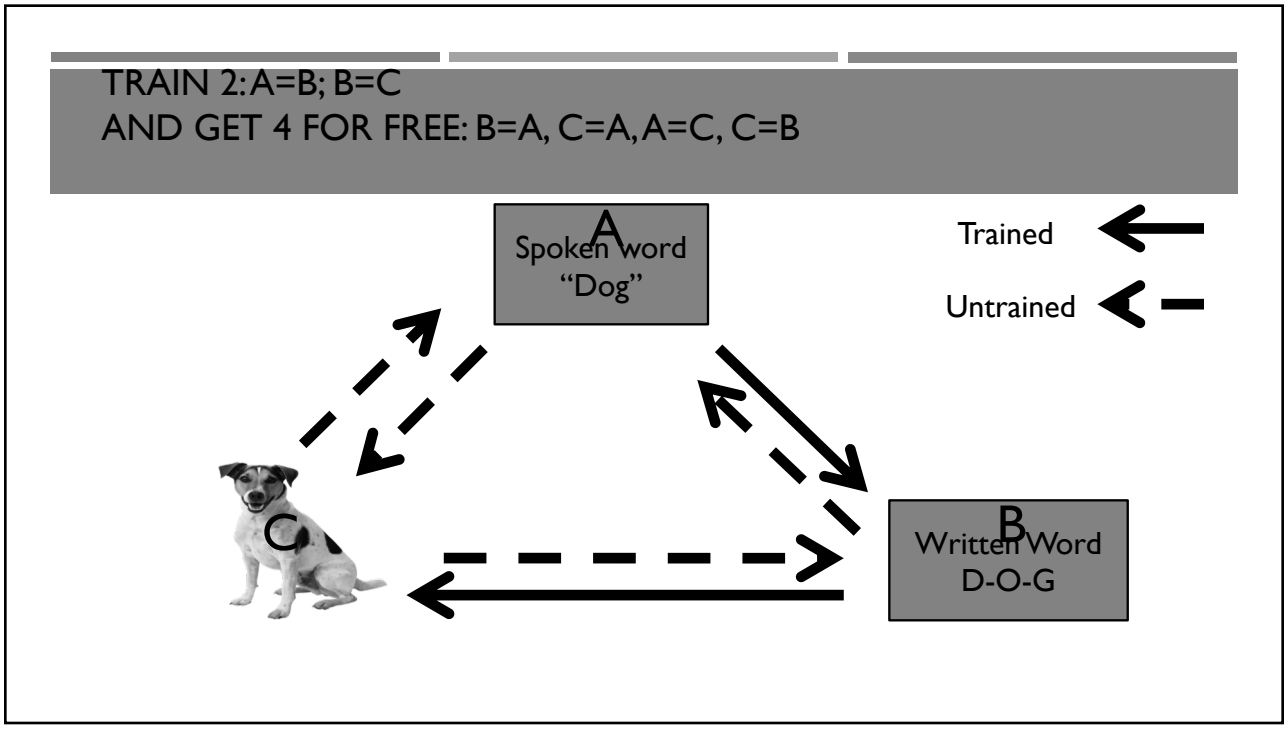


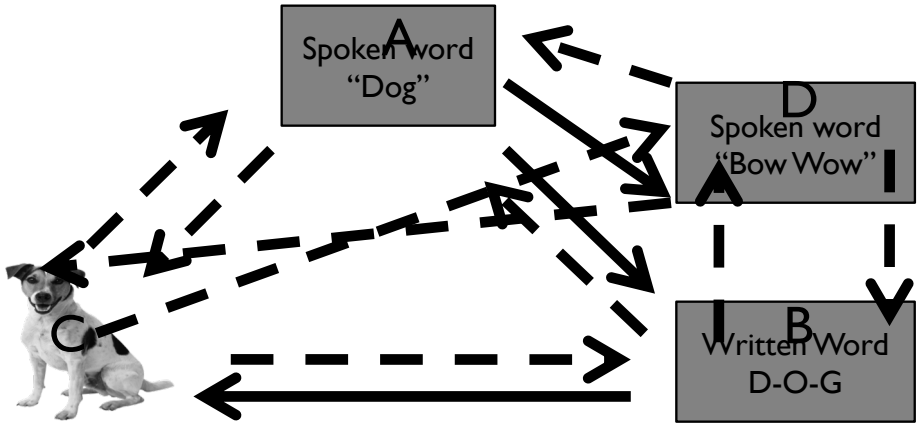
9

TRAIN 2: A=B; B=C
AND GET 4 FOR FREE: B=A, C=A, A=C, C=B



10

TRAIN 3: A=B; B=C
AND GET 9 FOR FREE: B=A, C=A, A=C, C=B, D=A, D=B, B=D, C=D, D=C



11

THE POSSIBILITIES ARE ENDLESS

Stimulus A	Stimulus B	Stimulus C
Coins	Cash Values	Spoken Names
People Faces	Written Names	Job Titles
Community Signs	Relevant Behavior	Written Names
Food Group Pictures	Actual Food Items	Calories
Medications	Side Effects	Pill Color / Size
Rooms of a House	Items Found in Room - Pic	Spoken Names of Rooms
Taste of Foods	Names of Foods	Pictures of Foods
Smell of Candles	Pictures of Scents	Spoken Word of Scent
Tactile Qualities of Items	Vocalization of Tactile	Images of Items

12

NEW BACB 5TH EDITION TASK LIST

- Released January of 2017
- In Effect for 2022

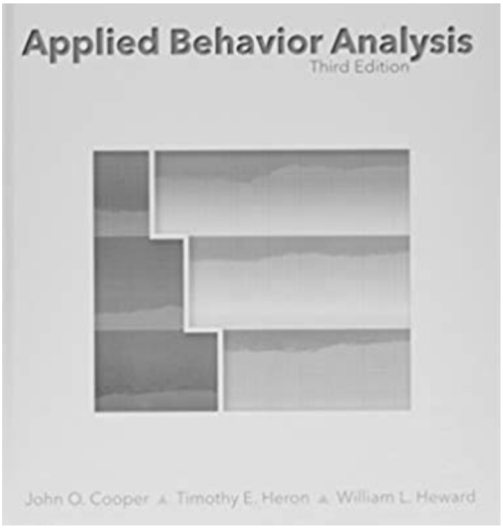
B-15 Define and provide examples of derived stimulus relations.

G-12 Use equivalence-based instruction.

13

"PROOF" OF RELEVANCE IN THE 3RD EDITION

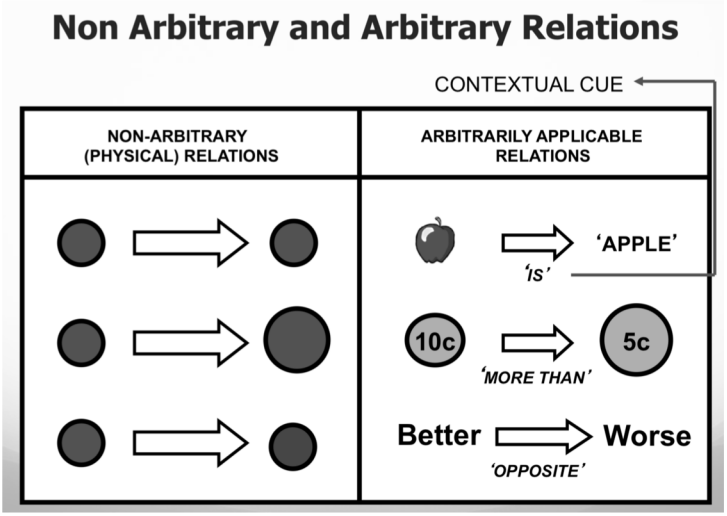
- Full chapter on stimulus equivalence
- Full chapter on non-equivalent derived relations



14

MOVING BEYOND EQUAL

- Various ways to relate stimuli and "infer" relationships beyond original Sidman account.
- Relationships exist that may entail:
  - More / less
  - Opposite
  - Different
  - Time / space
  - Hierarchy
  - Perspective
- Defined not as equalivance but rather as derived relational responses (DRR)



15

Arbitrary versus Non-arbitrary

- Which is heavy?

- Which is heavy?

16

Contextual Arbitrariness

- Which is heavy?

- Which is heavy?

17

RELATIONAL MATRIX OF COMPLEXITY - EXAMPLES

Type	Coordination	Opposition	Distinction	Comparison	Hierarchical	Deictic
Non-Arbitrary	Picture to picture Touch-touch	Slow tap on desk Fast tap on desk	Given letter "A" Which one? "A" "A" "G"	Small pic Larger pic Talk loud/soft	Stacking cups Russian Dolls	I am touching frog. You are touching a monkey
Cultural	Spoken word to picture	Word (hot) Word (cold)	Smell A Smell A or Smell B	Months of the year	Car - Chevy Chevy - Camaro	Bob is sad, and you are happy. If you were…
Arbitrary	CVC to smell	Smooth to CVC1 Rough to CVC2	CVC1-taste1 CVC2-taste2 Given CVC1…?"	XXX is more than BBB, and BBB is more than CCC	Social classes with CVCs BIR is the king of CUF, CUF is the owner of VEP….	MEV has a (touch1), and BEX has a (touch2). IF here were….
Complex Transformation	Abstract image – CVC. Solve a sequence of images using a CVC	"if a stranger asked you to get in the car what is the opposite of what you should do?	If a dog is different than a boy, and a boy is the same as a friend, is a dog your friend?	If earth is closer to the sun than Saturn, and mars is farther than earth but closer than Saturn… Sequence these pictures to sun	Which would you try first to help you feel better? Touch spider, watch spider video, say word spider….	If VUG was standing here now, and MAW was behind him then, who is in front if here was there and VUG was MAW

18

APPLIED DEMONSTRATIONS OF DRR?

JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2011, 44, 109–119 NUMBER 1 (SPRING 2011)

TOWARD A TECHNOLOGY OF DERIVED STIMULUS RELATIONS: AN ANALYSIS OF ARTICLES PUBLISHED IN THE JOURNAL OF APPLIED BEHAVIOR ANALYSIS, *1992–2009*

RUTH ANNE REHFELDT

SOUTHERN ILLINOIS UNIVERSITY

Every article on stimulus equivalence or derived stimulus relations published in the *Journal of Applied Behavior Analysis* was evaluated in terms of characteristics that are relevant to the development of applied technologies: the type of participants, settings, procedure (automated vs. tabletop), stimuli, and stimulus sensory modality; types of relations targeted and emergent skills demonstrated by participants; and presence versus absence of evaluation of generalization and maintenance. In most respects, published reports suggested the possibility of applied technologies but left the difficult work of technology development to future investigations, suggestions for which are provided.

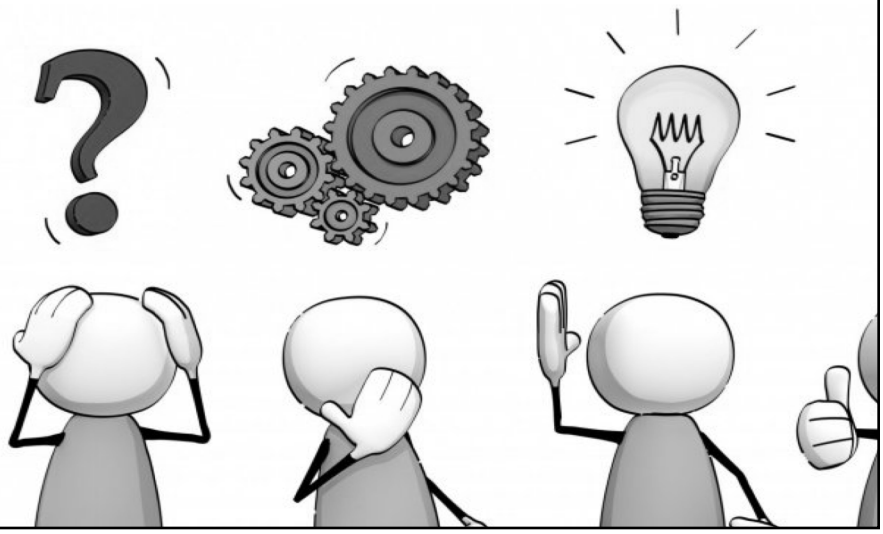
Key words: stimulus equivalence, derived stimulus relations, verbal behavior, generalization

Sidman (1971, 1994) popularized the use of the term *stimulus equivalence* to refer to the behavioral analysis of symbolic behavior and reference.

19

THE REAL CHALLENGE

- The language revolution in ABA was never going to occur due to conceptual differences
- The real paradigm shift would happen on the front line
  - BCBAs failed to have the tools necessary for the challenges that were faced every day
  - Over 75% of all BCBAs work in autism, and that is where the shift would need to happen



20

THE MASTER PLAN

- Highlight the anomalies in normal science / practice of the ABA provider
- Describe more efficient ways of doing the same job
- Reveal the added benefits to the client from abandoning standard practice
- Provide the clinician with a tool that was easier to use than existing methods
- Challenge the values of the professional from sitting on the sidelines to move their practice forward

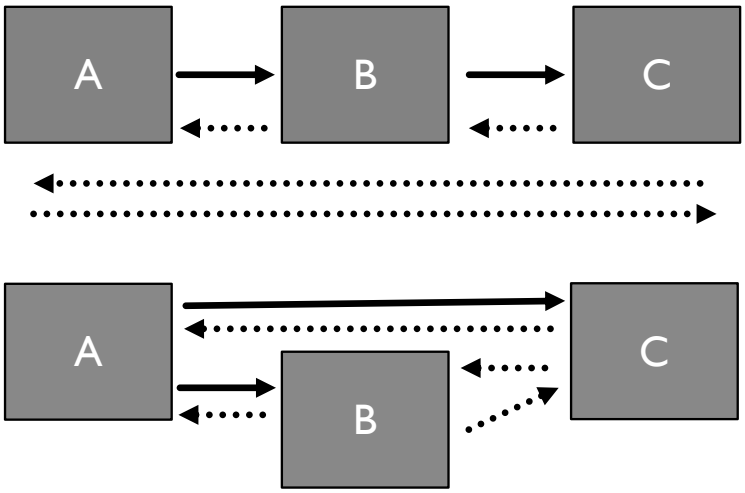
- Along the way backing it up with data

21

NEW SKILLS FOR CLIENTS

22

GENERAL PROCEDURAL OVERVIEW



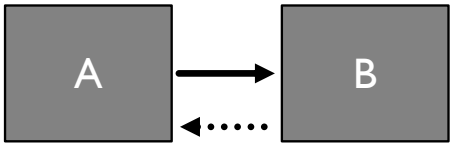
Data Points

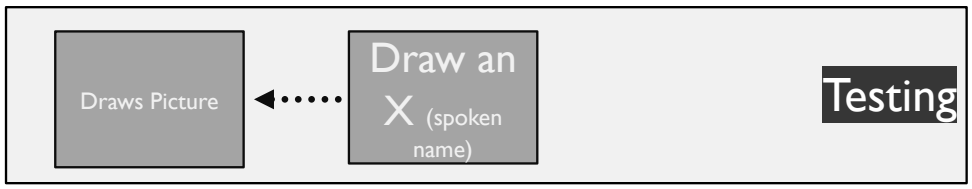
Training

Testing

23

A BASIC SYMMETRICAL PROGRAM: PEAK EQUIVALENCE MODULE





Procedure:

Baseline:
5 Trial Blocks of A-B
5 Trial Blocks of B-A
(no feedback or RFT)

Treatment:
5 Trial Blocks of A-B
(error correction, RFT)

5 Trial Blocks of B-A
(no feedback or RFT)

24

Behavior Analysis: Research and Practice

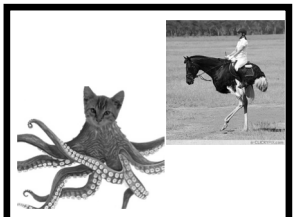
2372-9414/16/$12.00 http://dx.doi.org/10.1037/bar0000055

RESEARCH REPORT

Evaluating Emergent Naming Relations Through Representational Drawing in Individuals With Developmental Disabilities Using the PEAK-E Curriculum

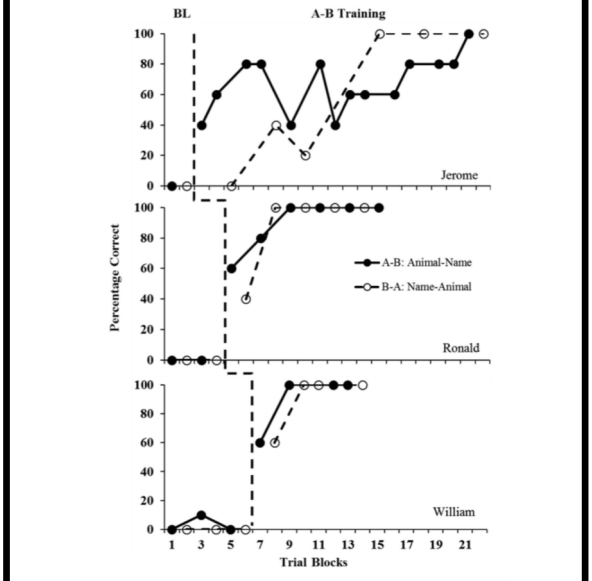
Mark R. Dixon, Jordan Belisle, Kyle E. Rowsey, Ryan C. Speelman, Caleb R. Stanley, and Dena Kime
Southern Illinois University Carbondale

Naming has been described behavior analytically as the ability to engage in both speaker and listener behavior as they relate to stimuli in the real world, where speaker behavior is often demonstrated in the form of tacting and listener behavior in the form of selection-based responding. The present study sought to evaluate *representational drawing* as an alternative to selection-based listener responding where the listener



Train A-B: "What is this?"

Test B-A: "Draw a Spiowl?"



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Journal of Applied Behavior Analysis

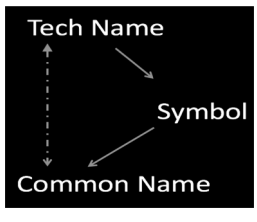
JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2018, 9999, n/a–n/a NUMBER 9999 ()

EQUIVALENCE-BASED INSTRUCTION OF ACADEMIC SKILLS: APPLICATION TO ADOLESCENTS WITH AUTISM

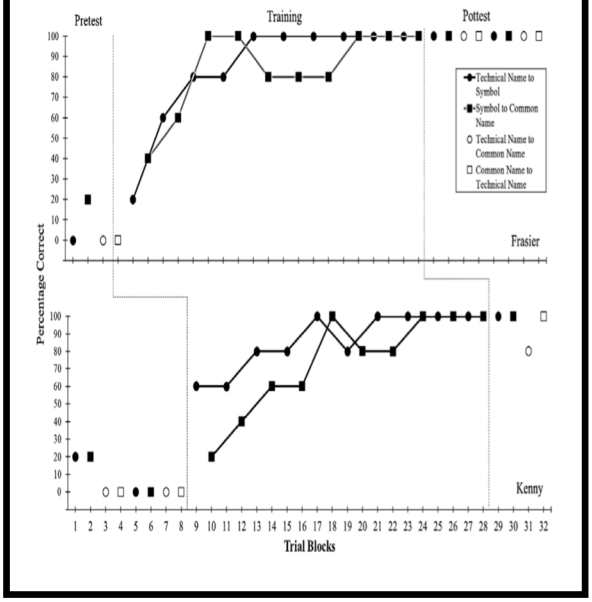
CALEB R. STANLEY, JORDAN BELISLE, AND MARK R. DIXON
SOUTHERN ILLINOIS UNIVERSITY

This study evaluated the efficacy of three equivalence-based instruction procedures on the acquisition of novel academic skills by 3 adolescents diagnosed with autism in a school setting. The skills targeted for instruction were related to topics in history, science, and mathematics, and were taught using different training structures from the PEAK-E curriculum. All participants demonstrated mastery of the trained relations and the tested derived relations following all variants of equivalence-based instruction.

Key words: autism, education, equivalence-based instruction, PEAK, stimulus equivalence



- A Technical Chemical Name → B Chemical Symbol
- B Chemical Symbol → C Common Name



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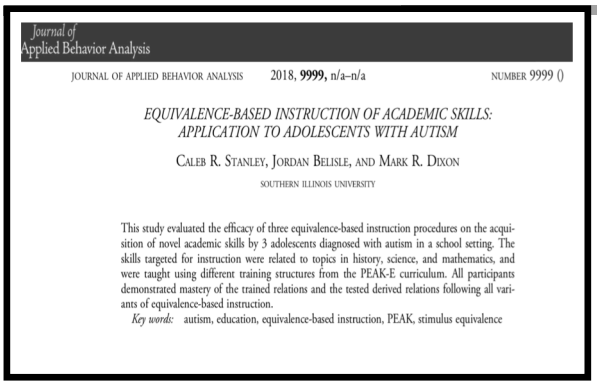

Journal of Applied Behavior Analysis

JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2018, **9999**, n/a–n/a NUMBER 9999 ()

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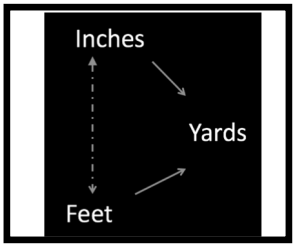
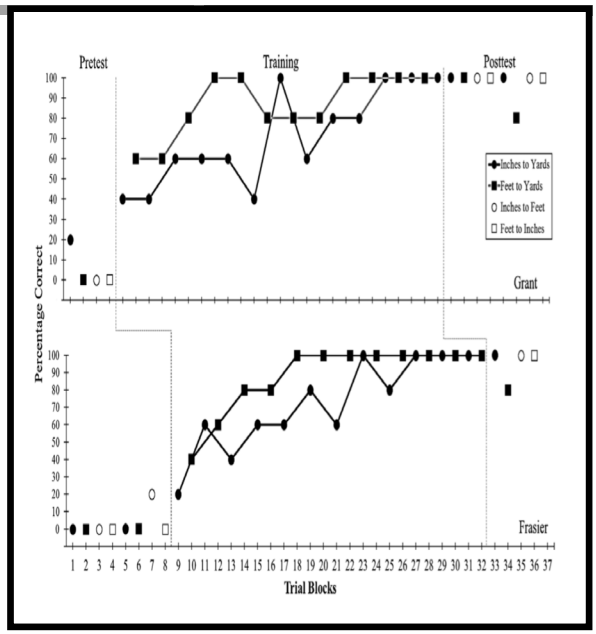


- A Inches → B Yards
- C Feet → B Yards



27

HOW WOULD YOU TEACH JELLY BEANS?

28

WHAT DO YOU KNOW ABOUT JELLY BEANS?

A-B

Receptive Test

"What did you just eat?"

29

WHAT DO YOU KNOW ABOUT JELLY BEANS?

Expressive Test

"What is this"

B-C

(Child vocally names/tacts picture)

30

REAL WORLD RATIONALE FOR EQUIVALENCE

Receptive Test

"Where is coconut?"

C-B



31

WHAT DO YOU KNOW ABOUT JELLY BEANS?

A-C

Expressive Test

"What did you just eat?"

(Child vocally names/tacts Jelly Bean flavor)

32

WHAT DO YOU KNOW ABOUT JELLY BEANS?

Expressive Test

"What flavor do you want?"

MAND

(Child vocally names/tacts Jelly Bean flavor)

33

PROCEDURAL SUMMARY

TRAIN:

A-B: What did you eat? (feed kid bean and present pics)

B-C: What is this? (show pic)

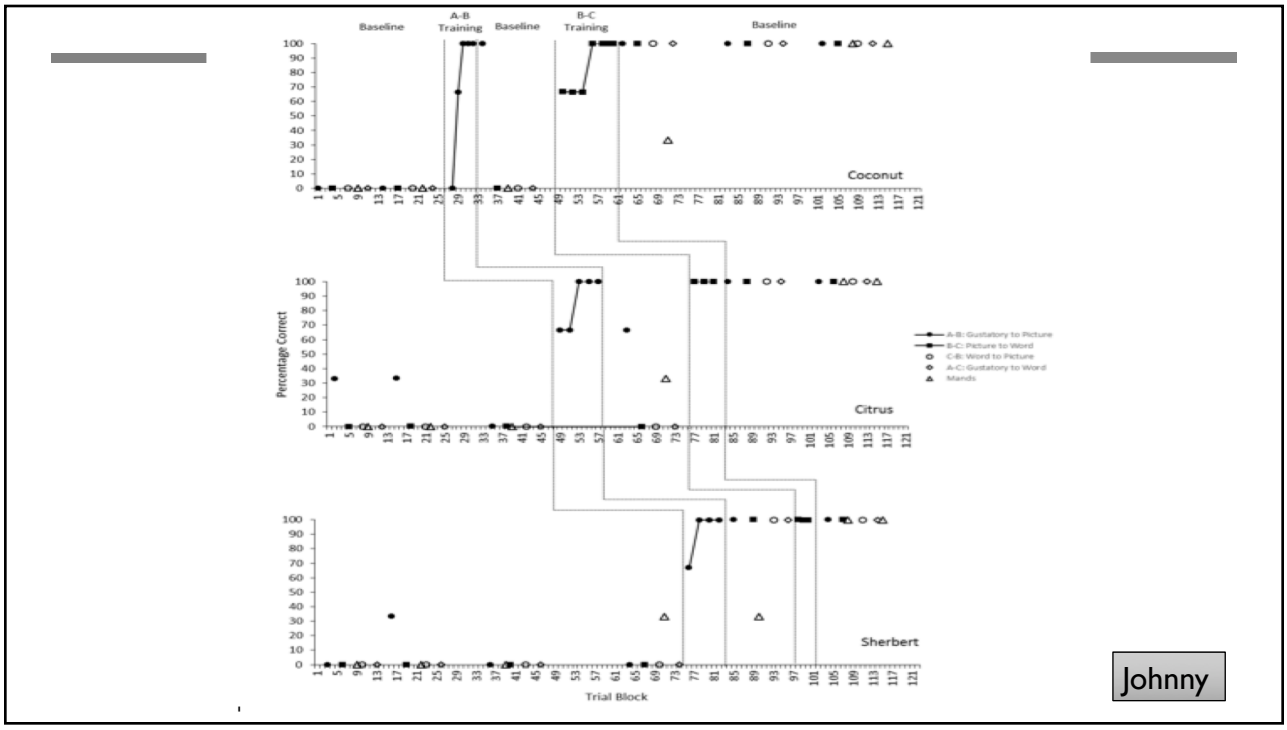
TEST:

MAND (what do you want?)

