

Promoting the Emergence of Advanced Knowledge

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The Statistics

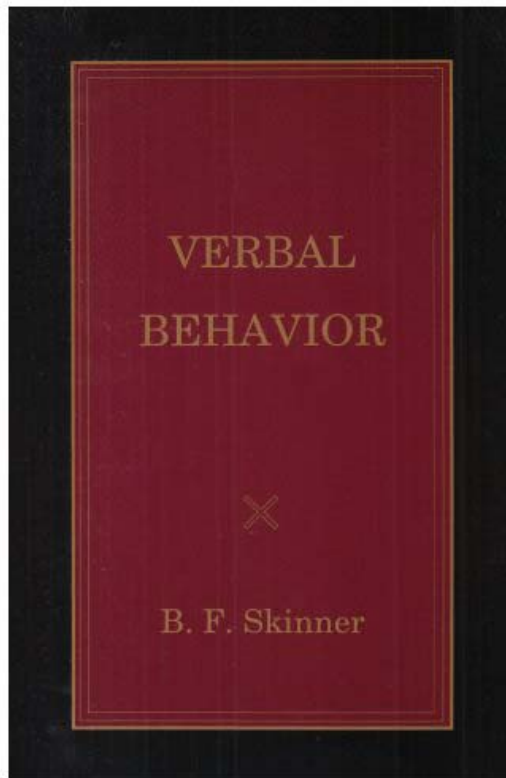
1 in 1 children are missing a language skill

Language...



“...surrounds us, penetrates us, and binds the world together”