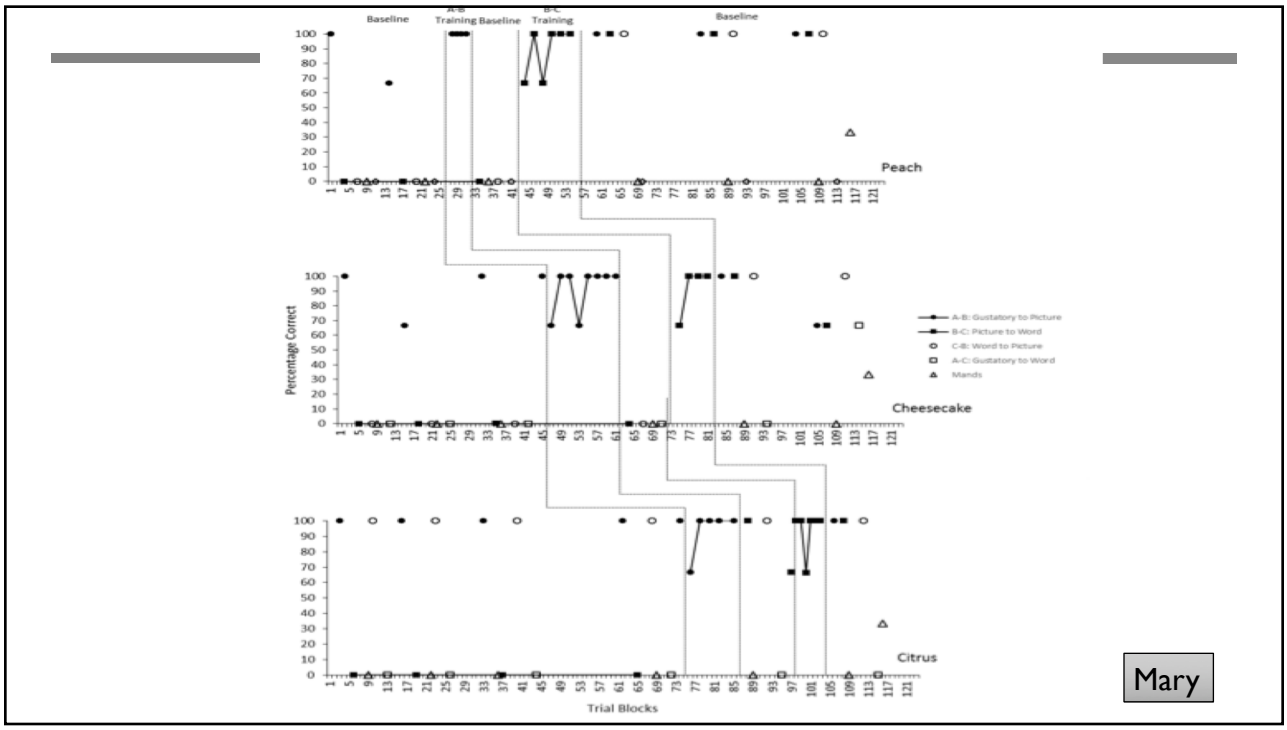
C-B: Where is the xxxxx? (show pics)

A-C: What did you just eat? (child tact)

34


Baseline
A-B Training
Baseline
B-C Training
Baseline
Coconut
Citrus
Sherbert
Percentage Correct
Trial Block
A-B: Gustatory to Picture
B-C: Picture to Word
C-B: Word to Picture
A-C: Gustatory to Word
Mands
Johnny

35


Baseline
A-B Training
Baseline
B-C Training
Baseline
Peach
Cheesecake
Citrus
Percentage Correct
Trial Blocks
A-B: Gustatory to Picture
B-C: Picture to Word
C-B: Word to Picture
A-C: Gustatory to Word
Mands
Mary

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THE RELATIONSHIPS BETWEEN DRR AND NON-ABA MEASURES OF A CLIENT'S REPERTOIRE

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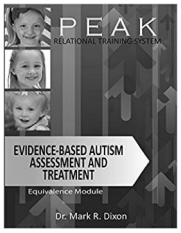
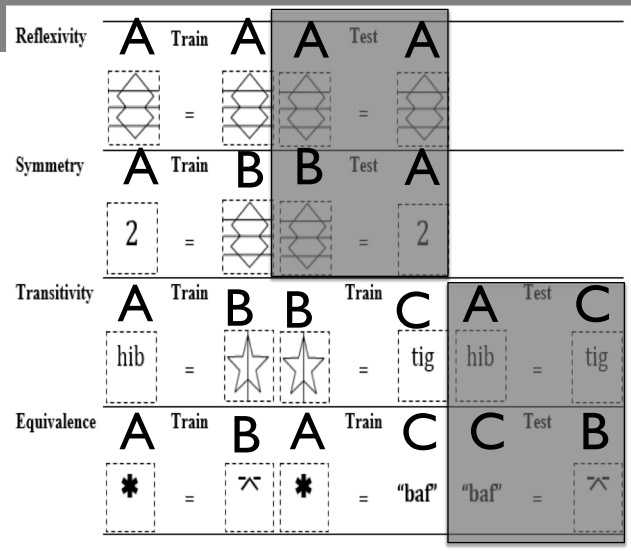
EQUIVALENCE ASSESSMENT



- 24-48 Questions
- Novel stimuli to ensure derived abilities as an operant
- No feedback for responding



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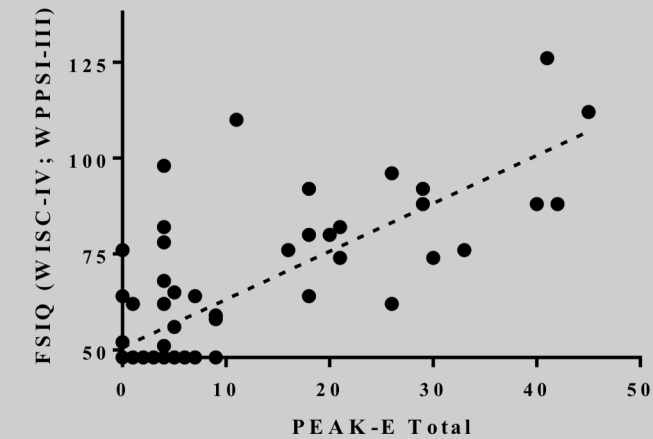
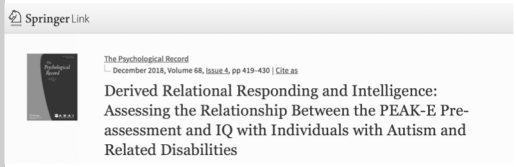
EQUIVALENCE ABILITIES AND FSIQ



- R = 0.783
- R-square = 0.679
- P < 0. 0001



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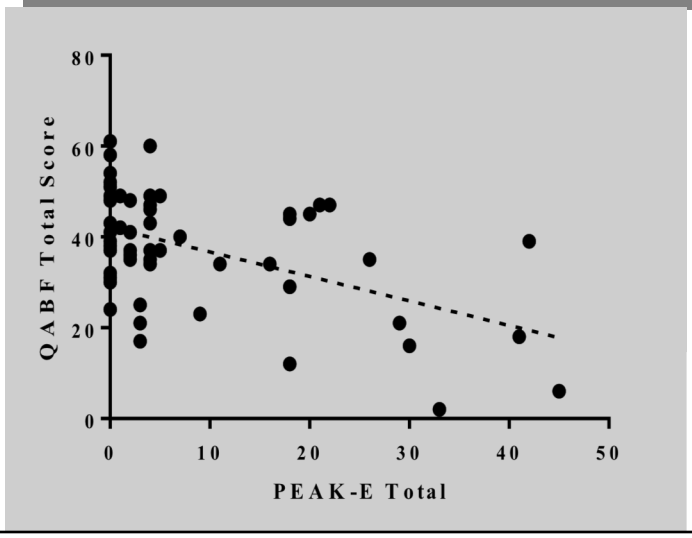
EQUIVALENCE AND THE QABF

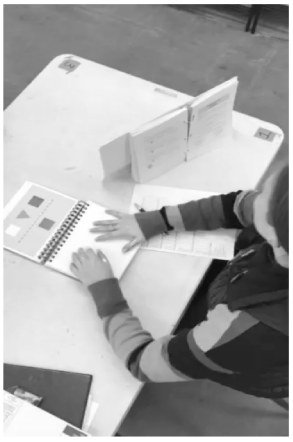


- R = -0.519
- R-square = 0.259
- P < 0.0001

40

DRR / RFT ASSESSMENT

- Evaluating Relations Beyond Equal
  - 6 Types of Relations Among Stimuli
    - Same, opposite, different, comparison, hierarchy, perspective taking
  - 16 items per relation type
- PEAK Transformation Assessment
  - 96 Receptive Items
  - 96 Expressive Items



Assessor Script

"What is…Bigger than Baby?"
"What is…Smaller than House?"

"What is Stronger than String…paper or Chain?"
"What is Lighter than a Brick…Refrigerator or Feather?"

"How is hungry worse than being full?"
"How is a car faster than a bike?"

"If POB is lighter than a book, and a book is lighter than a SEP, which is heavier…POB or SEB?"
"If GUB is greater than 5 and 5 is greater than WEM…Which is Smaller…GUB OR WEM?"

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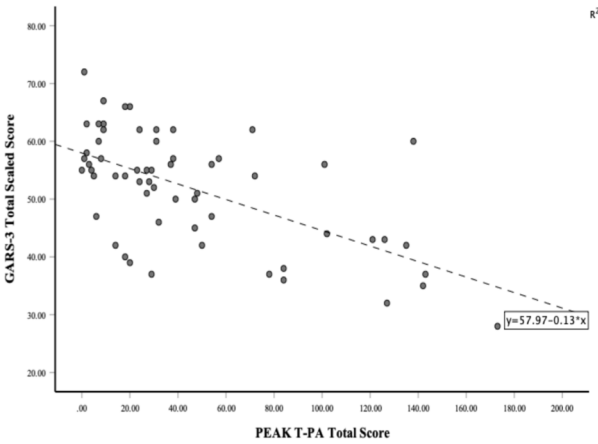
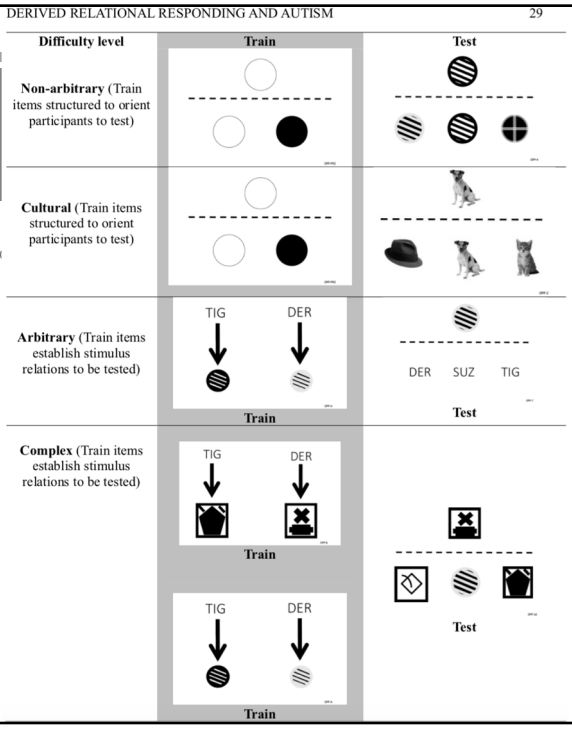
DRR AND AUTISM SEVERITY





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DRR AND THE POTENTIAL FOR EXTERNAL RELEVANCE

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J Behav Educ (2015) 24:230–241
DOI 10.1007/s10864-015-9219-y

ORIGINAL PAPER

Evaluating the Efficacy of the PEAK Relational Training System Using a Randomized Controlled Trial of Children with Autism

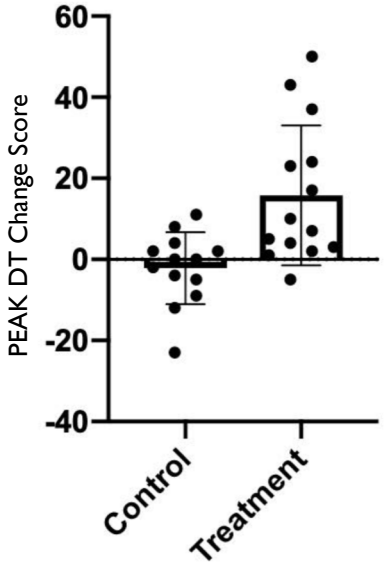
Autumn Nicole McKeel · Mark R. Dixon · Jacob H. Daar · Kyle E. Rowsey · Susan Szekely

Published online: 15 February 2015

Abstract The present investigation sought to examine the efficacy of the instructional curriculum described in the Direct Training Module of the PEAK Re-

PEAK: 10-60 min intervention per day. Occasional monitoring.

CONTROL : Standard IEP interventions delivered by SPED.



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Received: 20 February 2017 | Revised: 10 December 2017 | Accepted: 11 December 2017
DOI: 10.1002/bin.1516

RESEARCH ARTICLE

WILEY

Student outcomes after 1 year of front line staff implementation of the PEAK curriculum

Mark R. Dixon | Jordan Belisle | Caleb R. Stanley | Kyle Rowsey

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Correspondence
Mark R. Dixon, Professor and Program Director Behavior Analysis and Therapy Program Southern Illinois University Carbondale, IL 62901.
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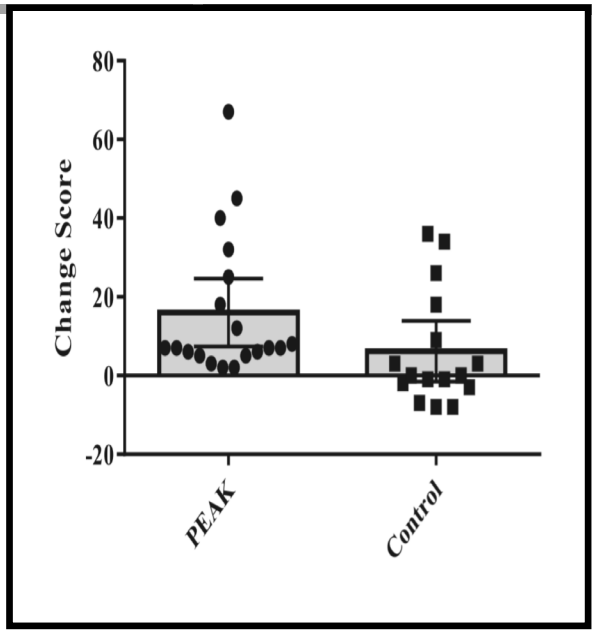
Systems-level interventions built by behavior analysts often rely on others to implement, and this may be especially true in public education settings where behavior analysts are scarce. This study evaluated the effectiveness of the *Promoting the Emergence of Advanced Knowledge Direct Training* (PEAK-DT) curriculum when implemented by school teachers and direct care staff. Thirty-nine children with autism took part in the study (19 PEAK, 15 control), where the experimental group received applied behavior analytic instruction through the PEAK-DT curriculum, and the quasi-randomized control group received training as usual. The PEAK-DT assessment was first administered to the participants at the onset of the study and again following 1 year. Participants who received PEAK training gained more skills on the PEAK-DT assessment compared to the control group (PEAK: $M = 16.0$, $SD = 17.8$; control: $M = 6.1$, $SD = 14.4$, $F(1,33) = 10.66$, $p < .05$), suggesting that systems level implementation of behavior analytic procedures can be effective in teaching language skills as prescribed in a packaged curriculum designed by behavior analysts.

PEAK: 10-60 min intervention per day. Occasional monitoring.

CONTROL : Standard IEP interventions delivered by SPED.



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DRR AND GLOBAL OUTCOME MEASURES

- Compare treatment outcome among: Traditional ABA, Comprehensive ABA, Waitlist Control
- Measure: FSIQ (WISC-V and WIPPSI-IV), number of behavior skills reaching mastery criteria

Journal of Behavioral Education
https://doi.org/10.1007/s10864-019-09344-7

ORIGINAL PAPER

Randomized Controlled Trial Evaluation of ABA Content on IQ Gains in Children with Autism

Mark R. Dixon[1] · Dana Paliliunas[1] · Becky F. Barron[1] · Ayla M. Schmick[1] · Caleb R. Stanley[1]

Abstract
The present study examined the content of applied behavior analytic therapy (ABA therapy) on skill acquisition and intelligence test scores of twenty-eight children with autism and related disabilities. Using a randomized controlled trial, we compared (a) traditional ABA consisting of verbal behavior techniques developed by Skinner (Verbal behavior, Appleton-Century-Crofts, New York, 1957), (b) comprehensive ABA which added techniques post-Skinner's theory of language, and (c) waitlist control. Results obtained indicated that even though skill acquisition improved equally across both intervention groups compared to the control, highest intelligence score changes were shown for participants in the comprehensive ABA group (F: 2, 24 = 9.198, $p = 0.001$). With increasing emphasis on client outcomes, the present data suggest that when hours of intervention are kept constant, ABA service providers may be at an advantage by incorporating techniques that are typically considered beyond the traditional ABA ideas of Skinner's account of language development.

9 Traditional ABA 8 Comprehensive ABA 11 Waitlist

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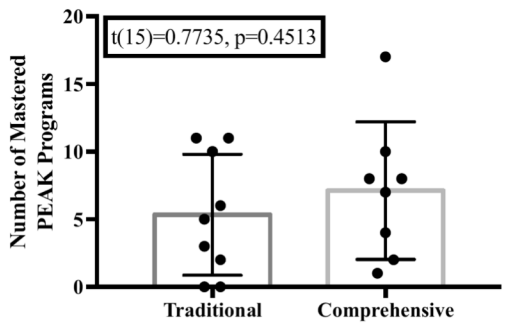
CAN THIS NEW FORM OF LEARNING TEACH BEHAVIOR SKILLS EFFECTIVELY?

Participants in both traditional and comprehensive ABA made similar progress in terms of number of behavior skills mastered during treatment



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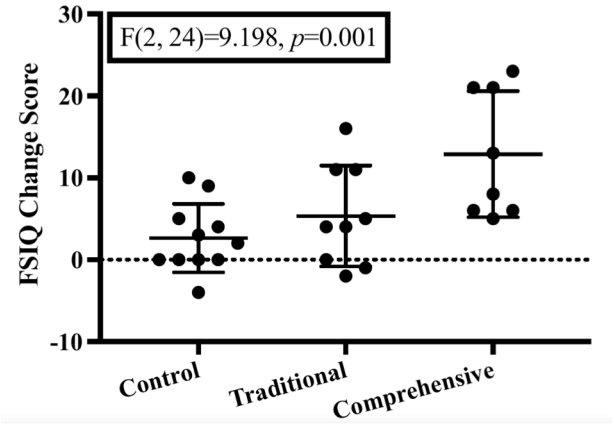
CAN THIS NEW FORM OF LEARNING IMPACT GLOBAL OUTCOME MEASURES?

Participants in the comprehensive ABA group demonstrated more changes in FSIQ than those in the traditional ABA group and the waitlist control group



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SCIENCE AS A PROGRESSIVE ENTERPRISE

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Keywords Language acquisition · Relational frame theory · Verbal behavior therapy · PEAK

Introduction

Common behavioral deficits for individuals with autism include language and communication skills, social interactions, and repetitive or restricted interests. Applied behavior analytic (ABA) therapy uses systematic techniques to improve upon these deficits and reduce challenging behavior in order to increase independent and socially significant, adaptive functioning. ABA treatment for individuals with autism

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Behavior Analysis in Practice
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RESEARCH ARTICLE

Evidence From Children with Autism that Derived Relational Responding is a Generalized Operant

Mark R. Dixon[1] · Jordan Belisle[2] · Steven C. Hayes[3] · Caleb R. Stanley[4] · Anne Blevins[5] · Kylie F. Gutknecht[6] · Ashley Partlo[7] · Lindsay Ryan[1] · Cara Lucas[7]

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Abstract
We conducted an empirical examination of derived relational responding as a generalized operant and concurrently evaluated the validity and efficacy of program items contained in the Promoting the Emergence of Advanced Knowledge - Equivalence (PEAK-E) curriculum. A first study utilized a multiple-baseline across-skills experimental arrangement to determine the efficacy of equivalence-based instruction guided by PEAK-E, replicated across 11 children with autism. A total of 33 individualized skills were taught, and the subsequent emergence of untrained relations was tested throughout the investigation. The mastery criterion was achieved for 29 of the 33 instructional targets. Additionally, for 3 participants, results were again replicated with a novel set of stimuli. A second study evaluated the degree to which multiple-exemplar equivalence-based instruction led to the emergence of derived relational responding as a generalized operant. The organized nature of the PEAK curriculum allowed the impact on derived relational responding to be compared to that produced by earlier PEAK models that are focused on the direct training of traditional verbal operants. PEAK-E instruction was introduced in a multiple-baseline design across two participants, with a third staying in a training baseline throughout. Increases in derived relational responding using novel, untrained stimuli were only observed when multiple-exemplar equivalence-based instruction was introduced. Taken together, these results provide support for derived relational responding as a generalized operant and demonstrate the utility of conducting larger scale evaluations of higher order behavioral phenomena in single-case experimental arrangements.

Keywords Autism · Derived responding · Equivalence-based instruction · PEAK

The current investigation was completed in partial fulfillment of the last four authors' master's degree theses at Southern Illinois University, Carbondale, in the Behavior Analysis and Therapy Program of the Rehabilitation Institute.

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Published online: 25 March 2021

Behavior-analytic language-training technologies that emerge from a derived relational account of language development are increasingly being applied with children with autism and other language-learning disorders (Rehfeldt, 2011; Rehfeldt & Barnes-Holmes, 2009). Approaches that emphasize derived relational responding, including relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001), stimulus equivalence (Sidman, 1971; Sidman & Tailby, 1982), and bidirectional naming (Miguel & Petursdottir, 2009) stress the importance of relational repertoires that, once established, foster learning in the absence of direct-acting contingencies. Training programs focused on these repertoires have the potential to improve the efficiency of language instruction for socially significant populations (Dixon, Daar, Rowsey, & Belisle, 2015; Sidman & Tailby, 1982), and offer alternative behavior-analytic accounts of complex verbal behavior events than that proposed by Skinner (see Barnes & Holmes, 1991; Hayes et al., 2001; Hayes & Wilson, 1993, for a review).

BEHAV ANALYST (2017) 40:493–521
DOI 10.1007/s40614-017-0119-4

ORIGINAL RESEARCH

An Internal and Critical Review of the PEAK Relational Training System for Children with Autism and Related Intellectual Disabilities: 2014–2017

Mark R. Dixon[1] · Jordan Belisle[1] · Autumn McKeel[2] · Seth Whiting[3] · Ryan Speelman[4] · Jacob H. Daar[5] · Kyle Rowsey[6]

Published online: 10 October 2017
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Abstract The PEAK Relational Training System was designed as an assessment instrument and treatment protocol for addressing language and cognitive deficits in children with autism. PEAK contains four comprehensive training modules: *Direct Training* and *Generalization* emphasize a contingency-based framework of language development, and *Equivalence* and *Transformation* emphasize an approach to language development consistent with Relational Frame Theory. The present paper provides a comprehensive and critical review of peer-reviewed publications based on the entirety PEAK system through April, 2017. We describe both psychometric and outcome research, and indicate both positive features and limitations of this body of work. Finally, we note several research and practice questions that remain to be answered with the PEAK curriculum as well as other many other autism assessment and treatment protocols that are rooted within the framework of applied behavior analysis.