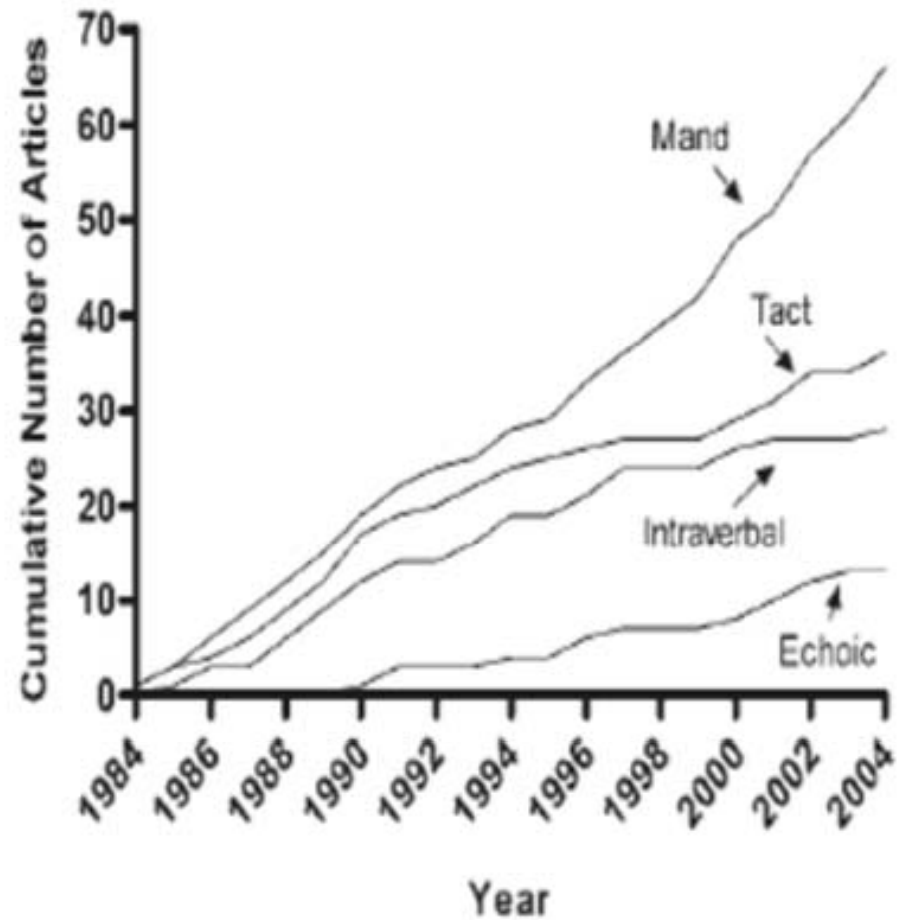
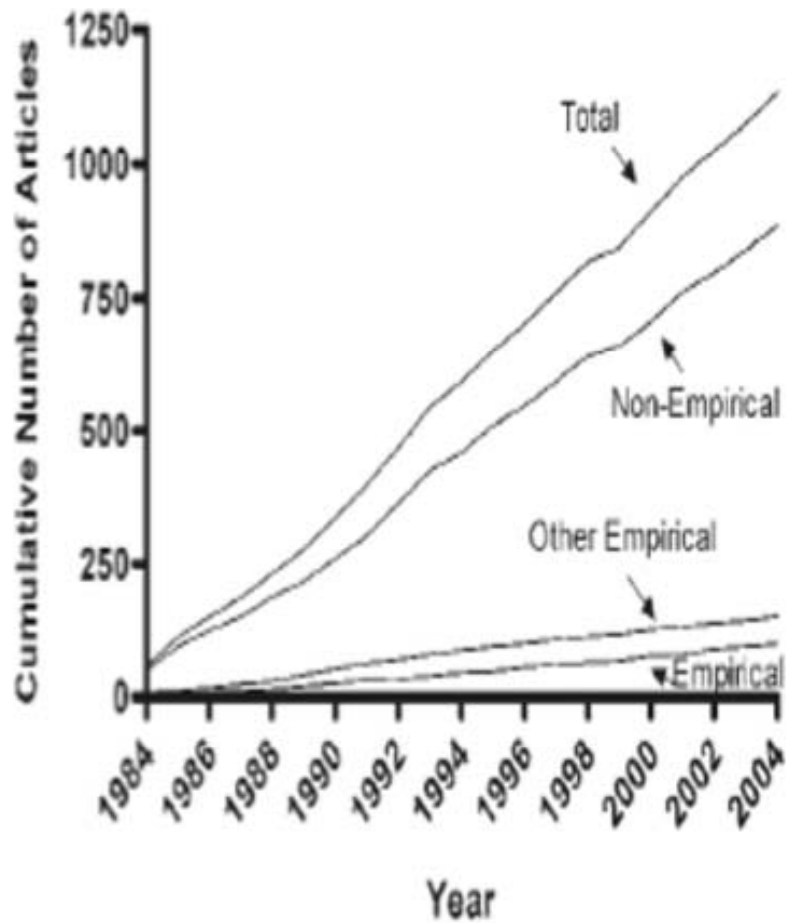
Skinner's Verbal Behavior



- 1957
- Proposed that verbal behavior was functional
- Involved the behavior of a speaker reinforced by a listener trained by the verbal community to respond
- Echoic, Mand, Tact, Intraverbal, etc.

Dixon, M. R., Small, S. L., & Rosales, R. (2007);
Dymond, S., O'Hora, D., Whelan, R., & O'Donovan, A. (2006).

Verbal Behavior Research



The Scottish Guy



The Pine Martin

- Has anyone
- They're bas
- Are they tric
- If you want
- What instru
- What woul
- Would you
- How is a Pin



get there?

n?

ke a banana?