Keywords Autism · EIBI · PEAK · Relational Frame Theory · ABA Therapy · Language Training

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Behavior Analysis in Practice
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RESEARCH ARTICLE

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Published online: 25 March 2021

DRR IS A GENERALIZED OPERANT

- **Study 1**
  - 11 participants with ASD, aged 4-15 (M = 7.5), 8 males, 3 females
  - 5-15h of PEAK-E based ABA intervention weekly
  - Initial evaluation conducted using the PEAK Equivalence Pre-assessment (PEAK-E-PA), and the PEAK Equivalence assessment. 3 skills were identified for intervention for each participant

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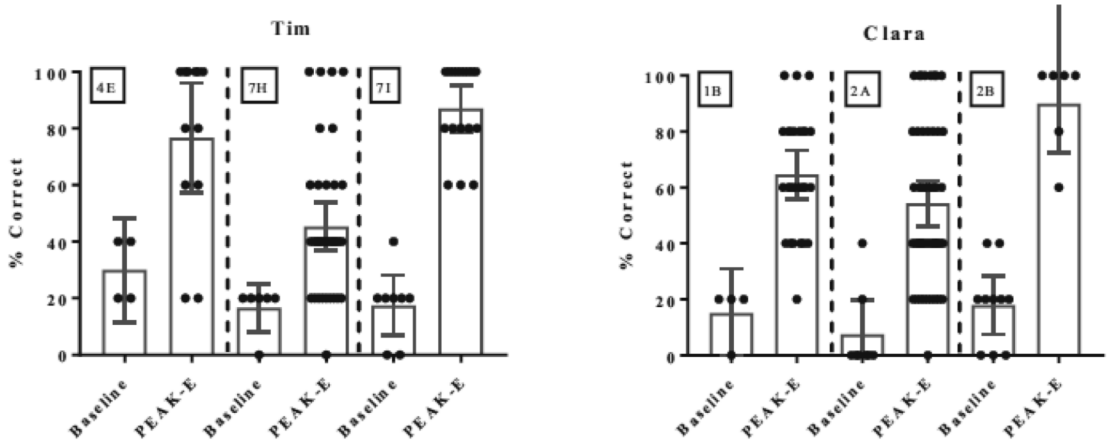
STUDY 1 RESULTS

MET and EBI procedures successfully promoted the derivation of untrained stimulus-stimulus relationships



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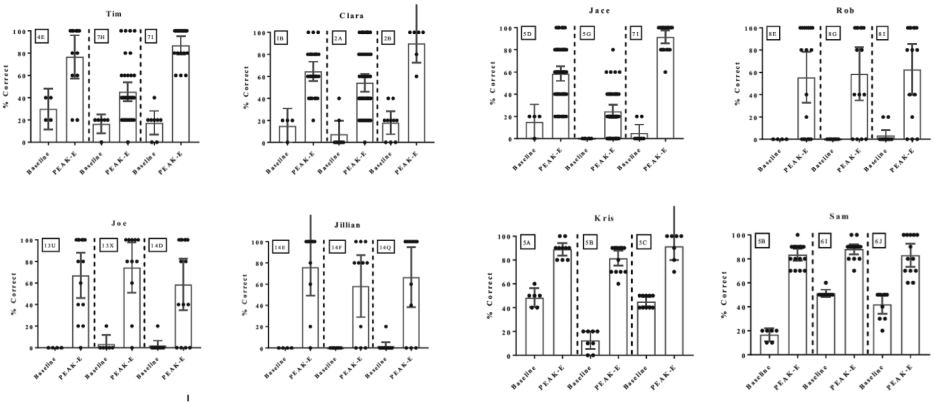

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STUDY 2

- 3 boys with ASD (aged 10-11), two received contingency and equivalence based instructions, one only received contingency based instructions
- 30-60min of instructions daily for 9 months

Table 3 Alphanumeric Summary of PEAK Programs Mastered by Each of the Participants Across the Three Modules

Participant	PEAK-DT (Number of Stimuli)	PEAK-G (Number of Stimuli Train, Test)	PEAK-E (Number of Stimulus Classes)
Marshall	12I(10), 14E(10), 14H(10), 14I(3), 14J(5), 14L(1)	2A(10,10), 5B(5,5), 6E(5,5), 6F(5,5), 7H(3,2)	4D(4), 4E(5), 5B(5), 5F(5), 5G(5), 6A(4), 7B(4), 7C(4), 7D(4), 7F(4), 7G(4), 7H(4), 7I(4), 7K(4), 7L(4), 8A(5), 8B(5), 8C(5), 8D(5), 8H(5), 8G(5), 9N(5)
Ralph	11D(10)	5E(5,5), 5G(3,3), 6C(5,5), 6E(5,5), 6F(5,5), 7H(3,2), 9I(5,5)	4D(4), 4E(5), 5C(10), 5G(4), 5F(4)
Gary	11B (4), 11D(10)	2A(5,5), 2B(5,5), 3A(3,4), 3D(5,5), 4A(5,5)	

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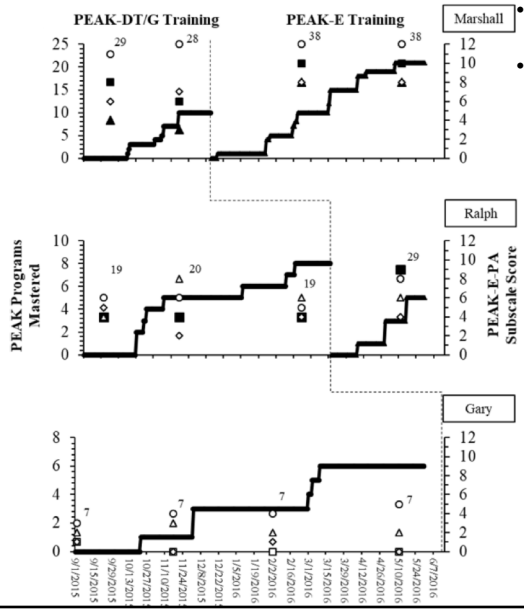
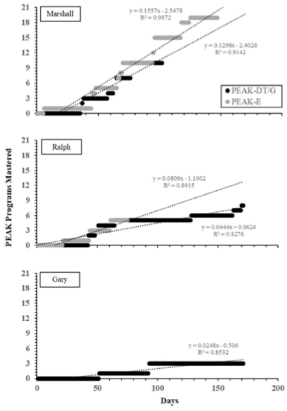
DRR AS A GENERALIZED OPERANT



- EBI successfully improved participants performance during the PEAK-E-PA
- No significant change in the overall speed of program mastery after introducing PEAK-E instructions, reducing the likelihood of the speed of acquisition as a confound



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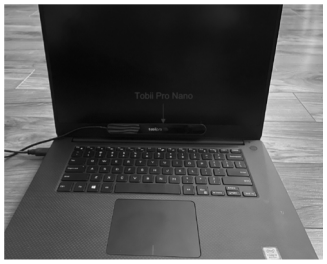
DRR AND OCULAR OBSERVING RESPONSE

- The relationship between ocular observing responses and relational training procedures for children with autism
- Eye gaze fixation duration and fixation rate on the area of interest (AOI) of target stimuli in DTT task, and within natural environments (people telling a story, conversations, and social imaginative play)



Funding of this study is provided in part by The Autism Program of Illinois and the Illinois Department of Human Services

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NEUROMARKERS OF ABA

- Does ABA have an impact at a neurological level? What are the advantages of doing so?
- Eye gaze as a challenge for persons with autism.
- How can it be measured?
- What if eye gaze was improved? What could this mean?
- First step is to measure, and next is to improve…can relational training improve eye gaze?

Funding of this study is provided in part by The Autism Program of Illinois and the Illinois Department of Human Services

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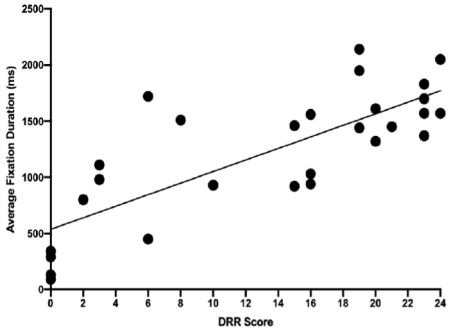
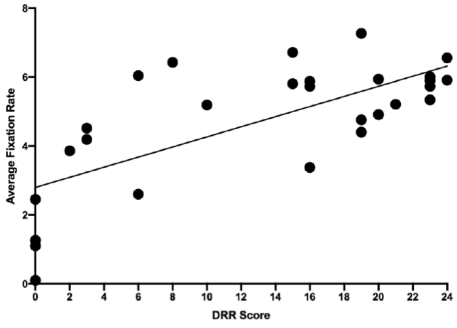
EYE GAZE FIXATION DURATION AND RATE

- Significant correlation between skill level in derived relational responding (DRR) and eye gaze fixation duration and rate on the target stimuli.





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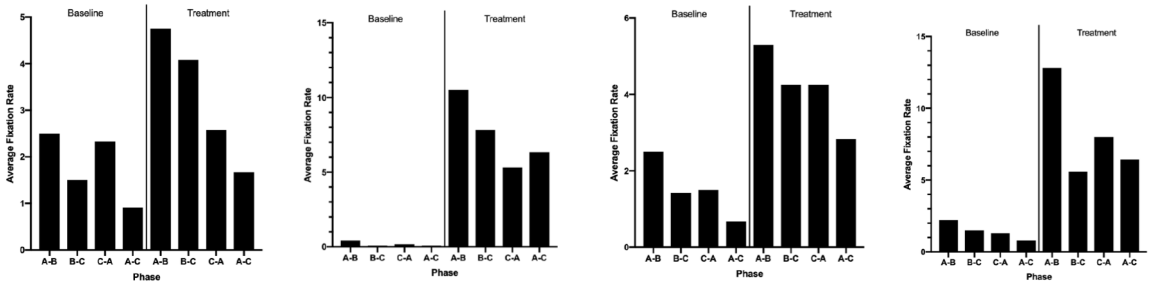
FIXATION DURATION AND RATE

- Relational training procedure significantly increased the fixation duration and rate towards target stimuli



Funding of this study is provided in part by The Autism Program of Illinois and the Illinois Department of Human Services

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EYE GAZE PATTERNS WITHIN NATURAL ENVIRONMENTS

Person Telling a Story | Conversations | Social-Imaginative Play

Funding of this study is provided in part by The Autism Program of Illinois and the Illinois Department of Human Services

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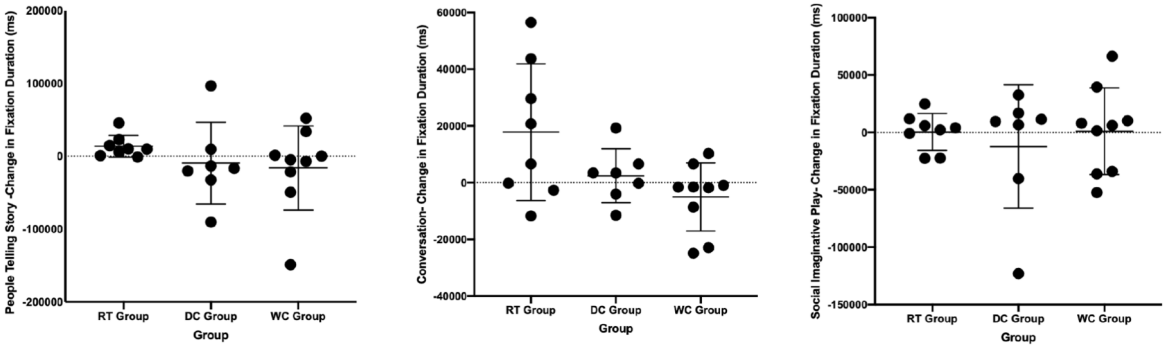
EYE GAZE PATTERNS WITHIN NATURAL ENVIRONMENTS



People Telling Stories | Conversations | Social Imaginative Play

Funding of this study is provided in part by The Autism Program of Illinois and the Illinois Department of Human Services

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HOW TO GET STARTED

Assess	Use the PCA to get an idea on repertoire abilities, deficits, challenging behavior, and autism symptoms
	Use additional metrics to provide a broader picture of abilities of the client such as adaptive behavior, parent stress, autism severity, school achievement scores
Treat	Develop an individualized intervention plan that balances a mix of directly trained and derived targets
	Blend traditional intervention modalities with creative embedding in natural world, peer settings, and transfers of technology to parents
Re-Assess	Use the PCA as a progress monitoring tool to evaluate overall impact of intervention on thinking, understanding, and cognition skills
	Capture and report related concurrent changes in broader global indices of change such as IQ, adaptive behavior, autism symptomology

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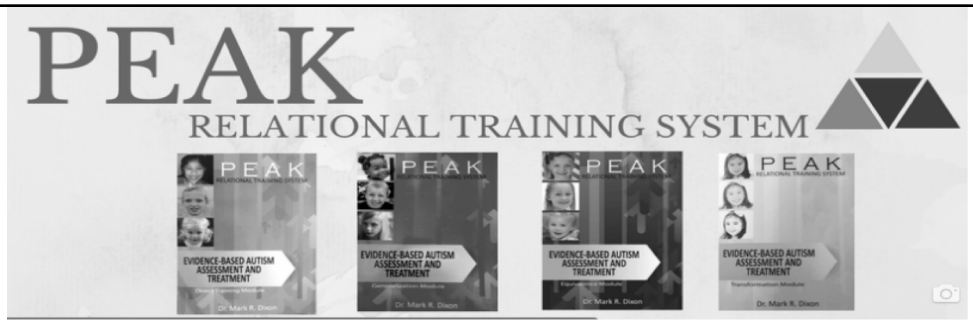

Assessment

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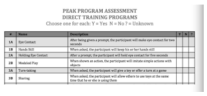

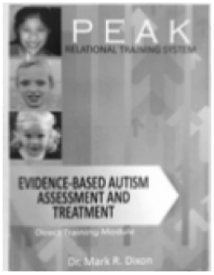

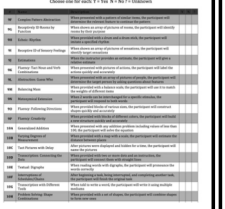

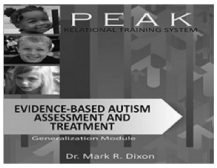

Original Assessment Materials

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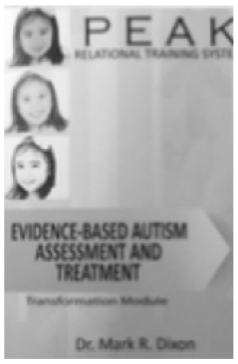
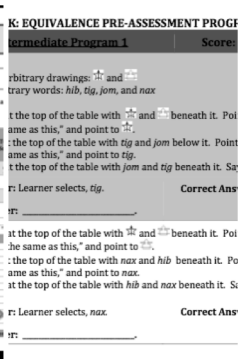
PEAK Pre-Assessments





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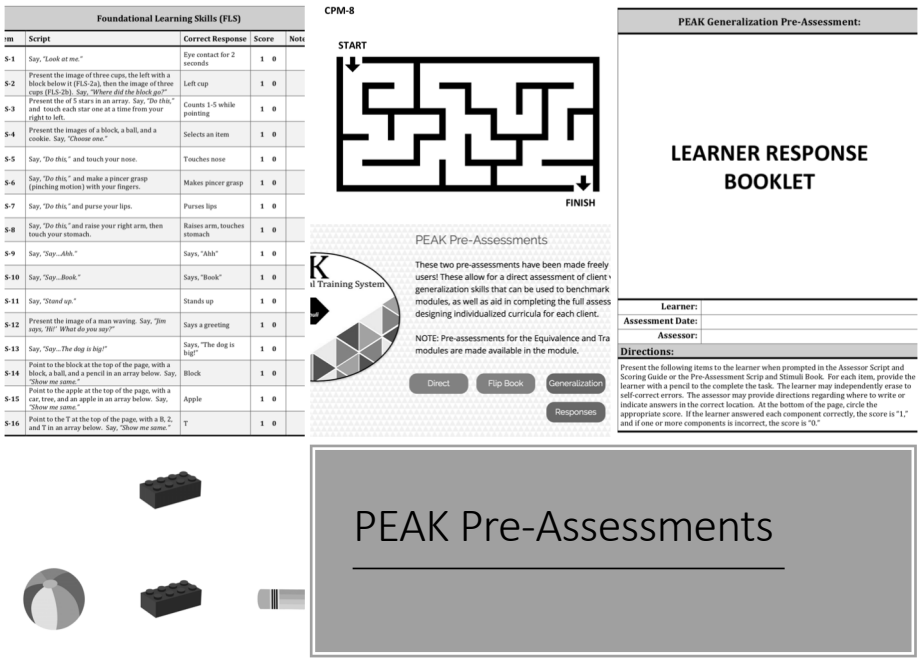

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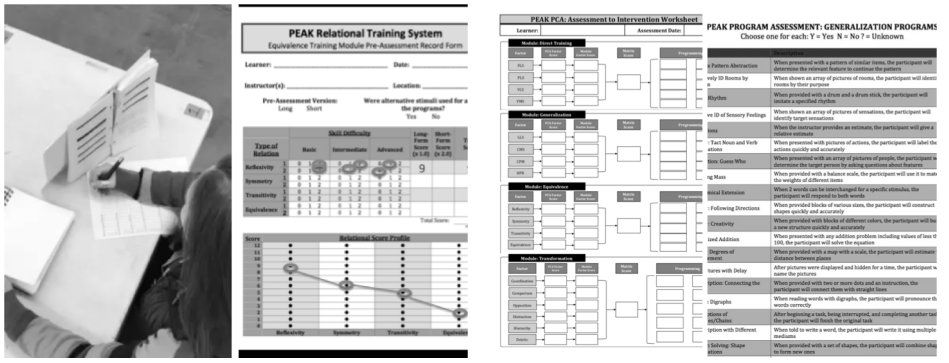
The Evolving PEAK Assessment Process



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Evolution of Assessment

- Indirect (original 2014-2016)

184 items for each PEAK module which make up the content of the curriculum in each module are scored as either ”yes”, “no”, or “?”

Therapist can determine if direct probing of an individual item or all items is necessary to formulate treatment plans

Found within the PEAK modules

- Direct Semi-Standardized (2015-2019)

Reduced items from original 184 in a PEAK module that produce an estimate of abilities via direct testing of client

DT = 64 G=64

E = 24/48 T = 192

Therapist can synthesize indirect info with direct to formulate treatment plans

DT and G found on website

E and T found within PEAK modules

- Direct Standardized (2019-present)

Similar in items and length to the previous Direct Semi-Standardized, designed to drastically reduce variation in administration procedures

80% of items remain identical to prior

- additional distractors
- Elimination of taste/smell/feel stimuli
- Broader relational frame evaluations
- Improved cross-cultural items

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The Importance of Standardization

- Progress monitoring within a given client
  - When administered in an uniform fashion, any progress made can be deduced as not an artifact on how someone was “tested”
- Raises the bar for what we do in ABA
  - All other non-ABA assessment tools are administered in a standardized method
  - Objective - will improve IOA
  - Fit within practical time constaints

- Discussion of score(s) across clients
  - When scores can be assumed to be captured in identical manner across clients, it is clear the value of any given score is. (a 50 is always a 50)

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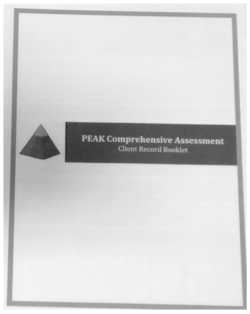

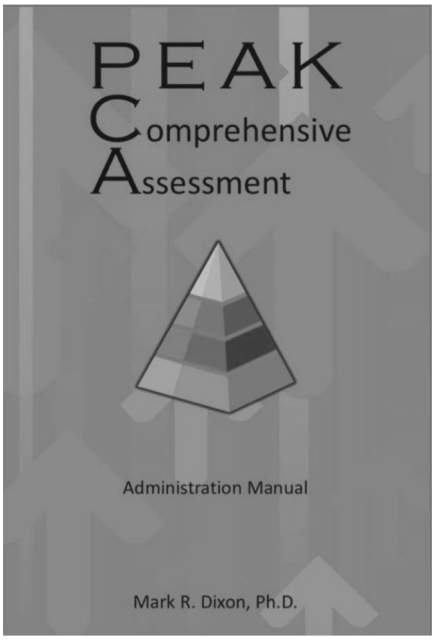

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Does the PCA Have Norms?

- How do neurotypical clients respond on the PCA?
- Is there a normal distribution of scores on the PCA?
- How do children with autism compare to neurotypical children?
- Any relationship to intelligence?

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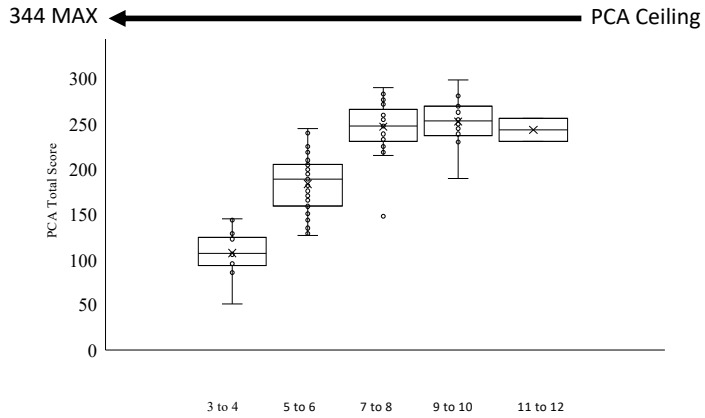
PCA Total Score Across Age Groups (n = 112)



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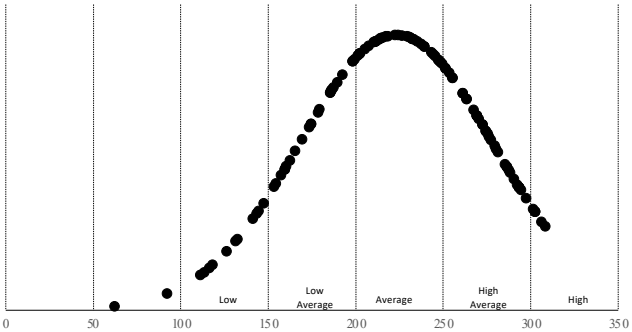
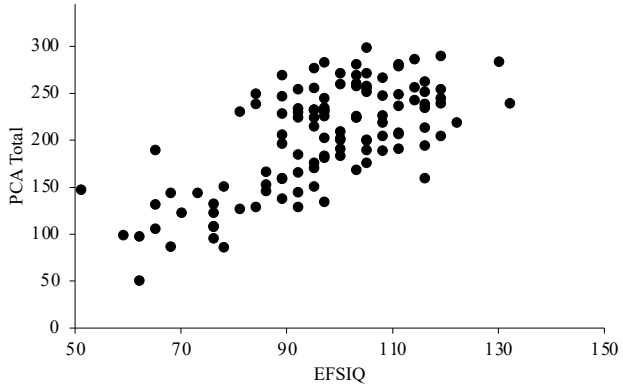
PCA Normative Curve



Average Score: 223
Standard Deviation: 55

72

PCA Total- Normative Results



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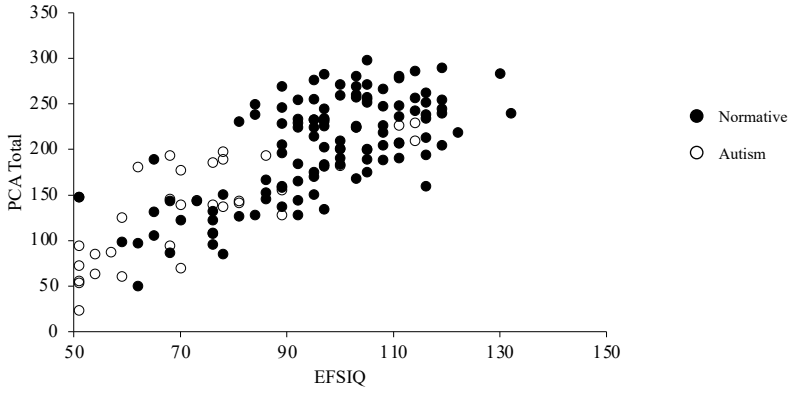
PCA Total Results



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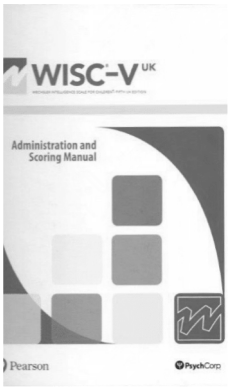

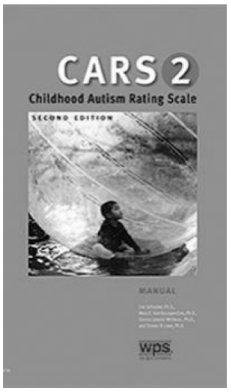

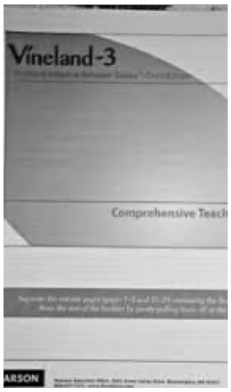

Does the PCA Correlate with Other Established Tests?

- Autism Severity?
- Adaptive Behavior?
- Intelligence?
- Challenging Behavior?

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Summary Table (n = 67)

Pearson Correlation Coefficient between PEAK Comprehensive Assessment and other measures

	Vineland	CARS	PDDBI T	IQ	PCA	PAS Intensity	PAS Frequency
Vineland		-.444**	-.398**	.624**	.345**	-.338**	-.325**
CARS	-.444**		.596**	-.223	-.338**	.222*	.191
PDDBI T	-.398**	.596**		-.192	-.328**	.335**	.328**
IQ	.624**	-.223	-.192		.484**	-.442**	-.475**
PCA Total	.345**	-.338**	-.328**	.484**		-.610**	-.598**
PAS Intensity	-.338**	.222*	.335**	-.442**	-.610**		.842**
PAS Frequency	-.325**	.191	.328**	-.475**	-.598**	.842**	

Note: *Correlation is significant at the 0.05 level (one-tailed)

**Correlation is significant at the 0.01 level (two-tailed)

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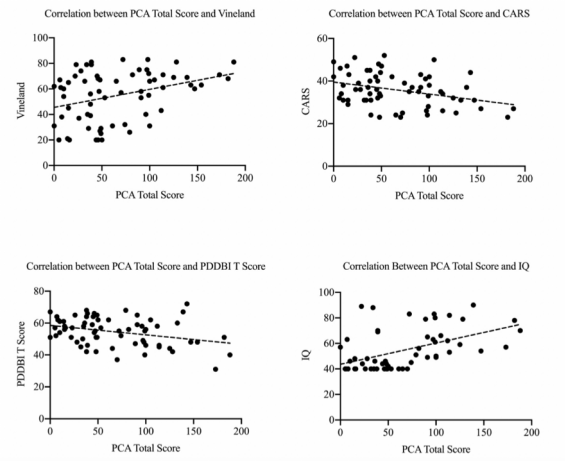
Correlations of PCA with Other Indices



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IGINAL ARTICLE

incipal Component Analysis of the PEAK neralization Module

le E. Rowsey[1] · Jordan Belisle[1] · Caleb R. Stanley[1] · ob H. Daar[1] · Mark R. Dixon[1]

pringer Science+Business Media New York 2017

stract The current study sought to assess the content validity and internal c he PEAK Generalization Module. Eighty-four children with autism wer ıg the PEAK Generalization Assessment to ascertain the presence or abs guage and learning skills within the child's repertoire. Following the ıcipal component analysis was run yielding a four-component model neralization Module. Specifically, components possessing eigenvalues that had at least one item which was most strongly correlated to the ıs were then sorted into the various components based on their correl rotated component matrix generated by the principal component establishment of the four-component model, the internal consiste ed using Cronbach's Alphas which indicated strong internal co AK-G Assessment as well as each of the four underlyin ponents identified include the constructs of Foundational lls, Basic Verbal Comprehension, Memory, and Advar bal Comprehension, Reading and Writing, and Basi

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Kyle E. Rowsey

Where did the PCA items come from?

Principal Component Analyses of DT and G

Relational Complexity E

Various Relational Frame Families T

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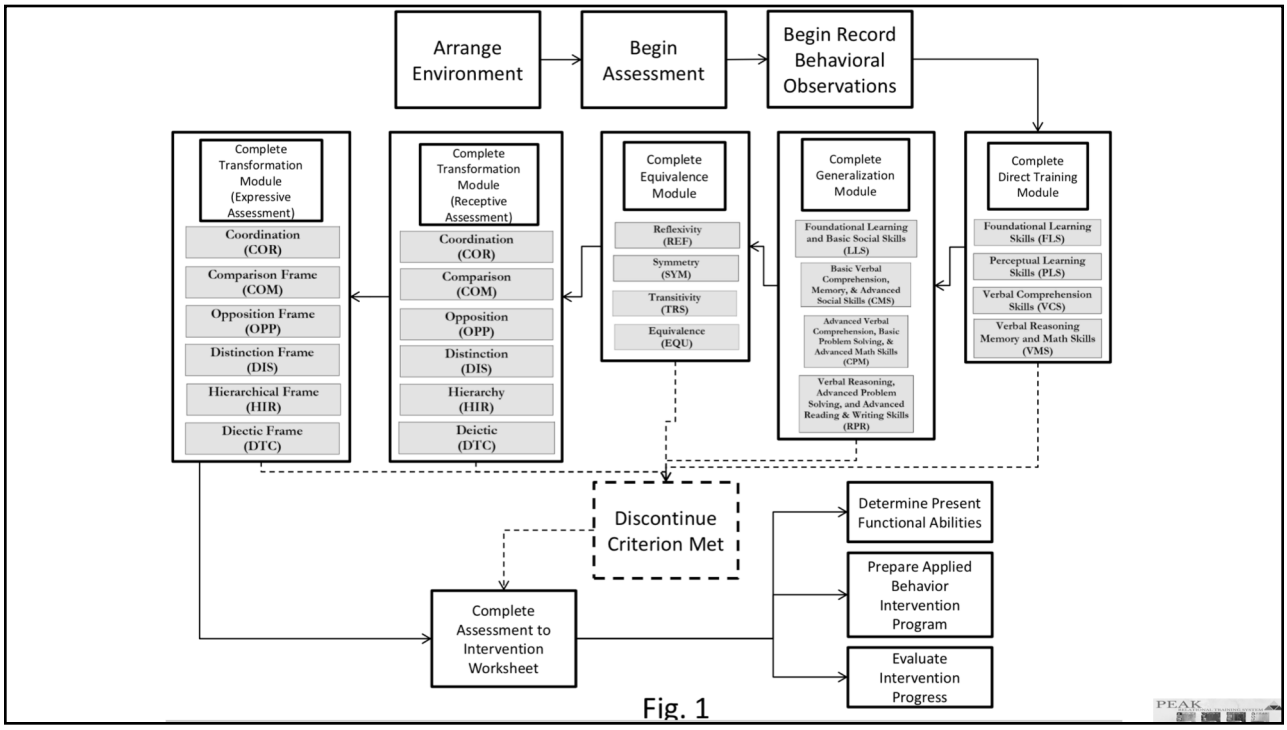

Fig. 1

79

Running the PCA

- Content:
  - 64 items for DT and G
  - 24 items for E
  - 192 items for T (½ expressive and ½ receptive)

- Materials:
- Stimuli Books (every stimulus for every trial)
- Verbatim script
- Scoring guide with all correct, incorrect, and queried answers

80

Running the PCA

- Rules:
  - Standardized administration
  - Practice trials and test trials

- Time:
- Total PCA administration will take less than 1.5 hours
- Young child and/or significant limitations – less than 30 min
- Adult and/or extremely high functioning – 60 min

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Environment Preparation

- Table and 2 chairs (or floor space)
- Materials book 3in from edge of table
- Admin instructions closer to administrator on SAME side as their writing hand
- Score sheet in similar position
- Preferred items accessible by administrator but not client
- Free of other distractions

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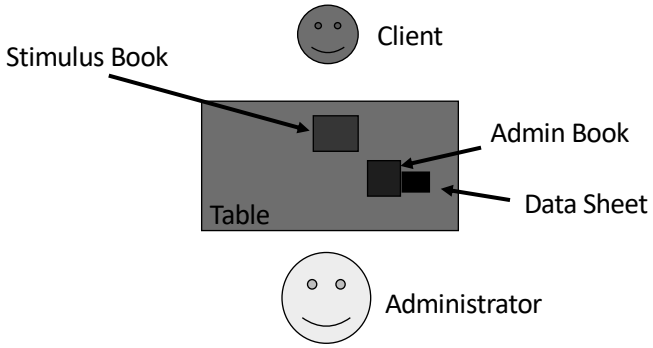
The Physical Space



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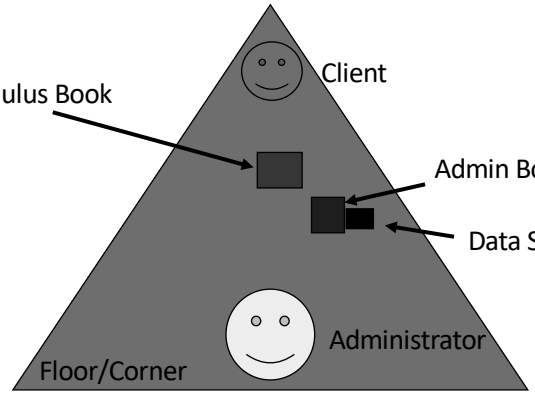
The Physical Space



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Standing Administration Manual with Bend

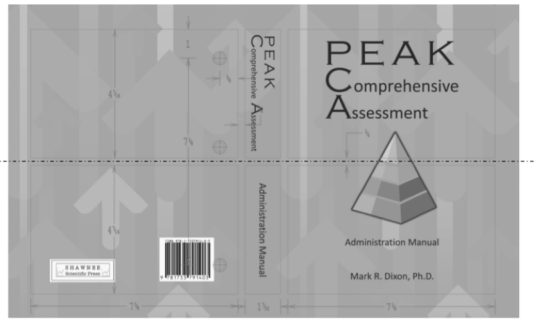

Fig. 3A

Fig. 3B

85

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Script Example with and without stimulus book

Clie

- 5 m (or
- Posi
  - I
- Info
  - S
  - V
  - N

ms

FLS-1. (NO STIMULUS BOOK NEEDED)

Say "LOOK AT ME"		
Correct Response	*Query*	*Incorrect Response*
Eye contact for 2 seconds		Eye contact for less than 2 seconds

Fig. 6A

FLS-2. (STIMULUS BOOK NEEDED)

Present the image of three cups, the left with a block below it (FLS-2a), pause for 5 seconds and turn the page to FLS-2b. Say, "WHERE DID THE BLOCK GO?"		
Correct Response	*Query*	*Incorrect Response*
Left cup	If client vocally responds, "Left cup" or "That one", say "SHOW ME."	Selection of middle or right cup. Only speaks / no motor selection response.

Fig. 6B

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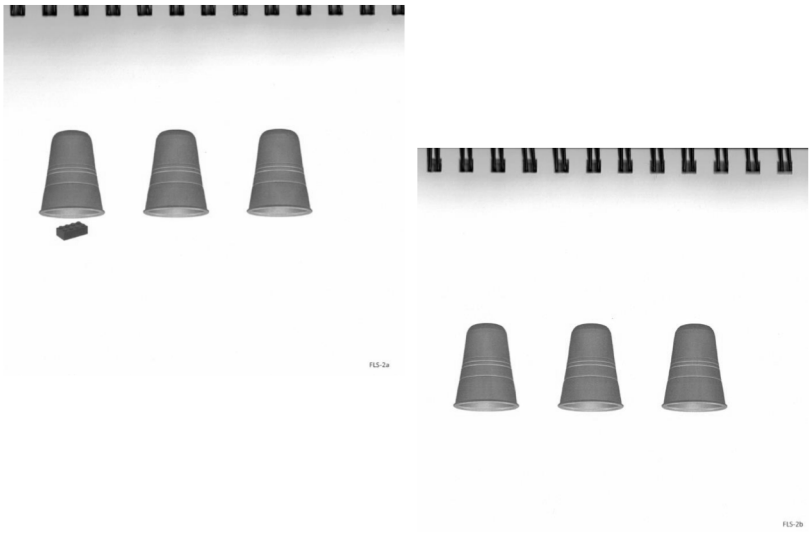

Fig. 6C

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Direct Training Module Assessment

DT Module

- 184 Item Checklist found within the Module
- Basic items from eye contract and motor imitation
- Typical verbal "operant" items such as requesting (mands), labeling (tacts), verbal exhanges (intraverbals), and listener behavior (selecting items)
- Expands beyond typical VB tools with complexity of verbal operants, identification of private events, social awareness, and processing skills

DT PCA

- 64 items that are a brief estimate of the entire 184 items within the module
- 4 "Factors" of 16 items that advance from easy to hard
- Expressive, receptive, and generative items
- Over 90% identical to previous "pre-assessment" found on the PEAK website
- Improvements: standardization, additional distractors, clarification of certain items

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Performing the DT Assessment

FLS-5.

Say, "DO THIS," and touch your nose		
Correct Response	*Query*	*Incorrect Response*
Touches nose		Touches any other body part Touches another body part before or after touching nose

FLS-6.

Say, "DO THIS," and make a pincer grasp (pinching motion) with your fingers		
Correct Response	*Query*	*Incorrect Response*
Makes pincer grasp		Completes any different motor action

FLS-7.

Say, "DO THIS," and purse your lips		
Correct Response	*Query*	*Incorrect Response*
Purses lips		Completes any different motor action

FLS-8.

Say, "DO THIS," and raise your arm, then touch your stomach		
Correct Response	*Query*	*Incorrect Response*
Raises arm, touches stomach		Only completes one part of the two-step action

FLS-9.

Say, "SAY…AHH"		
Correct Response	*Query*	*Incorrect Response*
Says, "*Ahh*"		Says anything else Says, "Say Ahh"

Foundational Learning Skills (FLS)

Discontinue Criterion:
None.

FLS-1.

Say "LOOK AT ME"		
Correct Response	*Query*	*Incorrect Response*
Eye contact for 2 seconds		Eye contact for less than 2 seconds

FLS-2.

Present the image of three cups, the left with a block below it (FLS-2a), pause for 5 seconds and turn the page to FLS-2b. Say, "WHERE DID THE BLOCK GO?"

Correct Response	*Query*	*Incorrect Response*
Touches Left cup	If client vocally responds, "Left cup" or "That one", say "SHOW ME."	Selection of middle or right cup. Only speaks / no motor selection response.

FLS-3.

Say, "DO THIS," and touch each star one at a time from your right to your left.

Correct Response	*Query*	*Incorrect Response*
Touches stars from your right to left (Learner's left to right)		Does not touch all stars in order

FLS-4.

Say, "CHOOSE ONE"		
Correct Response	*Query*	*Incorrect Response*
Selects an item from the	If client vocally names an item in the	Chooses more than 1 item

Performing the DT Assessment

VCS-5.

Say, "WHICH LETTER SAYS 'MMM'?"		
Correct Response	*Query*	*Incorrect Response*
Touches M	If client vocally says, "M" say, "SHOW ME"	Selects any other letter Makes the sounds of the other letters Labels the other letters

VCS-6.

Say, "WHICH ONE IS CRYING?"		
Correct Response	*Query*	*Incorrect Response*
Crying child image		Selects any other picture than the child crying

VCS-7.

Say, "TELL ME SOMETHING THAT HAS SPOTS."		
Correct Response	*Query*	*Incorrect Response*
Physical item with spots Examples: Says, "Ladybug"; "leopard"		Names things that do not have spots

VCS-8.

Say, "WHO IS THIS?"		
Correct Response	*Query*	*Incorrect Response*
Says, "Doctor"; "nurse"; "dentist"	If client vocally says "mommy"; "daddy" say "WHAT DO THEY DO?"	Says any other job Gives the person a name

VCS-9.

Say, "WHICH ONE IS FEELING WET?"		
Correct Response	*Query*	*Incorrect Response*
Touches Person in the rain		Selects any other person than the one in the rain

DT PCA Videos Here

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Generalization Module Assessment

G Module

- 184 Item Checklist found within the Module
- Variety of expressive and receptive skills that entail expanded conversation skills, abstract thinking, puzzle solving, decoding skills
- Themes to common core standards for mathematics / reading, fluency, comprehension
- Themes to medical necessity such as problem solving, social skills, independent life functioning

G PCA

- 64 items that are a brief estimate of the entire 184 items within the module
- 4 “Factors” of 16 items that advance from easy to hard
- Expressive, receptive, and generative items
- Over 90% identical to previous “pre-assessment” found on the PEAK website
- Improvements: standardization, additional distractors, clarification of certain items

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Performing the G Assessment

Verbal Reasoning, Advanced Problem Solving, and Advanced Reading & Writing Skills (RPR)

Discontinue Criterion:
None.

RPR-1.

Say, "I NEED A TEASPOON OF SUGAR. WHICH ONE OF THESE [point across response options] SHOULD I USE TO MEASURE?"

Correct Response	*Query*	*Incorrect Response*
Touches 1 teaspoon		Selects any other item

RPR-2.

Say, "WHICH ONE OF THESE [point across response options] DOES NOT BELONG?"

Correct Response	*Query*	*Incorrect Response*
Touches 18		Selects any other item

RPR-3.

Say, "I WANT THE SUN TO COME OUT AT NIGHT… WHAT WAS WRONG WITH THAT SENTENCE?"

Correct Response	*Query*	*Incorrect Response*
Example, Says, "The moon comes out at night." or "Sun comes in the day."		Selects anything irrelevant to the context

Foundational Learning and Basic Social Skills (LLS)

Discontinue Criterion:
None.

LLS-1.

Say, "DO THIS", and clap your hands then place them on your head

Correct Response	*Query*	*Incorrect Response*
Claps and places hand on head		Only one of two responses imitated Incorrect sequence of responses

LLS-2.

Point to the Lion and say, "WHAT IS IT?

Correct Response	*Query*	*Incorrect Response*
Says, "Lion"		Says any other word than lion

LLS-3.

Say, "WHICH ONE OF THESE" [point across response options] "IS BLUE?"

Correct Response	*Query*	*Incorrect Response*
Touches blue		Selects anything other than blue

LLS-4.

Say, "COUNT THE BIRDS"

Correct Response	*Query*	*Incorrect Response*
Says "Four", "Four birds"		Says any other number than four

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Performing the G Assessment

LLS-5.

Say, "WHICH ONE OF THESE" [point across response options] "IS THE JACKET?"

Correct Response	*Query*	*Incorrect Response*
Touches suit jacket		Selects anything other than suit jacket

LLS-6.

Say, "WHICH ONE OF THESE" [point across response options] "IS THE SAME AS THIS? [point to the capital L at top of page]

Correct Response	*Query*	*Incorrect Response*
Touches lowercase l		Selects anything other than lowercase l

LLS-7.

Say, "WHAT COLOR IS THIS?"

Correct Response	*Query*	*Incorrect Response*
Says "Green"		Says any other word than green

LLS-8.

Say, "DO THIS", and hum the letter M in a low tone

Correct Response	*Query*	*Incorrect Response*
Hums "mmmm" in a low tone		Says or hums anything other than "mmmm" regardless of tone

LLS-9.

Say, "PRETEND YOU ARE AN ANGRY DOG."

Correct Response	*Query*	*Incorrect Response*
Example: barks aggressively, growls, shows teeth	Pants with tongue out Say "Are you angry? Show me an angry dog"	Says "angry dog", "yes"

CPM-14.

Say, "TOUCH THE KEYS TO MAKE THE NUMBER 400." Repeat with "46" and "789."

Correct Response	*Query*	*Incorrect Response*
Touches 400, 46, 789	If client begins to say numbers, say "TOUCH THE NUMBERS"	Touches any other number Touches less than all three numbers correct

CPM-15.

Clap your hands rapidly. Say, "WHICH ONE OF THESE [point across response options] WAS THAT LIKE?"

Correct Response	*Query*	*Incorrect Response*
Touches Cheetah		Selects turtle

CPM-16.

Say, "WHICH ONE OF THESE [point across response options] IS THE STOP SIGN?"

Correct Response	*Query*	*Incorrect Response*
Touches red circle		Selects any other item

STOP Compute learner score. If zero items correct (CPM 1-16) discontinue remainder of Generalization Assessment. If one or more items correct, continue to Verbal Reasoning, Advanced Problem Solving, and Advanced Reading and Writing Skills (RPR).

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G PCA Videos Here

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Equivalence Module Assessment

E Module

- 184 Item Checklist found within the Module – very difficult to complete in isolation
- Pre-assessment requires copying, and assembling materials found in back of E Modules
- Script and scoring guide included

E PCA

- 24 items that are a brief estimate of the entire 184 items within the module
- 4 "Relations" of complexity in deriving
- Uses almost exclusively abstract stimuli or relations among stimuli to determine how durable a client's "relational abilities" are that are being constructed in the assessment
- If known relationships would be tested, there is no proof what is being shown is derived, and could be just a prior trained history
- Additional comparison stimuli and elimination of non-standardized sensory items

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4 Relations of Complexity

Reflexivity

Matching IDENTICAL stimuli together

- Examples?

Symmetry

Matching different stimuli together that do NOT need to share any formal similarity (generalization) to each other.

Occurs because of a learning history in 1 direction sets the occasion for DERIVING a response in the opposite direction

- Examples?

99

4 Distinct Relations

Transitivity

Matching different stimuli together that do NOT need to share any formal similarity (generalization) to each other.

Occurs because of a learning history in 1 direction sets the occasion for DERIVING a response in the opposite direction

Occurs when two (or more) stimuli have a shared learning history with a prior stimulus BUT NOT with each other

Examples?

Equivalence

Same as above

And the DERIVED relation is in opposition to the sequential presentation of the learning history

Examples?

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Performing the E Assessment

SYM-2.

-----Training-----		
a. Say, "THIS [point to coin at top of page] IS THE SAME AS THIS [point to from array.]"		
-----Testing-----		
b. Say "NOW YOU TRY IT." Say, "WHICH ONE OF THESE [point across response options] IS THE SAME AS THIS? [point to at the top of the page]"		
Correct Response	*Query*	*Incorrect Response*
Touches Coin	If client says, "coin", say "SHOW ME"	Selects any other image

SYM-3.

-----Training-----		
a. Say, "WALTER FEKS WHEN HE IS WAB."		
-----Testing-----		
b. Say "NOW YOU TRY IT." Say, "WHAT DOES WALTER DO WHEN HE IS WAB?"		
Correct Response	*Query*	*Incorrect Response*
Says "Feks"		Says any other word

SYM-4.

-----Training-----		
a. Say, "BARB JAFS WHEN SHE IS WAB."		
-----Testing-----		
b. Say "NOW YOU TRY IT." Say, ", "WHAT DOES BARB DO WHEN SHE IS WAB?"		
Correct Response	*Query*	*Incorrect Response*
Says "Jafs"		Says any other word

REF-2.

-----Training-----		
a. Say, "THIS [point to at top of page] IS THE SAME AS THIS [point to from array.]" Turn to next page in stimulus book.		
-----Testing-----		
b. Say "NOW YOU TRY IT." Say, "WHICH ONE OF THESE [point across response options] IS THE SAME AS THIS? [point to at the top of the page]"		
Correct Response	*Query*	*Incorrect Response*
		Selects any other image

REF-3.

-----Training-----		
a. Say, "DIZ." Wait 1 second and say, "DIZ IS THE SAME AS DIZ."		
b. Say, "DIZ." Wait 1 second and say, "DIZ IS NOT THE SAME AS VUG."		
-----Testing-----		
Say "NOW YOU TRY IT."		
c. Say, "DIZ." Wait 1 second and say, "DIZ WAS THAT THE SAME?" (wait up to 3 seconds for response).		
d. Say, "DIZ." Wait 1 second and say, "VUG. WAS THAT THE SAME?" (wait up to 3 seconds for response)		
Correct Response	*Query*	*Incorrect Response*
c. Yes d. No		Says any other word

Performing the E Assessment

-----Training-----		
a. Point to the hotdog and say, "LOOK". Wait 5 seconds then turn to next page in stimulus book.		
b. Point to the and say, "THIS IS THE SAME." Wait 5 seconds then turn to next page in stimulus book.		
c. Point to the and say, "THIS IS A JEV." Wait 5 seconds then turn to next page in stimulus book.		
-----Testing-----		
d. Say "NOW YOU TRY IT." Point to the hotdog and say, "WHAT IS THIS CALLED?"		
Correct Response	*Query*	*Incorrect Response*
Says "Jev"	If client says, "hotdog" say, "WHAT ELSE COULD YOU CALL IT?"	Says any other word Says "hotdog" a second time after query.

TRS-6.

-----Training-----		
a. Point to the celery and say, "LOOK". Wait 5 seconds then turn to next page in stimulus book.		
b. Point to the and say, "THIS IS THE SAME." Wait 5 seconds then turn to next page in stimulus book.		
c. Point to the and say, "THIS IS A PEM." Wait 5 seconds then turn to next page in stimulus book.		
-----Testing-----		
d. Say "NOW YOU TRY IT." Point to the celery and say, "WHAT IS THIS CALLED?"		
Correct Response	*Query*	*Incorrect Response*
Says "Pem"	If client says, "celery" say, "WHAT ELSE COULD YOU CALL IT?"	Says any other word Says "celery" a second time after query.

TRS-3.

-----Training-----		
a. Say, "WHERE SHOULD YOU GO WHEN YOU ARE HAPPY?" Say "TO A RIX." Say "A RIX IS THE SAME AS A YEV."		
-----Testing-----		
b. Say "NOW YOU TRY IT." Say, "WHERE SHOULD YOU GO WHEN YOU ARE HAPPY?"		
Correct Response	*Query*	*Incorrect Response*
Says "To a yev"	If client says "A rix" Say, "WHERE ELSE COULD YOU GO?"	Says any other word Says Rix a second time after query.

TRS-4.

-----Training-----		
Say, "WHAT DO YOU NEED IF YOU WANT TO FLY?" Say "A DAG." Say "A DAG IS THE SAME AS A PRA."		
-----Testing-----		
a. Say "NOW YOU TRY IT." Say, "WHAT DO YOU NEED IF YOU WANT TO FLY?"		
Correct Response	*Query*	*Incorrect Response*
Says "A pra"	If client says "A dag" say, "WHAT ELSE COULD YOU USE?"	Says any other word Says dag a second time after query.

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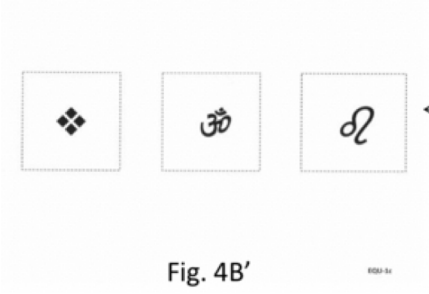

Fig. 4B'

EQU-1.

-----Training-----
a. Say, "THIS [point to crayons at top of page] IS THE SAME AS THIS [point to  from array.]
b. Point to the crayons and say, "THESE ARE THE SAME AS VIP."
-----Testing-----
c. Say "NOW YOU TRY IT." Say "WHICH ONE OF THESE [point across response options] IS VIP?

Correct Response	*Query*	*Incorrect Response*
		Selects any other image

Fig. 4B

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E PCA Videos Here

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Transformation Module Assessment

T Module

- 184 Item Checklist found within the Module – very difficult to complete in isolation
- Pre-assessment requires copying, and assembling materials found in back of T Modules
- Script and scoring guide included

T PCA

- 192 items that are a brief estimate of the entire 184 items within the module
- 96 items expressive / 96 items receptive
- Assessment across 6 relational frame families
- Within each frame, depth of complexity is evaluated
  - Non-arbitrary
  - Cultural
  - Arbitrary
  - Complex transformations

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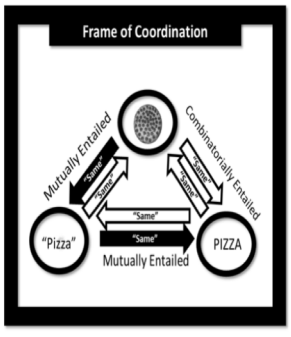
Types of Relational Frames

- Frame of Coordination
  - Simplest and first to emerge
  - Relations of sameness
    - Same as Stimulus Equivalence
  - Contextual cue of "Same"
- Example:
  - Child is taught the food they are eating is the same as the word "Pizza"
  - The taught the word "Pizza" is the same as the printed text PIZZA
  - Results in combinatorially entailed relations of food to text and text to food



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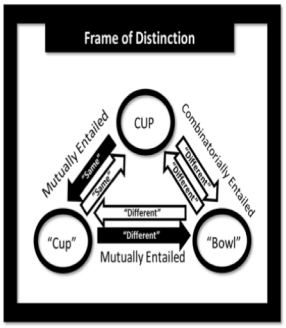
Types of Relational Frames

- Frame of Distinction
  - Relating one stimulus in terms of its differences to another stimulus
- Contextual cue of "different"
- Does not specify the dimension in which the stimuli are different, only that they differ in some way
- Example:
  - Teach printed text CUP is the same as vocal word "cup"
  - Then teach vocal word "cup" is different than vocal word "bowl"
  - Combinatorially Entailed relation that printed text CUP is different than the vocal word "bowl"



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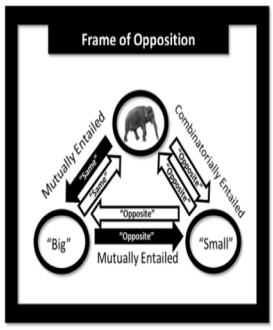
Types of Relational Frames

- Frame of Opposition
  - Relating one stimulus in terms of another based on contextual cue of "opposite"
- Stimuli are being differentiated on a continuum of the relevant dimension
  - Stimuli being differentiated are at opposing ends of the continuum
- Example:
  - Train an elephant is big, then train big is opposite of small
  - Results in combinatorially entailed relation of an elephant is the opposite of small
  - Relevant dimension is size, big and small are at opposing ends of this dimension



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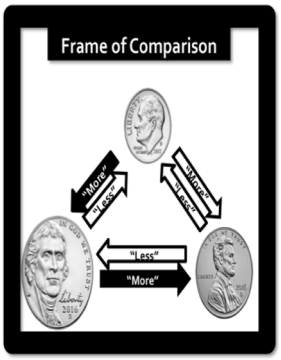
Types of Relational Frames

- Frame of Comparison
  - Relating one stimulus in terms of another based on a specific quantitative or qualitative dimension
  - Relating based on how one stimulus compares to another
- Common comparative relations
  - More/less, better/worse, bigger/smaller, faster/slower, etc.
- Example:
  - Train that a dime is more than a nickel
  - Then train the nickel is more than a penny
  - Results in combinatorially entailed relation that dime is more than penny, and penny is less than dime



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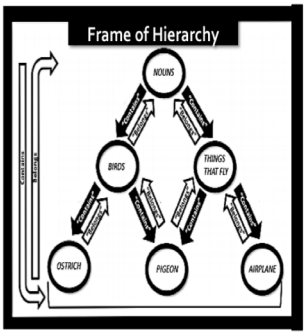
Types of Relational Frames

- Hierarchical Frame
  - Responding to a stimulus in terms of its membership to another stimulus
  - Belongingness between a group of stimuli and a common categorical relation
- Example:
  - An ostrich belongs to birds, birds belong to nouns
  - Nouns contain birds, birds contain ostrich and pigeon

[redacted]



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Types of Relational Frames

Perspective Taking (Deictic Frame)
Being able to see things from another person's perspective
Altering of time, place, view

Example: If the sun was the moon and moon was the sun, what comes up in the morning?

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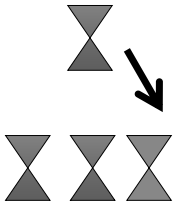
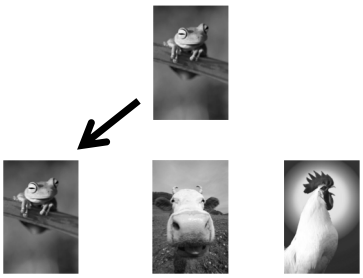
Evaluating Depth of Relating Abilities (Level 1: Non-Arbitrary)

- 1. Does the child understand non-arbitrary relations among stimuli?

"Show me different."



"Show me same."



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Evaluating Depth of Relating Abilities (Level 2: Cultural)

- 2. Do the relation abilities extend to cultural conventions of word-object coordinations and the subsequent other relational networks?

"Say opposite of DAY."

→ NIGHT

"What is contained in a zoo? An airplane or a zebra?"

→ ZEBRA

** Vocalization "day" = to actual physical day.
Vocalization "night" = to actual physical night.
If opposite of actual physical day is actual physical night.
====Then word DAY must be opposite of word NIGHT

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Evaluating Depth of Relating Abilities (Level 3: Arbitrary)

- 3. How strong are a child's DRR abilities as a generalized operant?
  - Can they make derived responses to language they have never had a history with?

CUK



"What is this?" 

→ CUK

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Evaluating Depth of Relating Abilities (Level 4: Complex Transformation)

- 4. Can the child transform the skills to another verbal problem?

CUK

"What sound does a CUK make?"

"What is smaller, a CUK or a building?"

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PEAK-T: Assessment

Expressive

Receptive

116

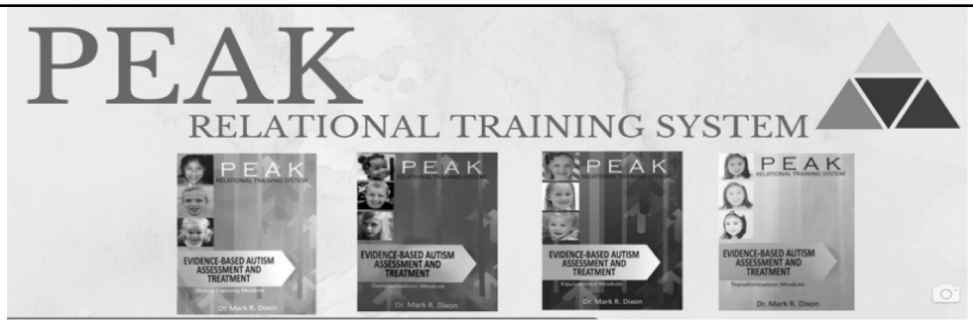
Performing the Transformation Assessment

Receptive

Then

Expressive

117



Scoring the PCA

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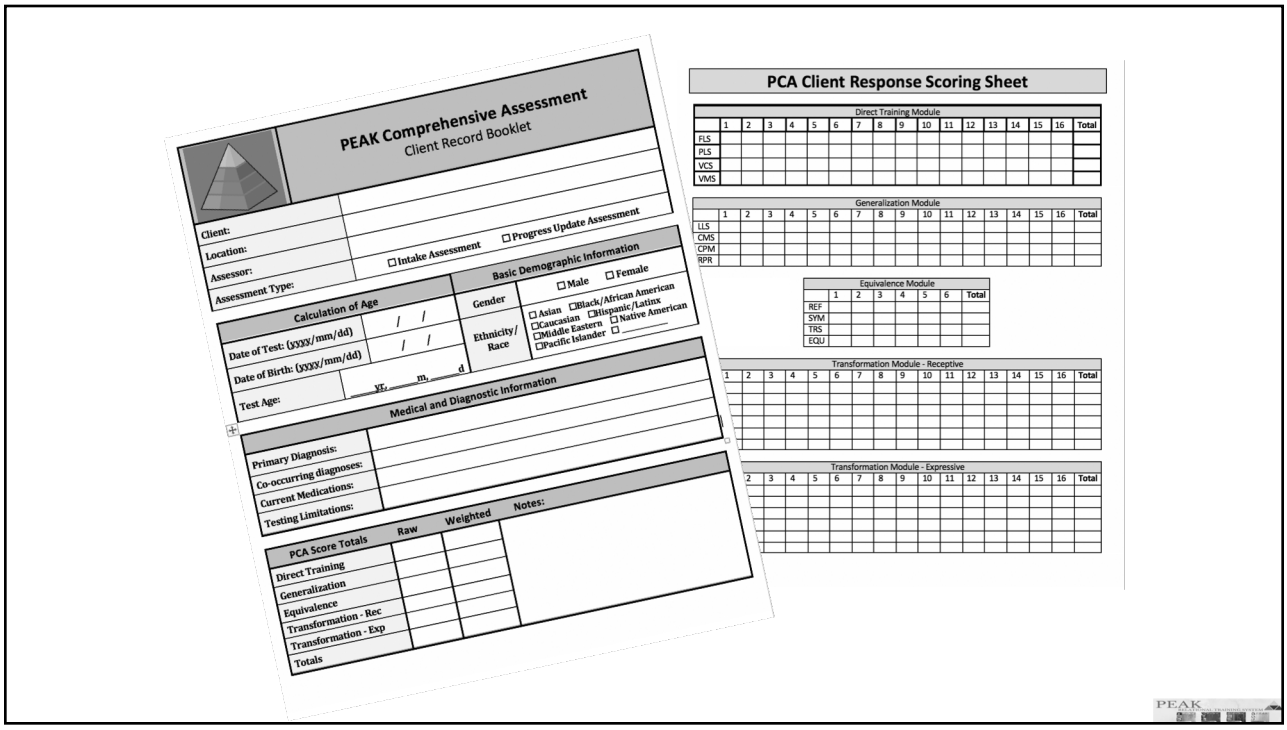

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PCA Client Response Scoring Sheet

Direct Training Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
FLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
PLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
VCS	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	14
VMS	0	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	11

Generalization Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
LLS	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	12
CMS	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	9
CPM	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
RPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Equivalence Module

	1	2	3	4	5	6	Total
REF	1	1	1	1	1	1	6
SYM	1	1	1	1	1	0	5
TRS	1	1	0	0	0	0	2
EQU	1	0	0	0	0	0	1

Transformation Module - Receptive

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
COR																	13
COM																	10
OPP																	11
DIS																	6
HIR																	9
DTC																	4

Transformation Module - Expressive

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
COR																	9
COM																	4
OPP																	11
DIS																	6
HIR																	0
DTC																	2

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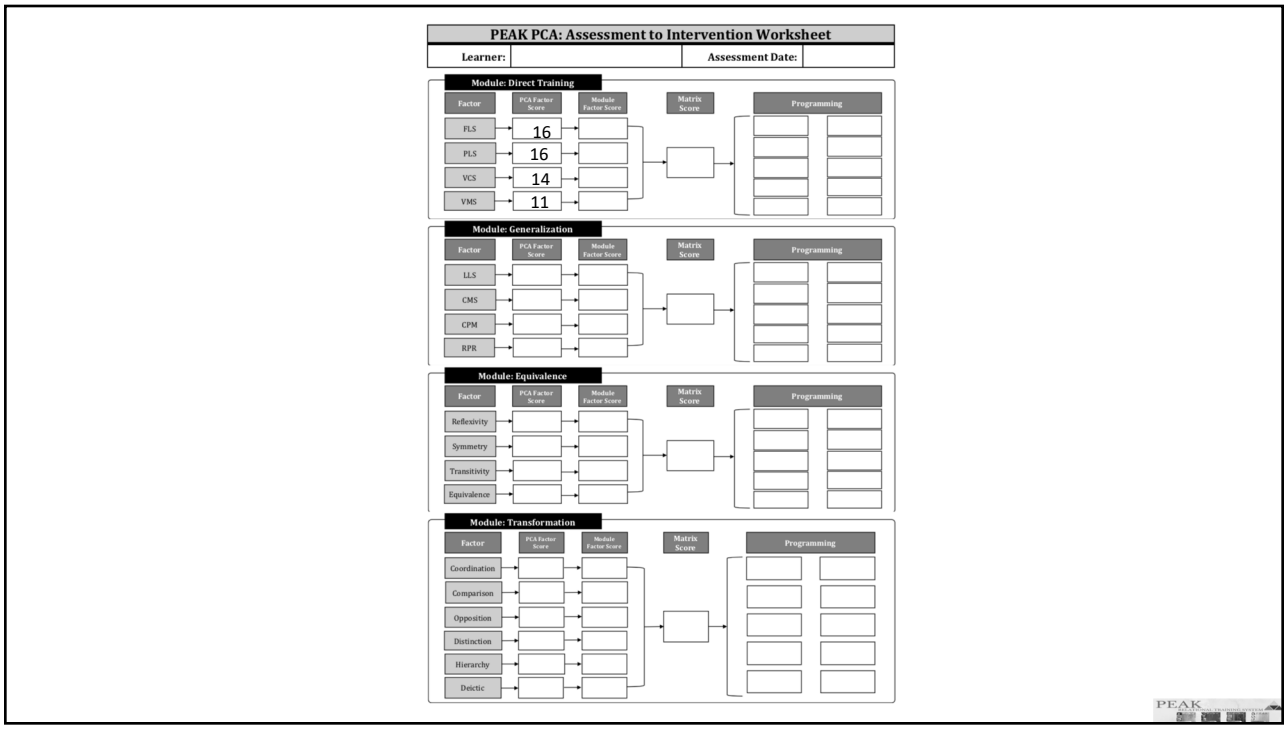

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PCA Decoding Sheet

Instructions: The table below displays the curricular target that matches the assessment questions. This table may be utilized to assist with curricular programming for the client and identification of skills currently within the client's repertoire.

Direct Training Module																
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**Total**
FLS	1A	3C	3D	4A	4B	4C	4D	4F	5A	5C	6A	6G	6B	6I	7A	7C	
PLS	7D	8A	8B	8C	8D	8F	8I	8K	8N	9A	9B	9C	9E	9F	9K	9L	
VCS	7H	8H	9H	9P	10A	10C	10J	10Q	11A	11G	11L	12B	12L	12S	13K	14G	
VMS	11M	11D	14A	14C	14E	14F	14H	14I	14L	14N	14O	14P	14Q	14R	14V	14W	

Generalization Module																	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**Total**
LLS	1A	2B	3D	4A	4B	4E	5B	5E	7C	7L	11A	11D	11O	13H	14A	14E	
CMS	2A	3A	3B	6G	7K	8F	9D	9G	9H	10C	10H	10M	10R	11L	11N	14K	
CPM	7J	9E	9J	10I	10J	11F	12C	12R	13F	9N	13L	14C	14G	14P	14S	14U	
RPR	5C	6D	6J	8I	10A	10B	10K	12O	12T	13C	13D	13G	13N	13O	14M	14Y	

Direct Training & Generalization Assessment to Treatment Instructions	
Once you have obtained scores on the PCA for the Direct Training and Generalization assessments, examine the PCA Decoding Sheet and complete the performance matrix. Then, follow the guidelines below for treatment.	
IF	THEN
Factor score of less than 16	All remaining items within the factor should be targeted for initial programming
Factor score is 16	All remaining items within the factor should be endorsed on the performance matrix

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PEAK Relational Training System Assessment Factor Scoring Grids

Instructions:
Circle each skill within the repertoire of the individual. Sum all circled items to obtain individual Factor scores.

Direct Training Module						Generalization Module					
Foundational Learning Skills	Perceptual Learning Skills	Verbal Comprehension Skills			Verbal Reasoning, Memory, & Math Skills	Foundational Learning and Basic Social Skills	Basic Verbal Comprehension, Memory, & Advanced Social Skills		Advanced Verbal Comprehension, Basic Problem Solving, & Advanced Math Skills		Verbal Reasoning, Advanced Problem Solving, & Advanced Reading & Writing Skills
1A	7D	6C	11A	12T	11D	1A	1B	10P	6H	12B	4D
1B	7G	6D	11B	12U	11M	2B	2A	10R	7D	12C	5C
2A	8A	6E	11C	12V	11O	3D	3A	11B	7E	12G	5H
2B	8B	7H	11E	13A	14A	4A	3B	11H	7J	12I	6D
3A	8C	7I	11F	13B	14B	4B	3C	11I	8B	12P	6J
3B	8D	7J	11G	13C	14C	4E	4C	11K	8C	12Q	7B
3C	8E	7K	11H	13D	14D	5A	4F	11L	8D	12R	8I
3D	8F	7L	11I	13E	14E	5B	5D	11M	8E	12V	8L
4A	8I	8G	11J	13F	14F	5E	5F	11N	8G	13A	10A
4B	8J	8H	11K	13G	14H	6A	5G	11Q	8H	13B	10B
4C	8K	9D	11L	13H	14I	6C	6B	11S	8J	13F	10K
4D	8L	9H	11N	13I	14J	6E	6F	12D	8K	13L	12M
4E	8M	9I	11P	13J	14K	7C	6G	12F	8N	13R	12N
4F	8N	9J	11Q	13K	14L	7G	6I	12H	9A	13S	12O
5A	9A	9M	11R	13L	14M	7H	7A	12J	9E	13U	12S
5B	9B	9N	11S	13M	14N	7L	7F	12K	9F	13V	12T
5C	9C	9O	11T	13N	14O	10D	7I	12L	9J	14C	13C
5D	9E	9P	12A	13O	14P	10L	7K	13I	9L	14D	13D
5E	9F	10A	12B	13P	14Q	11A	8A	13P	9M	14G	13E
5F	9G	10B	12C	13Q	14R	11D	8F	13T	9N	14H	13G
5G	9K	10C	12D	13R	14S	11G	8M	13W	9P	14J	13M
5H	9L	10D	12E	13S	14T	11J	9B	13X	10E	14O	13N
6A		10E	12F	13T	14U	11O	9C	14B	10G	14P	13O
6B		10F	12G	13U	14V	11R	9D	14F	10I	14R	13Q
6F		10G	12H	13V	14W	11T	9G	14K	10J	14S	14L
6G		10H	12I	13W	14X	12E	9H	14Z	10N	14T	14M
6H		10I	12J	13X	14Y	12U	9I		10O	14U	14N
6I		10J	12K	14G	14Z	13H	9K		10Q	14V	14Q
6J		10K	12L			13J	9O		11C	14W	14Y
7A		10L	12M			13K	10C		11E	14X	
7B		10M	12N			14A	10F		11F		
7C		10N	12O			14E	10H		11P		
7E		10O	12P			14I	10M		12A		
7F		10P	12Q								
		10Q	12R								
		10R	12S								
Factor 1	**Factor 2**	**Factor 3**			**Factor 4**	**Factor 1**	**Factor 2**		**Factor 3**		**Factor 4**
Total: __ (max 34)	Total: __ (max 22)	Total: __ (max 100)			Total: __ (max 28)	Total: __ (max 33)	Total: __ (max 59)		Total: __ (max 63)		Total: __ (max 29)

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PEAK PCA: Assessment to Intervention Worksheet

Learner: | **Assessment Date:**

Module: Direct Training

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
FLS	16	34	81	
PLS	16	22		
VCS	14	14		
VMS	11	11		

Module: Generalization

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
LLS				
CMS				
CPM				
RPR				

Module: Equivalence

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Reflexivity				
Symmetry				
Transitivity				
Equivalence				

Module: Transformation

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Coordination				
Comparison				
Opposition				
Distinction				
Hierarchy				
Deictic				

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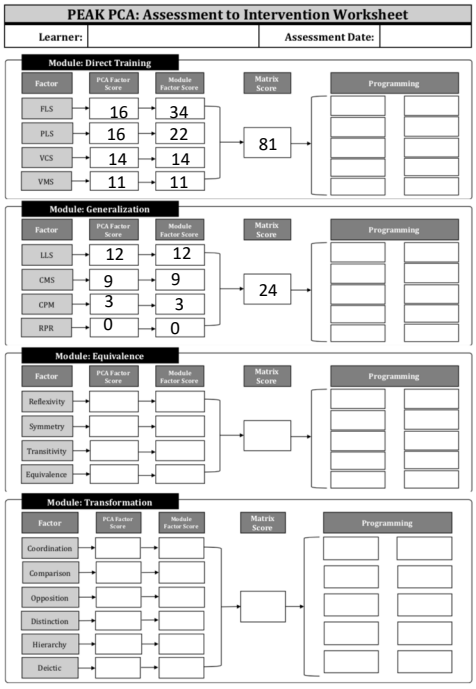

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Equivalence Programming

Obtain Scores on PCA

Step 1

If score on PCA relation is 0-3 all items within that relation should be targeted for initial programming. No items endorsed on Performance Matrix

If score on PCA relation is 4-5 last ½ of items within that relation should be targeted for initial programming. First 1/2 items endorsed on Performance Matrix.

Note: endorse all items on Performance Matrix once all targeted programs are mastered

If score on PCA relation is 6 no items within that relation should be targeted for initial programming. All items endorsed on Performance Matrix.

Step 2

126

Equivalence Assessment to Treatment Instructions	
Once you have obtained scores on the PCA for the Equivalence assessment, follow the guidelines below for completing the performance matrix and implementing treatment.	
IF	THEN
Relation score is 0-3	All items within that relation should be targeted for initial programming. No items should be endorsed on Performance Matrix within that relation.
Relation score is 4-5	Last half of items within that relation should be targeted for initial programming. The first half of items in that relation should be endorsed on the Performance Matrix. Reflexivity: Endorse 1A-3A, begin training at 3B Symmetry: Endorse 4B-7H, begin training at 7I Transitivity: Endorse 9N-10D, begin training at 10E Equivalence: Endorse 10L-12R, begin training at 12S
Relation score is 4-5 and subsequent relation is above 0	Begin training subsequent relation concurrently
Relation score is 6	No items within that relation should be targeted for initial programming. All items from this relation should be endorsed on the performance matrix.

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PEAK Relational Training System

Equivalence and Transformation Assessment Relation Scoring Grids

Instructions:

Circle each skill within the repertoire of the individual. Sum all circled items to obtain individual factor scores.

Equivalence Module							Transformation Module								
Reflexivity	Symmetry		Transitivity	Equivalence			Level 1		Level 2			Level 3		Level 4	
1A	4B	7J	9N	10L	12G	13Q	1A	7A	7E	9K	11J	11Q	13G	13L	14T
1B	4C	7K	9O	10M	12H	13R	1B	7B	7F	9L	11K	11R	13H	13M	14U
2A	4D	7L	9P	10N	12I	13S	2A	7C	7G	9M	11L	11S	13I	13N	14V
2B	4E	8A	10A	10O	12J	13T	2B	7D	7H	9N	11M	11T	13J	13O	14W
3A	4F	8B	10B	10P	12K	13U	3A		7I	9O	11N	12A	13K	13P	14Y
3B	5A	8C	10C	10Q	12L	13V	3B		7J	9P	11O	12B		13Q	14X
3C	5B	8D	10D	10R	12M	13W	3C		7K	10A	11P	12C		13R	14Z
3D	5C	8E	10E	11A	12N	13X	3D		7L	10B		12D		13S	
4A	5D	8F	10F	11B	12O	14A	4A		8A	10C		12E		13T	
	5E	8G	10G	11C	12P	14B	4B		8B	10D		12F		13U	
	5F	8H	10H	11D	12Q	14C	4C		8C	10E		12G		13V	
	5G	8I	10I	11E	12R	14D	4D		8D	10F		12H		13W	
	5H	8J	10J	11F	12S	14E	4E		8E	10G		12I		13X	
	6A	8K	10K	11G	12T	14F	4F		8F	10H		12J		14A	
	6B	8L		11H	12U	14G	5A		8G	10I		12K		14B	
	6C	8M		11I	12V	14H	5B		8H	10J		12L		14C	
	6D	8N		11J	13A	14I	5C		8I	10K		12M		14D	
	6E	9A		11K	13B	14J	5D		8J	10L		12N		14E	
	6F	9B		11L	13C	14K	5E		8K	10M		12O		14F	
	6G	9C		11M	13D	14L	5F		8L	10N		12P		14G	
	6H	9D		11N	13E	14M	5G		8M	10O		12Q		14H	
	6I	9E		11O	13F	14N	5H		8N	10P		12R		14I	
	6J	9F		11P	13G	14O	6A		9A	10Q		12S		14J	
	7A	9G		11Q	13H	14P	6B		9B	10R		12T		14K	
	7B	9H		11R	13I	14Q	6C		9C	11A		12U		14L	
	7C	9I		11S	13J	14R	6D		9D	11B		12V		14M	
	7D	9J		11T	13K	14S	6E		9E	11C		13A		14N	
	7E	9K		12A	13L	14T	6F		9F	11D		13B		14O	
	7F	9L		12B	13M	14U	6G		9G	11E		13C		14P	
	7G	9M		12C	13N	14V	6H		9H	11F		13D		14Q	
	7H			12D	13O	14W	6I		9I	11G		13E		14R	
	7I			12E	13P	14Y	6J		9J	11H		13F		14S	
				12F		14X				11I					
						14Z									
Relation	**Relation**		**Relation**	**Relation**			**Relation**		**Relation**			**Relation**		**Relation**	
Total: __ (max 9)	Total: __ (max 62)		Total: __ (max 14)	Total: __ (max 99)			Total: __ (max 36)		Total: __ (max 72)			Total: __ (max 37)		Total: __ (max 39)	

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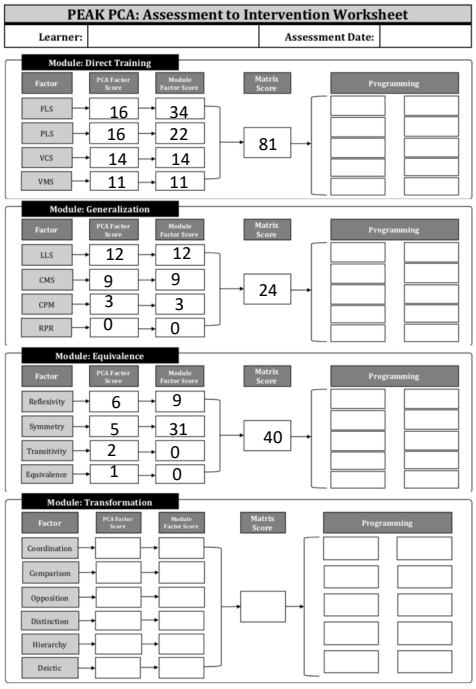

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Transformation Expressive and Receptive Programming
(*Each Frame Evaluated Separately*)

Sum Expressive and Receptive Scores on PCA

Step 1

	Non-Arbitrary	Cultural	Arbitrary
Coordination	0-16 = start at 1A	17-24 start at 7E	25+ start at 11Q
Comparison	No items endorsed on the performance matrix	All non-arbitrary items endorsed on the performance matrix	All non-arbitrary and cultural items endorsed on the performance matrix
Opposition			
Distinction			
Hierarchical			
Deictic			

Step 2

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Transformation Assessment to Treatment Instructions	
Once you have obtained scores on the PCA for the Transformation Receptive and Expressive Assessments, follow the guidelines below for completing the performance matrix and implementing treatment. **Each frame should be evaluated separately.**	
IF	THEN
Frame score of 0-16	All items within Level 1 (Non-Arbitrary) should be targeted for initial programming for that frame. No items should be endorsed on the Performance Matrix for that frame.
Frame score of 17-24	Items within Level 2 (Cultural) should be targeted for initial programming for that frame. All Level 1 items for that frame should be endorsed on the performance matrix.
Frame score of >25	Items within Level 3 and 4 (Arbitrary) should be targeted for initial programming for that frame. All Level 1 and 2 items should be endorsed on the performance matrix.

Transformation Frame Families By Level			
Below indicates which PEAK program to begin with for each frame according to starting Level			
FRAME	**Non-Arbitrary**	**Cultural**	**Arbitrary**
Coordination	1A	7E	11Q
Comparison	3A	7I	11R
Opposition	3C	7L	11T
Distinction	3D	8G	11S
Hierarchical	4C	10B	12L
Deictic	4E	9E	12Q

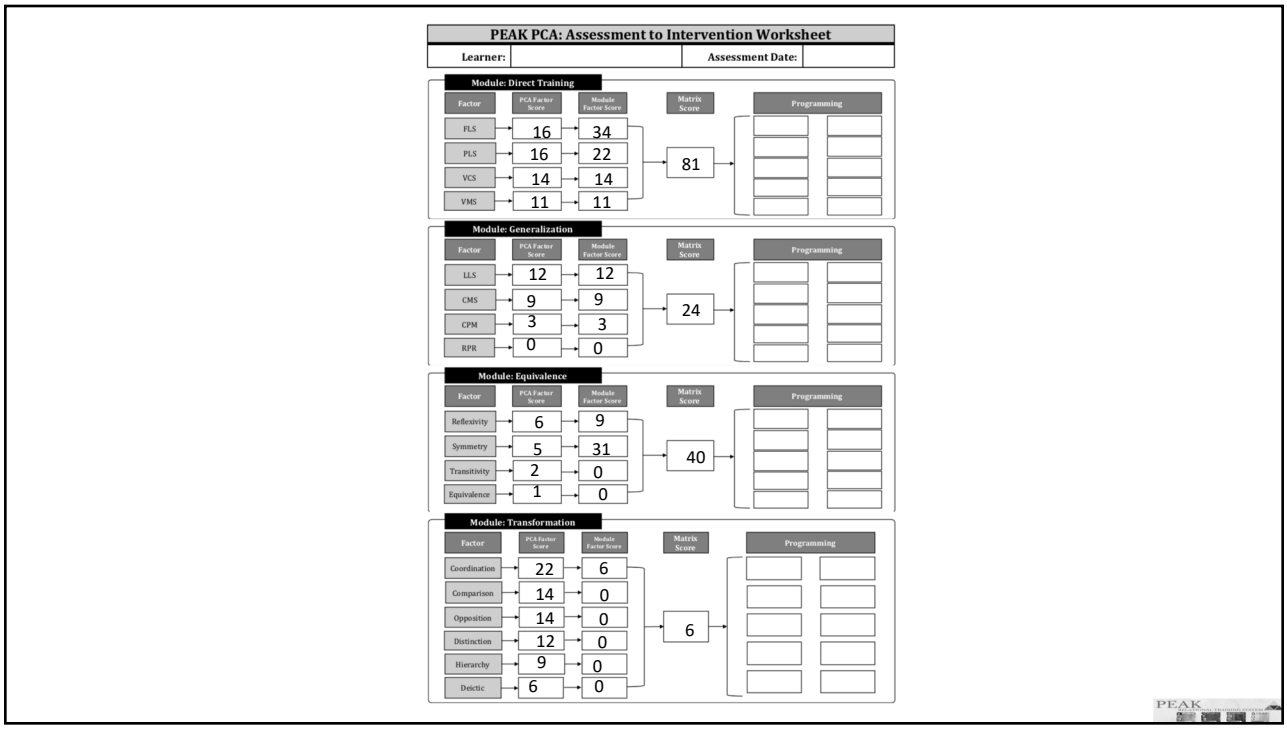
PEAK Relational Training System

Equivalence and Transformation Assessment Relation Scoring Grids

Instructions:

Circle each skill within the repertoire of the individual. Sum all circled items to obtain individual factor scores.

Equivalence Module						Transformation Module									
Reflexivity	Symmetry		Transitivity	Equivalence		Level 1		Level 2			Level 3		Level 4		
1A	4B	7J	9N	10L	12G	13Q	1A	7A	7E	9K	11J	11Q	13G	13L	14T
1B	4C	7K	9O	10M	12H	13R	1B	7B	7F	9L	11K	11R	13H	13M	14U
2A	4D	7L	9P	10N	12I	13S	2A	7C	7G	9M	11L	11S	13I	13N	14V
2B	4E	8A	10A	10O	12J	13T	2B	7D	7H	9N	11M	11T	13J	13O	14W
3A	4F	8B	10B	10P	12K	13U	3A		7I	9O	11N	12A	13K	13P	14Y
3B	5A	8C	10C	10Q	12L	13V	3B		7J	9P	11O	12B		13Q	14X
3C	5B	8D	10D	10R	12M	13W	3C		7K	10A	11P	12C		13R	14Z
3D	5C	8E	10E	11A	12N	13X	3D		7L	10B		12D		13S	
4A	5D	8F	10F	11B	12O	14A	4A		8A	10C		12E		13T	
	5E	8G	10G	11C	12P	14B	4B		8B	10D		12F		13U	
	5F	8H	10H	11D	12Q	14C	4C		8C	10E		12G		13V	
	5G	8I	10I	11E	12R	14D	4D		8D	10F		12H		13W	
	5H	8J	10J	11F	12S	14E	4E		8E	10G		12I		13X	
	6A	8K	10K	11G	12T	14F	4F		8F	10H		12J		14A	
	6B	8L		11H	12U	14G	5A		8G	10I		12K		14B	
	6C	8M		11I	12V	14H	5B		8H	10J		12L		14C	
	6D	8N		11J	13A	14I	5C		8I	10K		12M		14D	
	6E	9A		11K	13B	14J	5D		8J	10L		12N		14E	
	6F	9B		11L	13C	14K	5E		8K	10M		12O		14F	
	6G	9C		11M	13D	14L	5F		8L	10N		12P		14G	
	6H	9D		11N	13E	14M	5G		8M	10O		12Q		14H	
	6I	9E		11O	13F	14N	5H		8N	10P		12R		14I	
	6J	9F		11P	13G	14O	6A		9A	10Q		12S		14J	
	7A	9G		11Q	13H	14P	6B		9B	10R		12T		14K	
	7B	9H		11R	13I	14Q	6C		9C	11A		12U		14L	
	7C	9I		11S	13J	14R	6D		9D	11B		12V		14M	
	7D	9J		11T	13K	14S	6E		9E	11C		13A		14N	
	7E	9K		12A	13L	14T	6F		9F	11D		13B		14O	
	7F	9L		12B	13M	14U	6G		9G	11E		13C		14P	
	7G	9M		12C	13N	14V	6H		9H	11F		13D		14Q	
	7H			12D	13O	14W	6I		9I	11G		13E		14R	
	7I			12E	13P	14Y	6J		9J	11H		13F		14S	
				12F		14X				11I					
						14Z									
Relation	**Relation**		**Relation**	**Relation**			**Relation**		**Relation**			**Relation**		**Relation**	
Total: __ (max 9)	Total: __ (max 62)		Total: __ (max 14)	Total: __ (max 99)			Total: __ (max 36)		Total: __ (max 72)			Total: __ (max 37)		Total: __ (max 39)	



PEAK PCA: Assessment to Intervention Worksheet

Learner: | Assessment Date:

Module: Direct Training

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
FLS	16	34	81	
PLS	16	22		
VCS	14	14		
VMS	11	11		

Module: Generalization

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
LLS	12	12	24	
CMS	9	9		
CPM	3	3		
RPR	0	0		

Module: Equivalence

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Reflexivity	6	9	40	
Symmetry	5	31		
Transitivity	2	0		
Equivalence	1	0		

Module: Transformation

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Coordination	22	6	6	
Comparison	14	0		
Opposition	14	0		
Distinction	12	0		
Hierarchy	9	0		
Deictic	6	0		

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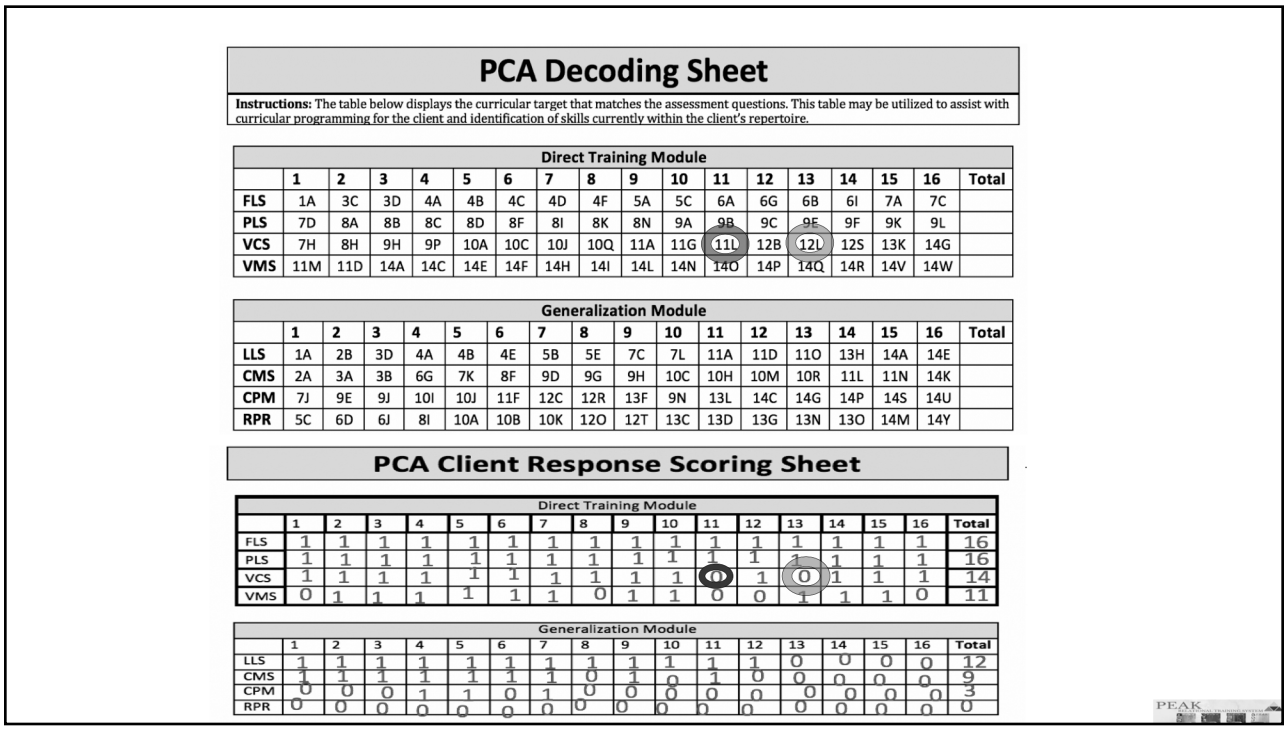

PCA Decoding Sheet

Instructions: The table below displays the curricular target that matches the assessment questions. This table may be utilized to assist with curricular programming for the client and identification of skills currently within the client's repertoire.

Direct Training Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
FLS	1A	3C	3D	4A	4B	4C	4D	4F	5A	5C	6A	6G	6B	6I	7A	7C	
PLS	7D	8A	8B	8C	8D	8F	8I	8K	8N	9A	9B	9C	9E	9F	9K	9L	
VCS	7H	8H	9H	9P	10A	10C	10J	10Q	11A	11G	11L	12B	12L	12S	13K	14G	
VMS	11M	11D	14A	14C	14E	14F	14H	14I	14L	14N	14O	14P	14Q	14R	14V	14W	

Generalization Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
LLS	1A	2B	3D	4A	4B	4E	5B	5E	7C	7L	11A	11D	11O	13H	14A	14E	
CMS	2A	3A	3B	6G	7K	8F	9D	9G	9H	10C	10H	10M	10R	11L	11N	14K	
CPM	7J	9E	9J	10I	10J	11F	12C	12R	13F	9N	13L	14C	14G	14P	14S	14U	
RPR	5C	6D	6J	8I	10A	10B	10K	12O	12T	13C	13D	13G	13N	13O	14M	14Y	

PCA Client Response Scoring Sheet

Direct Training Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
FLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
PLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
VCS	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	14
VMS	0	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	11

Generalization Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
LLS	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	12
CMS	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	0	9
CPM	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
RPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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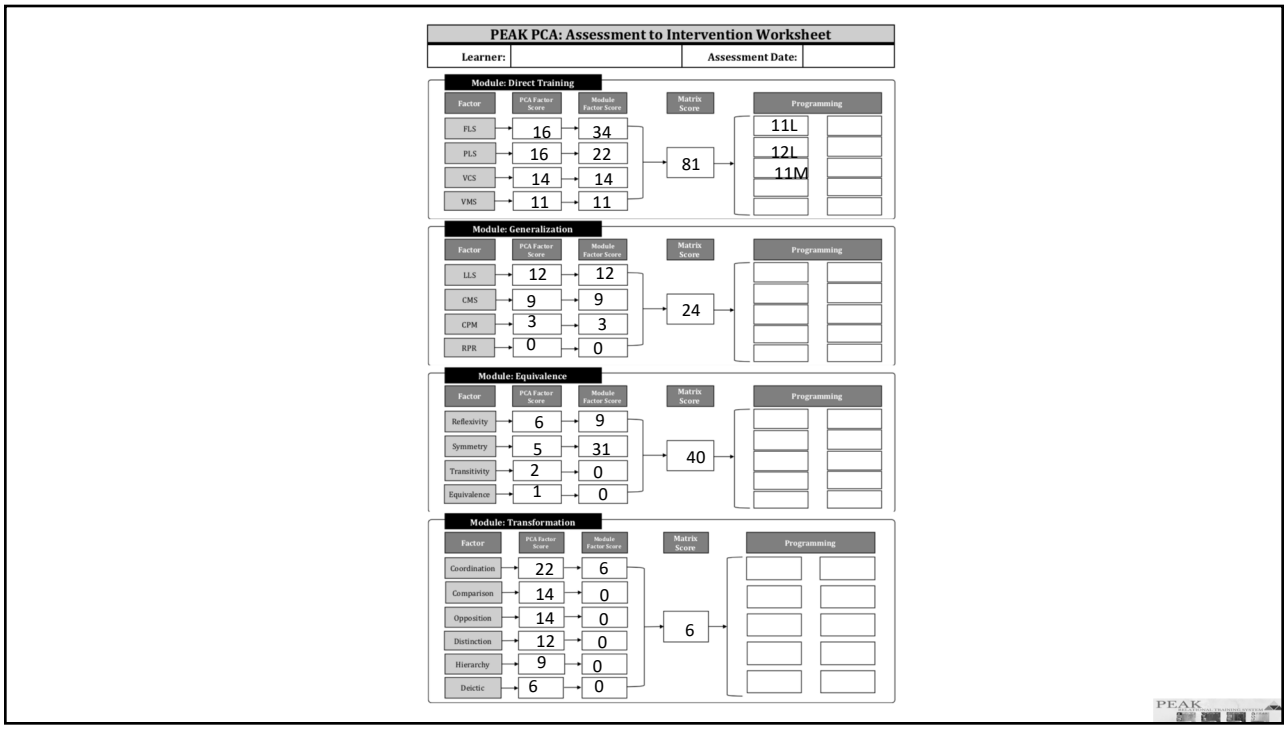

PEAK PCA: Assessment to Intervention Worksheet

Learner: | Assessment Date:

Module: Direct Training

Factor	PCA Factor Score	Module Factor Score
FLS	16	34
PLS	16	22
VCS	14	14
VMS	11	11

Matrix Score: 81

Programming: 11L, 12L, 11M

Module: Generalization

Factor	PCA Factor Score	Module Factor Score
LLS	12	12
CMS	9	9
CPM	3	3
RPR	0	0

Matrix Score: 24

Programming:

Module: Equivalence

Factor	PCA Factor Score	Module Factor Score
Reflexivity	6	9
Symmetry	5	31
Transitivity	2	0
Equivalence	1	0

Matrix Score: 40

Programming:

Module: Transformation

Factor	PCA Factor Score	Module Factor Score
Coordination	22	6
Comparison	14	0
Opposition	14	0
Distinction	12	0
Hierarchy	9	0
Deictic	6	0

Matrix Score: 6

Programming:

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PEAK Relational Training System Assessment Factor Scoring Grids

Instructions:

Circle each skill within the repertoire of the individual. Sum all circled items to obtain individual Factor scores.

Direct Training Module

Foundational Learning Skills	Perceptual Learning Skills	Verbal Comprehension Skills			Verbal Reasoning, Memory, & Math Skills
1A	7D	6C	11A	12T	11D
1B	7G	6D	11B	12U	11M
2A	8A	6E	11C	12V	11O
2B	8B	7H	11E	13A	14A
3A	8C	7I	11F	13B	14B
3B	8D	7J	11G	13C	14C
3C	8E	7K	11H	13D	14D
3D	8F	7L	11I	13E	14E
4A	8I	8G	11J	13F	14F
4B	8J	8H	11K	13G	14H
4C	8K	9D	11L	13H	14I
4D	8L	9H	11N	13I	14J
4E	8M	9I	11P	13J	14K
4F	8N	9J	11Q	13K	14L
5A	9A	9M	11R	13L	14M
5B	9B	9N	11S	13M	14N
5C	9C	9O	11T	13N	14O
5D	9E	9P	12A	13O	14P
5E	9F	10A	12B	13P	14Q
5F	9G	10B	12C	13Q	14R
5G	9K	10C	12D	13R	14S
5H	9L	10D	12E	13S	14T
6A		10E	12F	13T	14U
6B		10F	12G	13U	14V
6F		10G	12H	13V	14W
6G		10H	12I	13W	14X
6H		10I	12J	13X	14Y
6I		10J	12K	14G	14Z
6J		10K	12L		
7A		10L	12M		
7B		10M	12N		
7C		10N	12O		
7E		10O	12P		
7F		10P	12Q		
		10Q	12R		
		10R	12S		
Factor 1 Total: __ (max 34)	**Factor 2** Total: __ (max 22)	**Factor 3** Total: __ (max 100)			**Factor 4** Total: __ (max 28)

Generalization Module

Foundational Learning and Basic Social Skills	Basic Verbal Comprehension, Memory, & Advanced Social Skills		Advanced Verbal Comprehension, Basic Problem Solving, & Advanced Math Skills		Verbal Reasoning, Advanced Problem Solving, & Advanced Reading & Writing Skills
1A	1B	10P	6H	12B	4D
2B	2A	10R	7D	12C	5C
3D	3A	11B	7E	12G	5H
4A	3B	11H	7J	12I	6D
4B	3C	11I	8B	12P	6J
4E	4C	11K	8C	12Q	7B
5A	4F	11L	8D	12R	8I
5B	5D	11M	8E	12V	8L
5E	5F	11N	8G	13A	10A
6A	5G	11Q	8H	13B	10B
6C	6B	11S	8J	13F	10K
6E	6F	12D	8K	13L	12M
7C	6G	12F	8N	13R	12N
7G	6I	12H	9A	13S	12O
7H	7A	12J	9E	13U	12S
7L	7F	12K	9F	13V	12T
10D	7I	12L	9J	14C	13C
10L	7K	13I	9L	14D	13D
11A	8A	13P	9M	14G	13E
11D	8F	13T	9N	14H	13G
11G	8M	13W	9P	14J	13M
11J	9B	13X	10E	14O	13N
11O	9C	14B	10G	14P	13O
11R	9D	14F	10I	14R	13Q
11T	9G	14K	10J	14S	14L
12E	9H	14Z	10N	14T	14M
12U	9I		10O	14U	14N
13H	9K		10Q	14V	14Q
13J	9O		11C	14W	14Y
13K	10C		11E	14X	
14A	10F		11F		
14E	10H		11P		
14I	10M		12A		
Factor 1 Total: __ (max 33)	**Factor 2** Total: __ (max 59)		**Factor 3** Total: __ (max 63)		**Factor 4** Total: __ (max 29)

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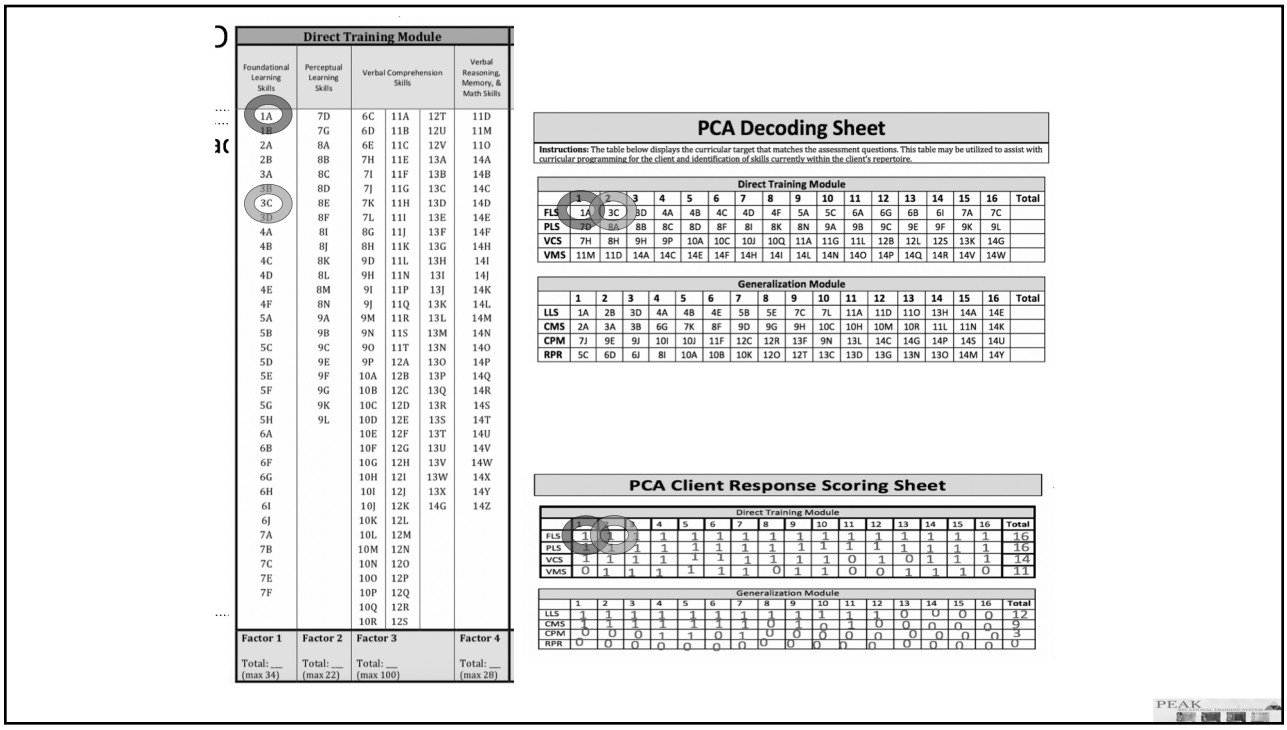

Direct Training Module

Foundational Learning Skills	Perceptual Learning Skills	Verbal Comprehension Skills			Verbal Reasoning, Memory, & Math Skills
1A	7D	6C	11A	12T	11D
1B	7G	6D	11B	12U	11M
2A	8A	6E	11C	12V	11O
2B	8B	7H	11E	13A	14A
3A	8C	7I	11F	13B	14B
3B	8D	7J	11G	13C	14C
3C	8E	7K	11H	13D	14D
3D	8F	7L	11I	13E	14E
4A	8I	8G	11J	13F	14F
4B	8J	8H	11K	13G	14H
4C	8K	9D	11L	13H	14I
4D	8L	9H	11N	13I	14J
4E	8M	9I	11P	13J	14K
4F	8N	9J	11Q	13K	14L
5A	9A	9M	11R	13L	14M
5B	9B	9N	11S	13M	14N
5C	9C	9O	11T	13N	14O
5D	9E	9P	12A	13O	14P
5E	9F	10A	12B	13P	14Q
5F	9G	10B	12C	13Q	14R
5G	9K	10C	12D	13R	14S
5H	9L	10D	12E	13S	14T
6A		10E	12F	13T	14U
6B		10F	12G	13U	14V
6F		10G	12H	13V	14W
6G		10H	12I	13W	14X
6H		10I	12J	13X	14Y
6I		10J	12K	14G	14Z
6J		10K	12L		
7A		10L	12M		
7B		10M	12N		
7C		10N	12O		
7E		10O	12P		
7F		10P	12Q		
		10Q	12R		
		10R	12S		
Factor 1 Total: __ (max 34)	**Factor 2** Total: __ (max 22)	**Factor 3** Total: __ (max 100)			**Factor 4** Total: __ (max 28)

PCA Decoding Sheet

Instructions: The table below displays the curricular target that matches the assessment questions. This table may be utilized to assist with curricular programming for the client and identification of skills currently within the client's repertoire.

Direct Training Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
FLS	1A	3C	3D	4A	4B	4C	4D	4F	5A	5C	6A	6G	6B	6I	7A	7C	
PLS	2A	3A	3B	8B	8C	8D	8F	8I	8K	8N	9A	9B	9C	9E	9F	9K	9L	
VCS	7H	8H	9H	9P	10A	10C	10J	10Q	11A	11G	11L	12B	12L	12S	13K	14G	
VMS	11M	11D	14A	14C	14E	14F	14H	14I	14L	14N	14O	14P	14Q	14R	14V	14W	

Generalization Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
LLS	1A	2B	3D	4A	4B	4E	5B	5E	7C	7L	11A	11D	11O	13H	14A	14E	
CMS	2A	3A	3B	6G	7K	8F	9D	9G	9H	10C	10H	10M	10R	11L	11N	14K	
CPM	7J	9E	9I	10I	10J	11F	12C	12R	13F	9N	13L	14C	14G	14P	14S	14U	
RPR	5C	6D	6J	8I	10A	10B	10K	12O	12T	13C	13D	13G	13N	13O	14M	14Y	

PCA Client Response Scoring Sheet

Direct Training Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
FLS	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	16
PLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
VCS	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	14
VMS	0	1	1	1	1	1	1	0	1	1	0	0	1	1	1	0	11

Generalization Module

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
LLS	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	12
CMS	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	9
CPM	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
RPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PEAK

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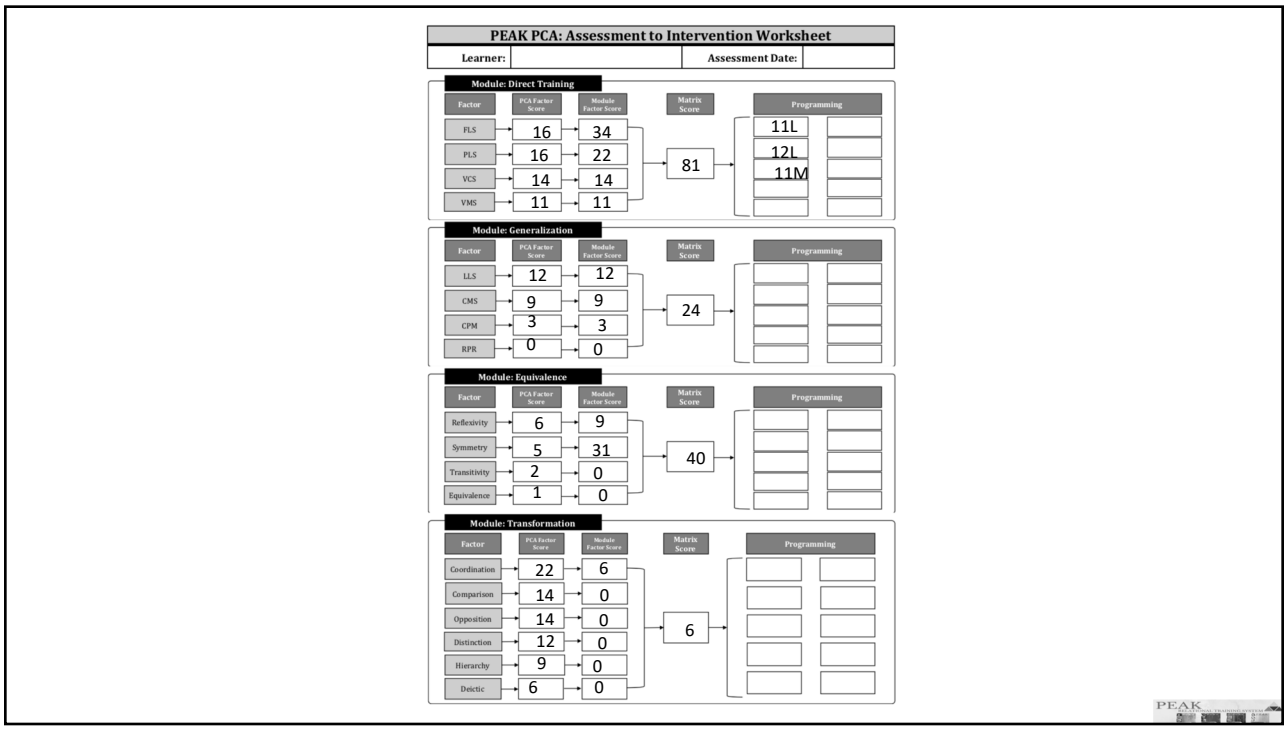

PEAK PCA: Assessment to Intervention Worksheet

Learner: | Assessment Date:

Module: Direct Training

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
FLS	16	34	81	11L, 12L, 11M
PLS	16	22		
VCS	14	14		
VMS	11	11		

Module: Generalization

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
LLS	12	12	24	
CMS	9	9		
CPM	3	3		
RPR	0	0		

Module: Equivalence

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Reflexivity	6	9	40	
Symmetry	5	31		
Transitivity	2	0		
Equivalence	1	0		

Module: Transformation

Factor	PCA Factor Score	Module Factor Score	Matrix Score	Programming
Coordination	22	6	6	
Comparison	14	0		
Opposition	14	0		
Distinction	12	0		
Hierarchy	9	0		
Deictic	6	0		

PEAK

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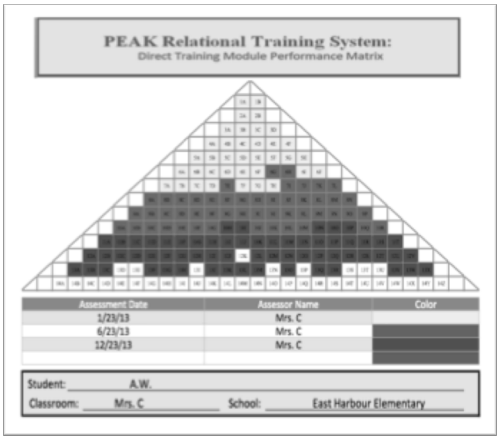
Filling in the Performance Matrix

- Every correct response from the assessment should be coded on the Performance Matrix.
- Initial Assessment should be coded in yellow
- Subsequent assessments in different colors to indicate progress.
- Good visual display of treatment effectiveness



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After 1 Run of a Program

If 100% on trained or tested block – program mastered. Endorse on Performance Matrix.

If less than 100% on either trained or tested block – program sustained.

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Administrating Correctly?

PCA Administration Checklist

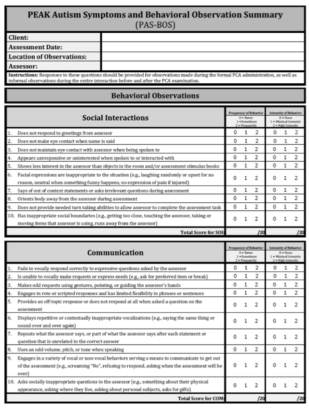
PCA Pre-Administration Checklist The Assessor should complete the following steps prior to administering the PCA	Circle One
1. Room is well lit, free of distractions, and other observers are out of view.	Y N
2. Assessor attempts to build rapport and determine possible reinforcers and motivating variables for the client.	Y N
3. Assessor states expectations to the participant verbatim that precede administration of PCA.	Y N
4. Assessor has all necessary materials of the PCA ready for administration prior to beginning.	Y N
5. Assessor has self, client, and materials positioned in one of the two acceptable configurations for PCA administration.	Y N
6. Assessor answers any relevant questions the client may have about taking the assessment.	Y N
7. Assessor begins the assessment promptly when the above steps are complete.	Y N
Total	/ 7

PCA Administration Checklist The Assessor should complete the following steps during administration of the PCA	Circle One
1. Assessor reads the questions to the clearly verbatim.	Y N
2. Assessor reads the questions to the client clearly.	Y N
3. Assessor repeats a question no more than once under the appropriate restrictions for repetition.	Y N
4. Assessor does not prompt, provide feedback, or deliver reinforcement for correct or incorrect responses.	Y N
5. Assessor indicates a 1 or a 0 immediately following each client response to the assessment question before initiating the next question.	Y N
6. Assessor records client responses correctly.	Y N
7. Assessor maintains client attention throughout the assessment by providing the necessary noncontingent reinforcement for task completion unrelated to accuracy to accuracy based on the needs of the client.	Y N
8. Assessor completes each factor or relation of the assessment prior to providing a break to the client.	Y N
9. Assessor discontinues the PCA if the appropriate termination criterion has been met.	Y N
10. Assessor records total factor / relation scores and total scores correct.	Y N
Total	/ 10

PCA Overall Performance Checklist The assessor should be evaluated on overall performance conducting the PCA using the following criteria:	Circle One
1. Assessor remains calm throughout administration.	Y N
2. Assessor handles behavior problems correctly.	Y N
3. Assessor makes necessary accommodations for physical impairments that may impact PCA performance (e.g., hearing or visual loss).	Y N

PCA PAS-BOS

Scoring Behavioral Observations


PEAK Autism Symptoms and Behavioral Observation Summary (PAS-BOS)

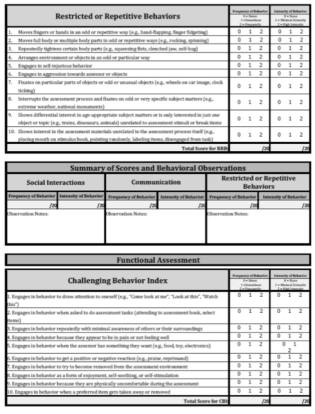
Client:
Assessment Date:
Location of Observations:
Assessor:

Instructions: Responses to these questions should be provided for observations made during the formal PCA administration, as well as informal observations during the entire interaction before and after the PCA administration.

Behavioral Observations

Social Interactions	Frequency of Behavior (1 = Never, 2 = Occasionally, 3 = Frequently)	Intensity of Behavior (1 = Mild or Occasional, 2 = Moderate, 3 = Severe)
1. Does not respond to greetings from assessor	0 1 2	0 1 2
2. Does not make eye contact when name is said	0 1 2	0 1 2
3. Does not maintain eye contact with assessor when being spoken to	0 1 2	0 1 2
4. Appears unresponsive or uninterested when spoken to or interacted with	0 1 2	0 1 2
5. Shows less interest in the assessor than objects in the room and/or assessment stimulus books	0 1 2	0 1 2
6. Facial expressions are inappropriate to the situation (e.g., laughing randomly or upset for no reason, neutral when something funny happens, no expression of pain if injured)	0 1 2	0 1 2
7. Says of out of context statements or asks irrelevant questions during assessment	0 1 2	0 1 2
8. Orients body away from the assessor during assessment	0 1 2	0 1 2
9. Does not provide needed turn-taking abilities to allow assessor to complete the assessment task	0 1 2	0 1 2
10. Has inappropriate social boundaries (e.g., getting too close, touching the assessor, taking or moving items that assessor is using, runs away from the assessor)	0 1 2	0 1 2
Total Score for SIN	/30	/30

Communication	Frequency of Behavior (1 = Never, 2 = Occasionally, 3 = Frequently)	Intensity of Behavior (1 = Mild or Occasional, 2 = Moderate, 3 = Severe)
1. Fails to vocally respond correctly to expressive questions asked by the assessor	0 1 2	0 1 2
2. Is unable to vocally make requests or express needs (e.g., ask for preferred item or break)	0 1 2	0 1 2
3. Makes odd requests using gestures, pointing, or guiding the assessor's hands	0 1 2	0 1 2
4. Engages in rote or scripted responses and has limited flexibility in phrases or sentences	0 1 2	0 1 2
5. Provides an off-topic response or does not respond at all when asked a question on the assessment	0 1 2	0 1 2
6. Displays repetitive or contextually inappropriate vocalizations (e.g., saying the same thing or sound over and over again)	0 1 2	0 1 2
7. Repeats what the assessor says, or part of what the assessor says after each statement or question that is unrelated to the correct answer	0 1 2	0 1 2
8. Uses an odd volume, pitch, or tone when speaking	0 1 2	0 1 2
9. Engages in a variety of vocal or non-vocal behaviors serving a means to communicate to get out of the assessment (e.g., screaming "No", refusing to respond, asking when the assessment will be over)	0 1 2	0 1 2
10. Asks socially inappropriate questions to the assessor (e.g., something about their physical appearance, asking where they live, asking about personal subjects, asks for gifts)	0 1 2	0 1 2
Total Score for COM	/30	/30


Restricted or Repetitive Behaviors	Frequency of Behavior (1 = Never, 2 = Occasionally, 3 = Frequently)	Intensity of Behavior (1 = Mild or Occasional, 2 = Moderate, 3 = Severe)
1. Moves fingers or hands in an odd or repetitive way (e.g., hand-flapping, finger fidgeting)	0 1 2	0 1 2
2. Moves full body or multiple body parts in odd or repetitive ways (e.g., rocking, spinning)	0 1 2	0 1 2
3. Repeatedly tightens certain body parts (e.g., squeezing fists, clenched jaw, self-hug)	0 1 2	0 1 2
4. Arranges environment or objects in an odd or particular way	0 1 2	0 1 2
5. Engages in self-injurious behavior	0 1 2	0 1 2
6. Engages in aggression towards assessor or objects	0 1 2	0 1 2
7. Fixates on particular parts of objects or odd or unusual objects (e.g., wheels on car image, clock ticking)	0 1 2	0 1 2
8. Interrupts the assessment process and fixates on odd or very specific subject matters (e.g., extreme weather, national monuments)	0 1 2	0 1 2
9. Shows differential interest in age-appropriate subject matters or is only interested in just one object or topic (e.g., trains, dinosaurs, animals) unrelated to assessment stimuli or break items	0 1 2	0 1 2
10. Shows interest in the assessment materials unrelated to the assessment process itself (e.g., placing mouth on stimulus book, pointing randomly, labeling items, disengaged from task)	0 1 2	0 1 2
Total Score for RRB	/30	/30

Summary of Scores and Behavioral Observations

Social Interactions		Communication		Restricted or Repetitive Behaviors	
Frequency of Behavior	Intensity of Behavior	Frequency of Behavior	Intensity of Behavior	Frequency of Behavior	Intensity of Behavior
/30	/30	/30	/30	/30	/30
Observation Notes:		Observation Notes:		Observation Notes:	

Functional Assessment

Challenging Behavior Index	Frequency of Behavior (1 = Never, 2 = Occasionally, 3 = Frequently)	Intensity of Behavior (1 = Mild or Occasional, 2 = Moderate, 3 = Severe)
1. Engages in behavior to draw attention to oneself (e.g., "Come look at me", "Look at this", "Watch this")	0 1 2	0 1 2
2. Engages in behavior when asked to do assessment tasks (attending to assessment book, select items)	0 1 2	0 1 2
3. Engages in behavior repeatedly with minimal awareness of others or their surroundings	0 1 2	0 1 2
4. Engages in behavior because they appear to be in pain or not feeling well	0 1 2	0 1 2
5. Engages in behavior when the assessor has something they want (e.g., food, toy, electronics)	0 1 2	0 1 2
6. Engages in behavior to get a positive or negative reaction (e.g., praise, reprimand)	0 1 2	0 1 2
7. Engages in behavior to try to become removed from the assessment environment	0 1 2	0 1 2
8. Engages in behavior as a form of enjoyment, self-soothing, or self-stimulation	0 1 2	0 1 2
9. Engages in behavior because they are physically uncomfortable during the assessment	0 1 2	0 1 2
10. Engages in behavior when a preferred item gets taken away or removed	0 1 2	0 1 2
Total Score for CBI	/30	/30

(PAS-BOS)

Client:	
Assessment Date:	
Location of Observations:	
Assessor:	

Instructions: Responses to these questions should be provided for observations made during the formal PCA administration, as well as informal observations during the entire interaction before and after the PCA examination.

Behavioral Observations

Social Interactions	Frequency of Behavior (0 = Never, 1 = Sometimes, 2 = Frequently)	Intensity of Behavior (0 = None, 1 = Minimal Intensity, 2 = High Intensity)
1. Does not respond to greetings from assessor	0 1 2	0 1 2
2. Does not make eye contact when name is said	0 1 2	0 1 2
3. Does not maintain eye contact with assessor when being spoken to	0 1 2	0 1 2
4. Appears unresponsive or uninterested when spoken to or interacted with	0 1 2	0 1 2
5. Shows less interest in the assessor than objects in the room and/or assessment stimulus books	0 1 2	0 1 2
6. Facial expressions are inappropriate to the situation (e.g., laughing randomly or upset for no reason, neutral when something funny happens, no expression of pain if injured)	0 1 2	0 1 2
7. Says of out of context statements or asks irrelevant questions during assessment	0 1 2	0 1 2
8. Orients body away from the assessor during assessment	0 1 2	0 1 2
9. Does not provide needed turn taking abilities to allow assessor to complete the assessment task	0 1 2	0 1 2
10. Has inappropriate social boundaries (e.g., getting too close, touching the assessor, taking or moving items that assessor is using, runs away from the assessor)	0 1 2	0 1 2
Total Score for SOIs	/20	/20

Communication	Frequency of Behavior	Intensity of Behavior

143

PCA PAS-BOS

The following sections are to be scored only by a BCBA, BCBA-D or Psychologist:

Autism Symptoms	Intensity of Intervention
Frequency of Behaviors	**Severity of Behaviors**
Total Frequency Score of the SOI + COM + RRB = / 60	**Total Severity Score of the SOI + COM + RRB = / 60**
Circle the client's tier score based on the frequency of behavior displayed and the clinical observations during the assessment process:	Circle the client's tier score based on the severity of behavior displayed and the clinical observations during the assessment process:
Tier 1: Client shows minimal or no characteristics of autism	**Tier 1:** Minimal or no ABA treatment is recommended
Tier 2: Client shows some characteristics of autism	**Tier 2:** Moderate amount of ABA treatment is recommended
Tier 3: Client shows many characteristics of autism	**Tier 3:** Intensive ABA treatment is recommended

Summary of Scores for Challenging Behavior Index

Attention (1 & 6)		Escape (2 & 7)		Non-Social (3 & 8)		Physical (4 & 9)		Tangible (5 & 10)	
Frequency	Intensity	Frequency	Intensity	Frequency	Intensity	Frequency	Intensity	Frequency	Intensity
/4	/4	/4	/4	/4	/4	/4	/4	/4	/4

Challenging behaviors observed:

Possible Maintaining Variable(s)
(Enter combined totals of frequency and intensity for both questions and circle the hypothesized primary function):

Attention =	Escape =	Non-Social =	Physical =	Tangible =

Potential intervention approach:

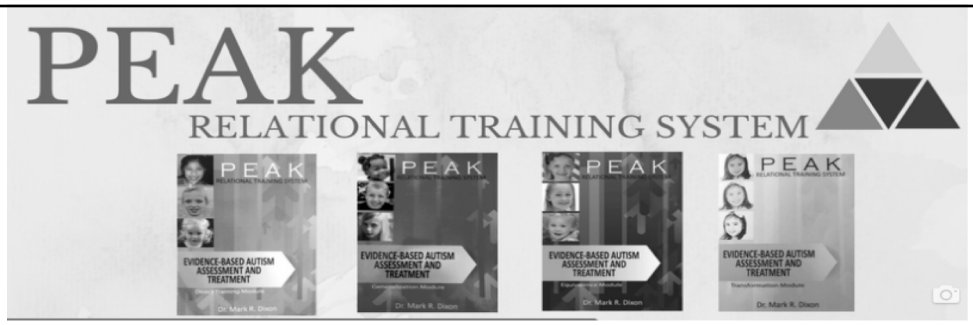
Potential impact on treatment based on the frequency and intensity of problem behavior observed (circle one)

Tier 1: Minimal or no impact on treatment suspected: No behavior reduction plan recommended in ABA treatment program

Tier 2: Moderate impact on treatment suspected: Behavior reduction plan may be needed within ABA treatment program

Tier 3: Large impact on treatment is suspected: Behavior reduction plan will be needed within ABA treatment program

144

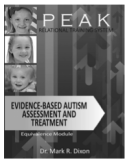


Program Running

145

The Total PEAK System

A standardized assessment tool designed to be used across a multitude of clients. All stimulus materials, administration manual, rationale, and scoring sheets are included.



4 Learning Modules written in easy to understand language. Each contains a 40-100 page introduction on rationale, evaluation and teaching techniques, and data collection system. Each also contains 184 instructional programs.

146

General Process for Running PEAK

- Direct / Indirect Assessment
- Deficit Skills Targeted in Logical and Empirically-Based Order
- Programs run in 10-trial blocks
- Programs run with both TRAINING and TESTS
  - Direct – All trained
  - Generalization – Test probes within blocks of 10
  - Equivalence – Train blocks and Test blocks
  - Transformation – Train blocks, Test blocks, Transfer blocks

147

Steps for Choosing Programs

Determine how many total programs your client can complete per session

Use the assessment information to guide choosing programs from each module

- Generally speaking, you will aim to have an even number of programs from each module
- This may be different depending on the learner profile
- More on this in future slides!

Critically analyze the appropriateness of the programs

- For each program, think about whether or not it is the best program at THIS time or if other skills need to be targeted first from the other modules

148

Program Mastery

Typically 3 trial blocks of 10 trials with 9/10 10s.

What does mastery mean?

3 trial blocks with 90% accuracy?

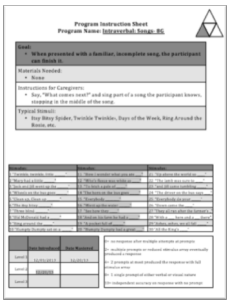
- Some predetermined criterion?
  - Might not fit every child
  - Or every situation

149

Program Level and Mastery Criterion

	Level 1	Level 2	Level 3	Program Mastered	Lowest Number to Master
Direct Module	1-5 Training Stimuli	6-10 Training Stimuli	Relevant to Program (26 letters; 15 classmate names) and functional relevance for participant	Level 2 or 3	6 stimuli targets
Generalization Module	1-3 Training and 1-3 Testing Stimuli	5 Training and 5 Testing Stimuli	Relevant to Program and functional relevance to participant	Level 2 or 3	10 stimuli targets
Equivalence Module	2-4 Classes	5-8 Classes	Not required	Level 2	5 target classes
Transformation Module	2 Training and 2 Testing Classes	4 + Training Classes 4 + Testing Classes	not required	Level 2	4 classes trained 4 classes tested

150



Program Instruction Sheet
Program Name: Intraverbal: Songs: BC

Goal:
- When presented with a familiar, incomplete song, the participant can finish it.

Materials Needed:
- None

Instructions for Caregivers:
- Say, "What comes next?" and sing part of a song the participant knows, stopping in the middle of the song.

Typical Status:
- Itsy Bitsy Spider, Twinkle Twinkle, Days of the Week, Ring Around the Rosie, etc.

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 100

Implementation & Data Collection

- Typically run each program in a series of 10 trials.
- Randomly assign a stimulus number to each trial within a block.
- Change the random order each day.
- Not always necessary to include 10 stimuli for each program.
  - More repetition of stimuli to complete the 10 trial block

PEAK

151

Scoring the Trials

- Correct and incorrect responses are documented
- Incorrect responses are quantified in terms of prompting necessity.
- Allows for an evaluation of both response accuracy and prompting changes
- Reliance on a particular type of prompt can be detected

Response Scoring

0= No response after multiple attempts at prompts

2= Multiple prompts or reduced stimulus array eventually produced a response

4= Two prompts at most produced the response with full stimulus array

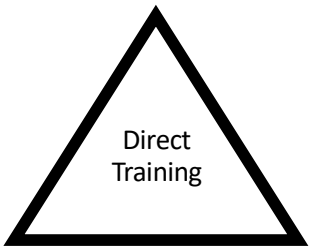
8= One single prompt of either verbal or visual nature

10= independent accuracy on response

PEAK

152

Direct Training Intervention



153

Program Instruction Sheet
Program Name: Public Accompaniment: Expressive- 14S

Goal:
- **When presented with a physical depiction of an emotion the participant will say what that person may be feeling.**

Materials Needed:
- Items or pictures of items that correspond to an emotion or a physical feeling

Instructions for Caregivers:
- Choose an emotion or physical feeling.
- Present a stimulus that commonly coincides with that feeling
- Ask, "What might I be feeling right now?"

Typical Stimuli:
- Thirsty: show water; Hungry: hold some food; Tired: take out a pillow; Pain: say 'ouch'; Sad: put fake tears on your eyes ; Happy: have someone give you a compliment in front of the participant; etc. NOTE: do not to act anything out, just present stimuli that often accompany emotion or feeling.

Stimulus:	Stimulus:	Stimulus:
1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

	Date Introduced	Date Mastered
Level 1		
Level 2		
Level 3		

0= no response after multiple attempts at prompts
2= multiple prompts or reduced stimulus array eventually produced a response
4= 2 prompts at most produced the response with full stimulus array
8= 1 single prompt of either verbal or visual nature
10= independent accuracy on response with no prompt

Direct Module Programs and Data Collection

- Each Program Sheet Has:
- Program Name
- Goal
- Materials Needed
- Instruction for Caregivers
- Typical Stimuli → Do not have to use these
- Three columns for stimuli in groups of 10
- Tracking of mastery
- Scoring code

154

DT – Data Collection

PEAK DIRECT TRAINING DATA SHEET

Participant Name: ____________________ Program Name: ____________________

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: ______ / 100

Date: ____ / ____ Initials: __________

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: ______ / 100

Date: ____ / ____ Initials: __________

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: ______ / 100

Date: ____ / ____ Initials: __________

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: ______ / 100

Date: ____ / ____ Initials: __________

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: ______ / 100

Date: ____ / ____ Initials: __________

Weekly Program Notes

PEAK

155

Program Instruction Sheet
Program Name: Intraverbal: Songs- 8G

Goal:
- **When presented with a familiar, incomplete song, the participant can finish it.**

Materials Needed:
- None

Instructions for Caregivers:
- Say, "What comes next?" and sing part of a song the participant knows, stopping in the middle of the song.

Typical Stimuli:
- Itsy Bitsy Spider, Twinkle Twinkle, Days of the Week, Ring Around the Rosie, etc.

8G Program Description

Stimulus:	Stimulus:	Stimulus:
1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

	Date Introduced	Date Mastered
Level 1		
Level 2		
Level 3		

0= no response after multiple attempts at prompts
2= multiple prompts or reduced stimulus array eventually produced a response
4= 2 prompts at most produced the response with full stimulus array
8= 1 single prompt of either verbal or visual nature
10= independent accuracy on response with no prompt

PEAK

156

8G Intraverbal Songs

Participant Name: _____

Trial Number	Stimulus Number	Response Score
1	3	0 2 4 8 10
2	1	0 2 4 8 10
3	4	0 2 4 8 10
4	2	0 2 4 8 10
5	1	0 2 4 8 10
6	2	0 2 4 8 10
7	3	0 2 4 8 10
8	4	0 2 4 8 10
9	2	0 2 4 8 10
10	1	0 2 4 8 10

Total Response Score: _____ / 100

Date: ____ / ____ Initials: _____

Response Scoring

0= No response after multiple attempts at prompts

2= Multiple prompts or reduced stimulus array eventually produced a response

4= Two prompts at most produced the response with full stimulus array

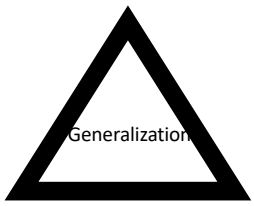
8= One single prompt of either verbal or visual nature

10= independent accuracy on response

PEAK

157

Generalization



PEAK

158

Starting a Program

Program Instruction Sheet
Program Name: Tact Plurals- 14Z

Goal: • When provided with pictures of singular or plural items, the participant will appropriately label the contents of the picture.
Materials Needed: • Pictures of familiar plural items and of singular items.
Instructions for Caregivers: • Place pictures of both singular and plural items on the table. Point to a picture of a singular or plural item and say, "What is this?"
Typical Stimuli: • Train: Dog(s), Cat(s), Fish. • Test: Use different pictures. Chicken(s), Goat(s), Fish(es).

Train:	Test:
Dogs – (1)	16 Dogs – (2)
Ducks (1)	17 Ducks (2)
Cows (1)	18 Cows (2)
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30

	Date Introduced	Date Mastered
Level 1		5/24/14
Level 2		

0= no response after multiple attempts at prompts
2= multiple prompts or reduced stimulus array eventually produced a response
4= 2 prompts at most produced the response with full stimulus array
8= 1 single prompt of either verbal or visual nature
10= independent accuracy on response with no prompt

PEAK

159

Dogs….

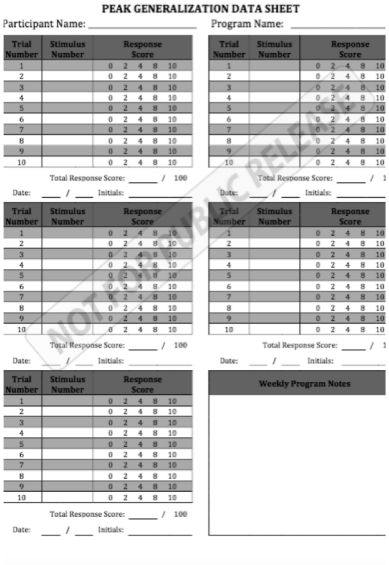
Dogs - Train

Dogs – Test???

PEAK

160

G Data Collection



PEAK GENERALIZATION DATA SHEET

Participant Name: _____ Program Name: _____

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 100

Date: ___ / ___ Initials: _____

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 1

Date: ___ / ___ Initials: _____

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 100

Date: ___ / ___ Initials: _____

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 1

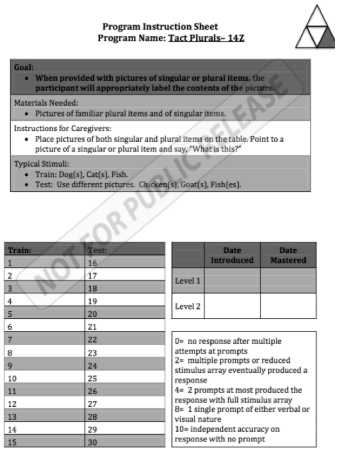
Date: ___ / ___ Initials: _____

Trial Number	Stimulus Number	Response Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10

Total Response Score: _____ / 100

Date: ___ / ___ Initials: _____

Weekly Program Notes



Program Instruction Sheet
Program Name: Tact Plurals– 14Z

Goal: • **When provided with pictures of singular or plural items, the participant will appropriately label the contents of the picture.**
Materials Needed: • Pictures of familiar plural items and of singular items.
Instructions for Caregivers: • Place pictures of both singular and plural items on the table. Point to a picture of a singular or plural item and say, "What is this?"
Typical Stimuli: • Train: Dog(s), Cat(s), Fish. • Test: Use different pictures. Chicken(s), Goat(s), Fish(es).

Train:	Test:
1	16
2	17
3	18
4	19
5	20
6	21
7	22
8	23
9	24
10	25
11	26
12	27
13	28
14	29
15	30

	Date Introduced	Date Mastered
Level 1		
Level 2		

0= no response after multiple attempts at prompts
2= multiple prompts or reduced stimulus array eventually produced a response
4= 2 prompts at most produced the response with full stimulus array
8= 1 single prompt of either verbal or visual nature
10= independent accuracy on response with no prompt

14Z Program Description

14Z Practice Data Collection

Participant Name: _____

Trial Number	Stimulus Number	Response Score
1	~~16~~	0 ~~2~~ ~~4~~ ~~8~~ 10
2	1	0 2 4 8 10
3	2	0 2 4 8 10
4	~~17~~	0 ~~2~~ ~~4~~ ~~8~~ 10
5	3	0 2 4 8 10
6	1	0 2 4 8 10
7	~~18~~	0 ~~2~~ ~~4~~ ~~8~~ 10
8	1	0 2 4 8 10
9	2	0 2 4 8 10
10	3	0 2 4 8 10

Total Response Score: _____ / 100

Response Scoring

0= No response after multiple attempts at prompts

2= Multiple prompts or reduced stimulus array eventually produced a response

4= Two prompts at most produced the response with full stimulus array

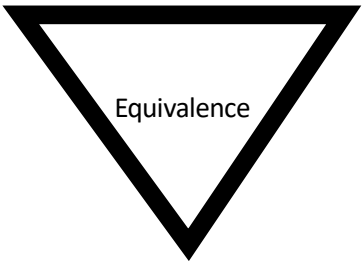
8= One single prompt of either verbal or visual nature

10= independent accuracy on response

PEAK

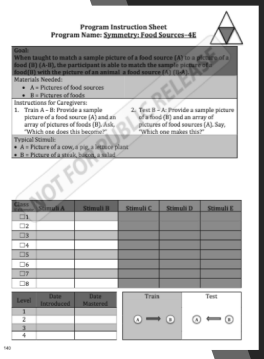
163

Equivalence



PEAK

164



Program Instruction Sheet
Program Name: Symmetry: Food Sources–4E

Goal:
When taught to match a sample picture of a food source (A) to a picture of a food (B) (A-B), the participant is able to match the sample picture (A) to the picture of an animal, a food source (C) (A-C).

Materials Needed:
- A = Pictures of food sources
- B = Pictures of foods

Instructions for Caregivers:
1. Train A – B: Provide a sample picture of a food source (A) and an array of pictures of foods (B). Ask, "Which one does this become?"
2. Test B – A: Provide a sample picture of a food (B) and an array of pictures of food sources (A). Say, "Which one makes this?"

Typical Stimuli:
- A = Picture of a cow, a pig, a lettuce plant
- B = Picture of a steak, bacon, a salad

Class	Stimuli A	Stimuli B	Stimuli C	Stimuli D	Stimuli E
☐1					
☐2					
☐3					
☐4					
☐5					
☐6					
☐7					
☐8					

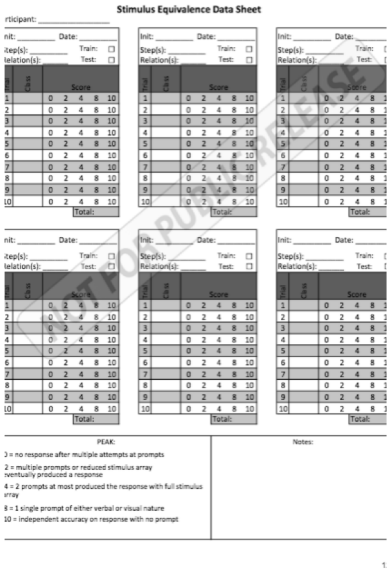
Level	Date Introduced	Date Mastered
1		
2		
3		
4		

Train	Test
A → B	A ← B

Equivalence Programs and Data Collection

- Each Program Sheet Has:
- Program Name → Relation being trained is in program name
- Goal → as the programs get more involved, it can be easier to read the "typical stimuli" to understand the program
- Materials Needed
- Instruction for Caregivers
- Typical Stimuli for train and test → Do not have to use these
- A table for tracking stimuli used for each class trained
- A table for tracking intro/mastery of the levels should this apply
- A graphic depicting the relations trained and tested

E DATA COLLECTION



Stimulus Equivalence Data Sheet

rticipant: _____

nit: _____ Date: _____
tep(s): _____ Train: ☐
elation(s): _____ Test: ☐

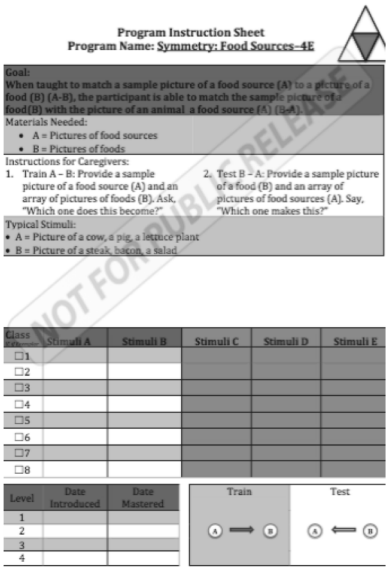
Trial	Class	Score
1		0 2 4 8 10
2		0 2 4 8 10
3		0 2 4 8 10
4		0 2 4 8 10
5		0 2 4 8 10
6		0 2 4 8 10
7		0 2 4 8 10
8		0 2 4 8 10
9		0 2 4 8 10
10		0 2 4 8 10
		Total:

PEAK:

0 = no response after multiple attempts at prompts
2 = multiple prompts or reduced stimulus array eventually produced a response
4 = 2 prompts at most produced the response with full stimulus array
8 = 1 single prompt of either verbal or visual nature
10 = independent accuracy on response with no prompt

Notes:

4E Materials Demo



Program Instruction Sheet
Program Name: Symmetry: Food Sources–4E

Goal:
When taught to match a sample picture of a food source (A) to a picture of a food (B) (A-B), the participant is able to match the sample picture of a food(B) with the picture of an animal a food source (A) (B-A).

Materials Needed:
- A = Pictures of food sources
- B = Pictures of foods

Instructions for Caregivers:
1. Train A – B: Provide a sample picture of a food source (A) and an array of pictures of foods (B). Ask, "Which one does this become?"
2. Test B – A: Provide a sample picture of a food (B) and an array of pictures of food sources (A). Say, "Which one makes this?"

Typical Stimuli:
- A = Picture of a cow, a pig, a lettuce plant
- B = Picture of a steak, bacon, a salad

Class	Stimuli A	Stimuli B	Stimuli C	Stimuli D	Stimuli E
☐1					
☐2					
☐3					
☐4					
☐5					
☐6					
☐7					
☐8					

Level	Date Introduced	Date Mastered
1		
2		
3		
4		

Train: A → B
Test: B → A

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4E Demonstration

Stimulus Equivalence Data Sheet

Participant: _____

Init: _____ Date: _____
Step(s): 1 Train: ●
Relation(s): A → B Test: ☐

Trial	Class	Score
1	4	0 2 4 8 10
2	3	0 2 4 8 10
3	2	0 2 4 8 10
4	1	0 2 4 8 10
5	4	0 2 4 8 10
6	2	0 2 4 8 10
7	1	0 2 4 8 10
8	3	0 2 4 8 10
9	3	0 2 4 8 10
10	2	0 2 4 8 10
		Total:

Init: _____ Date: _____
Step(s): 2 Train: ☐
Relation(s): B → A Test: ●

Trial	Class	Score
1	1	0 ~~2 4 8~~ 10
2	3	0 ~~2 4 8~~ 10
3	2	0 ~~2 4 8~~ 10
4	4	0 ~~2 4 8~~ 10
5	3	0 ~~2 4 8~~ 10
6	1	0 ~~2 4 8~~ 10
7	2	0 ~~2 4 8~~ 10
8	2	0 ~~2 4 8~~ 10
9	4	0 ~~2 4 8~~ 10
10	1	0 ~~2 4 8~~ 10
		Total:

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More examples

Feelings in Music

Spelling (copy text/dictation)

Playing Music

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Program Level and Mastery Criterion

	Level 1	Level 2	Level 3	Program Mastered	Lowest Number to Master
Direct Module	1-5 Training Stimuli	6-10 Training Stimuli	Relevant to Program (26 letters; 15 classmate names) and functional relevance for participant	Level 2 or 3	6 stimuli targets
Generalization Module	1-3 Training and 1-3 Testing Stimuli	5 Training and 5 Testing Stimuli	Relevant to Program and functional relevance to participant	Level 2 or 3	10 stimuli targets
Equivalence Module	2-4 Classes	5-8 Classes	Not required	Level 2	5 target classes
Transformation Module	2 Training and 2 Testing Classes	4 + Training Classes 4 + Testing Classes	not required	Level 2	4 classes trained 4 classes tested

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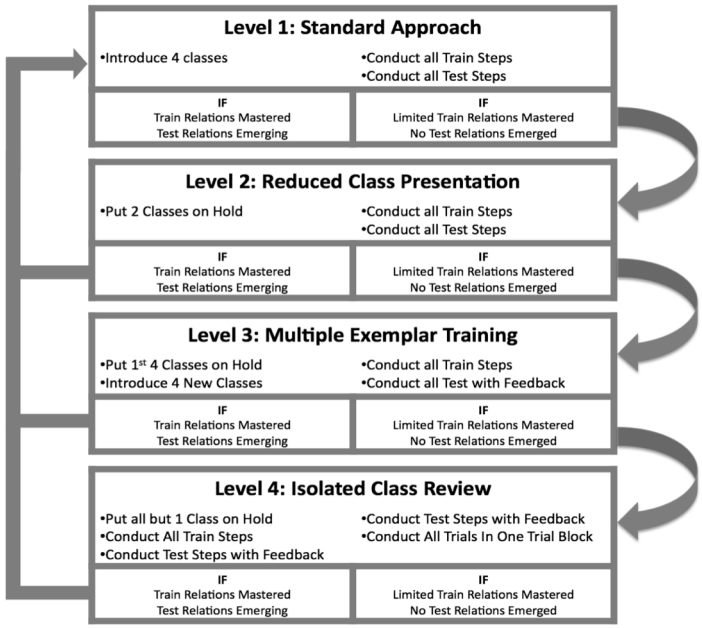

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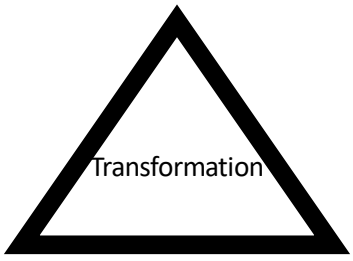
Transformation



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Transformation Programs and Data Collection

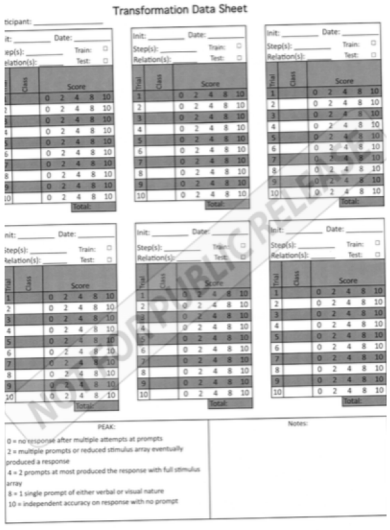
- Each Program Sheet Has:
- Program Level
- Program Name → Frame being trained is in program name
- Goal → as the programs get more involved, it can be easier to read the "Example class arrangement" to understand the program
- Materials Needed
- Instruction for Caregivers
- Example class arrangement
- A table for tracking stimuli used for each class trained

Program Instruction Sheet Level 1: Non-Arbitrary
Program Name: COM: Bigger and Smaller – 3A

Goal: When presented a bigger item and a smaller item (A), the participant will be taught to select the bigger or smaller item (B) (A-B). The participant will also demonstrate the skill (Z) with novel items (Y) (Y-Z).
Materials Needed: • A = A bigger picture or object and a smaller picture or object Y = A bigger picture or object and a smaller picture or object different from A
Instructions for Caregivers: 1. Train A-B: Provide a bigger item and a smaller item (A). Ask, "Which is [bigger/smaller]." Repeat with other comparison [bigger/smaller]. 2. Test Y-Z: Provide a bigger item and a smaller item (Y). Ask, "Which is [bigger/smaller]." Repeat with other comparison [bigger/smaller].
Example class arrangement: 1. A-B: Present a large ball and medium ball. Ask, "Which is bigger?" Ask also, "Which is smaller?" 2. Y-Z: Present a medium block and small block. Ask, "Which is smaller?" Ask also, "Which is bigger?"

Train Class # of Stimuli	Stimuli A	Stimuli B	Stimuli C	Test Class # of Stimuli	Stimuli X	Stimuli Y	Stimuli Z
EX	Large ball/ Medium ball	Large ball/ Medium ball		EX		Small Block/ Medium block	Small Block/ Medium block
☐1				☐1			
☐2				☐2			
☐3				☐3			
☐4				☐4			

T Data Collection



3A Material Sample

…item and a smaller item (A), the participant …ger or smaller item (B) (A-B). The participant …ll (Z) with novel items (Y) (Y-Z).	
…object and …object	Y = A bigger picture or object and a smaller picture or object different from A
…s: …a bigger item …n (A). Ask, …/smaller]." …er comparison …r].	2. Test Y-Z: Provide a bigger item and a smaller item (Y). Ask, "Which is [bigger/smaller]." Repeat with other comparison [bigger/smaller].
…gement: …a large ball and …. Ask, "Which is …k also, "Which is	2. Y-Z: Present a medium block and small block. Ask, "Which is smaller?" Ask also, "Which is bigger?"

…n …ss	Stimuli A	Stimuli B	Stimuli C	Test Class (If of Exemplar)	Stimuli X	Stimuli Y	Stimuli Z
…X	Large ball/ Medium ball	Large ball/ Medium ball		EX		Small Block/ Medium block	Small Block/ Medium block
☐1				☐1			
☐2				☐2			
☐3				☐3			
☐4				☐4			

PEAK

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Transformation Data Sheet

Participant: _____

Init: _____ Date: _____
Step(s): 1 Train: ●
Relation(s): A → B Test: ☐

Trial	Class	Score
1	1	0 2 4 8 10
2	2	0 2 4 8 10
3	3	0 2 4 8 10
4	4	0 2 4 8 10
5	1	0 2 4 8 10
6	2	0 2 4 8 10
7	3	0 2 4 8 10
8	4	0 2 4 8 10
9	2	0 2 4 8 10
10	4	0 2 4 8 10
		Total:

Init: _____ Date: _____
Step(s): 2 Train: ☐
Relation(s): Y → Z Test: ●

Trial	Class	Score
1	4	0 ~~2 4 8~~ 10
2	2	0 ~~2 4 8~~ 10
3	1	0 ~~2 4 8~~ 10
4	3	0 ~~2 4 8~~ 10
5	3	0 ~~2 4 8~~ 10
6	2	0 ~~2 4 8~~ 10
7	1	0 ~~2 4 8~~ 10
8	1	0 ~~2 4 8~~ 10
9	4	0 ~~2 4 8~~ 10
10	2	0 ~~2 4 8~~ 10
		Total:

3A Demonstration

For this video, score the responses based on your preference

Score the trial after BOTH bigger/smaller presented

PEAK

176

Program Instruction Sheet Level 1: Non-Arbitrary
Program Name: COM: Bigger and Smaller – 3A

Goal: When presented a bigger item and a smaller item (A), the participant will be taught to select the bigger or smaller item (B) (A-B). The participant will also demonstrate the skill (Z) with novel items (Y) (Y-Z).
Materials Needed: • A = A bigger picture or object and a smaller picture or object Y = A bigger picture or object and a smaller picture or object different from A
Instructions for Caregivers: 1. Train A-B: Provide a bigger item and a smaller item (A). Ask, "Which is [bigger/smaller]." Repeat with other comparison [bigger/smaller]. 2. Test Y-Z: Provide a bigger item and a smaller item (Y). Ask, "Which is [bigger/smaller]." Repeat with other comparison [bigger/smaller].
Example class arrangement: 1. A-B: Present a large ball and medium ball. Ask, "Which is bigger?" Ask also, "Which is smaller?" 2. Y-Z: Present a medium block and small block. Ask, "Which is smaller?" Ask also, "Which is bigger?"

Train Class	Stimuli A	Stimuli B	Stimuli C	Test Class	Stimuli X	Stimuli Y	Stimuli Z
EX	Large ball/ Medium ball	Large ball/ Medium ball		EX		Small Block/ Medium Block	Small Block/ Medium Block
☐1				☐1			
☐2				☐2			
☐3				☐3			
☐4				☐4			

3A Material Sample

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Transformation Data Sheet

Participant: _____

Init: _____ Date: _____
Step(s): 1 Train: ●
Relation(s): A → B Test: ☐

Trial	Class	Score
1	1	0 2 4 8 10
2	2	0 2 4 8 10
3	3	0 2 4 8 10
4	4	0 2 4 8 10
5	1	0 2 4 8 10
6	2	0 2 4 8 10
7	3	0 2 4 8 10
8	4	0 2 4 8 10
9	2	0 2 4 8 10
10	4	0 2 4 8 10
		Total:

Init: _____ Date: _____
Step(s): 2 Train: ☐
Relation(s): Y → Z Test: ●

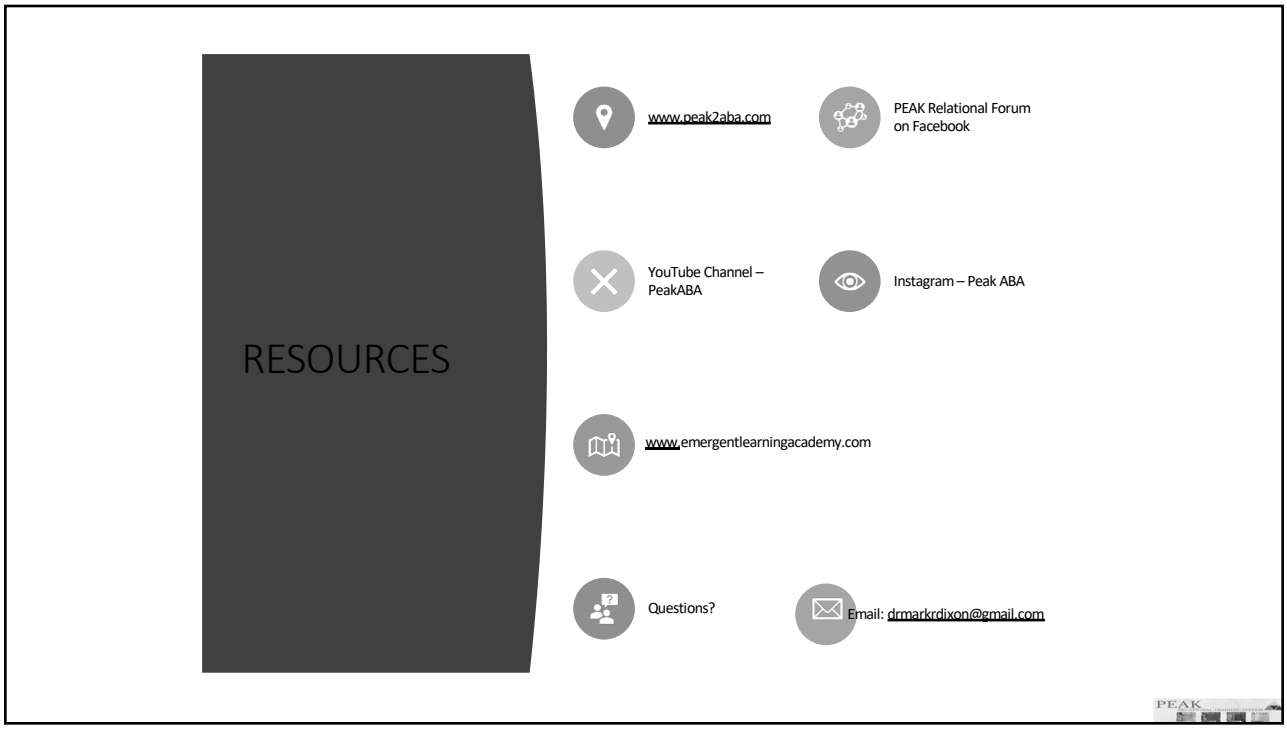
Trial	Class	Score
1	4	0 ~~2 4 8~~ 10
2	2	0 ~~2 4 8~~ 10
3	1	0 ~~2 4 8~~ 10
4	3	0 ~~2 4 8~~ 10
5	3	0 ~~2 4 8~~ 10
6	2	0 ~~2 4 8~~ 10
7	1	0 ~~2 4 8~~ 10
8	1	0 ~~2 4 8~~ 10
9	4	0 ~~2 4 8~~ 10
10	2	0 ~~2 4 8~~ 10
		Total:

3A Demonstration

For this video, score the responses based on your preference

Score the trial after BOTH bigger/smaller presented

178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