Proud of our Past and Stuck in it too

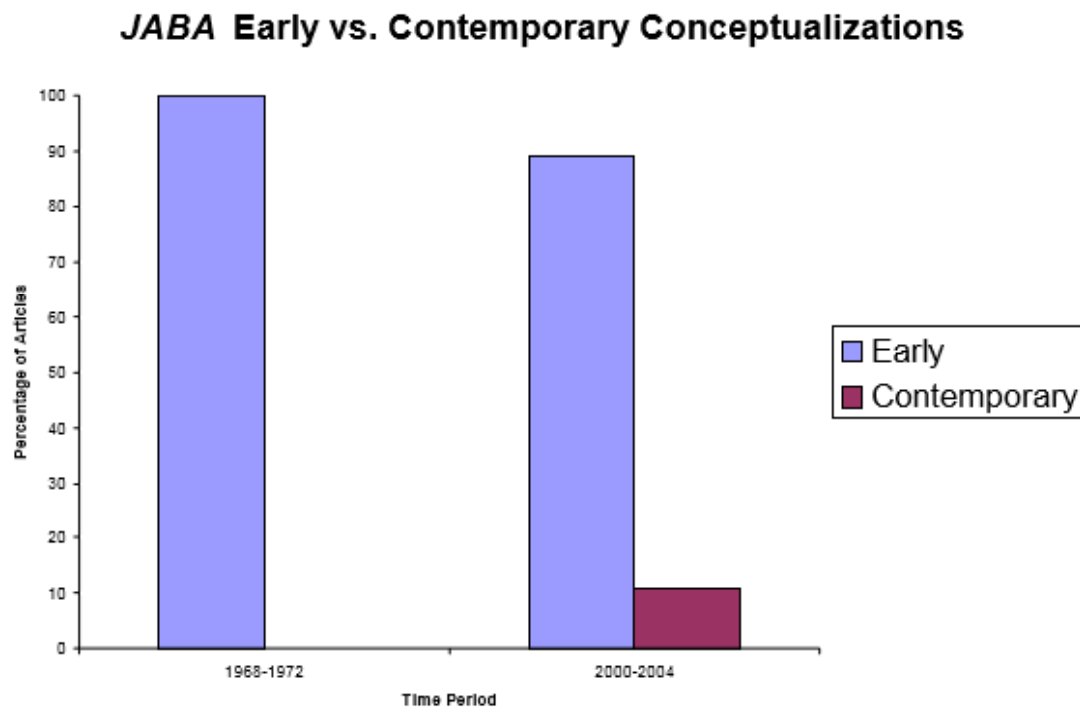


Figure 5. Data from the 1968-1972 and 2000-2004 five year periods for the percentage of articles studying and/or referring to contemporary conceptualizations in *JABA*.

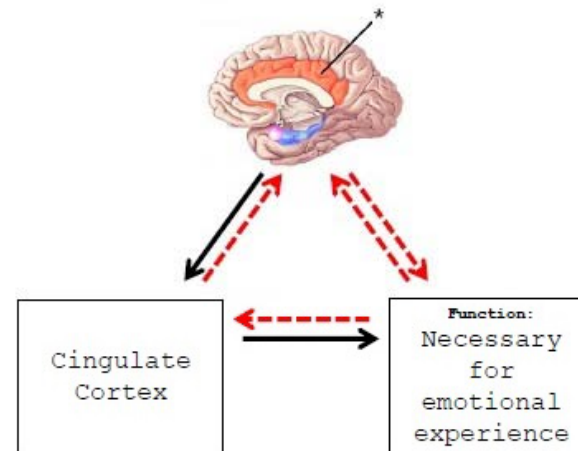
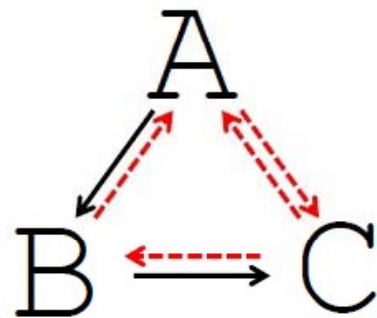
urred during the past 50

Table 1. *Examples of Early and Contemporary Conceptualizations in Behavior Theory*

Early Conceptualizations	Contemporary Conceptualizations
Reinforcement	Behavioral Momentum
Punishment	Behavioral Economics
Schedule Manipulations	Matching Law
Extinction	Establishing Operations
Classical Conditioning	Adjunctive Behavior
Avoidance	Self-Control
Verbal Behavior (i.e., Skinner's Analysis)	Stimulus Equivalence
Shaping	Relational Frame Theory

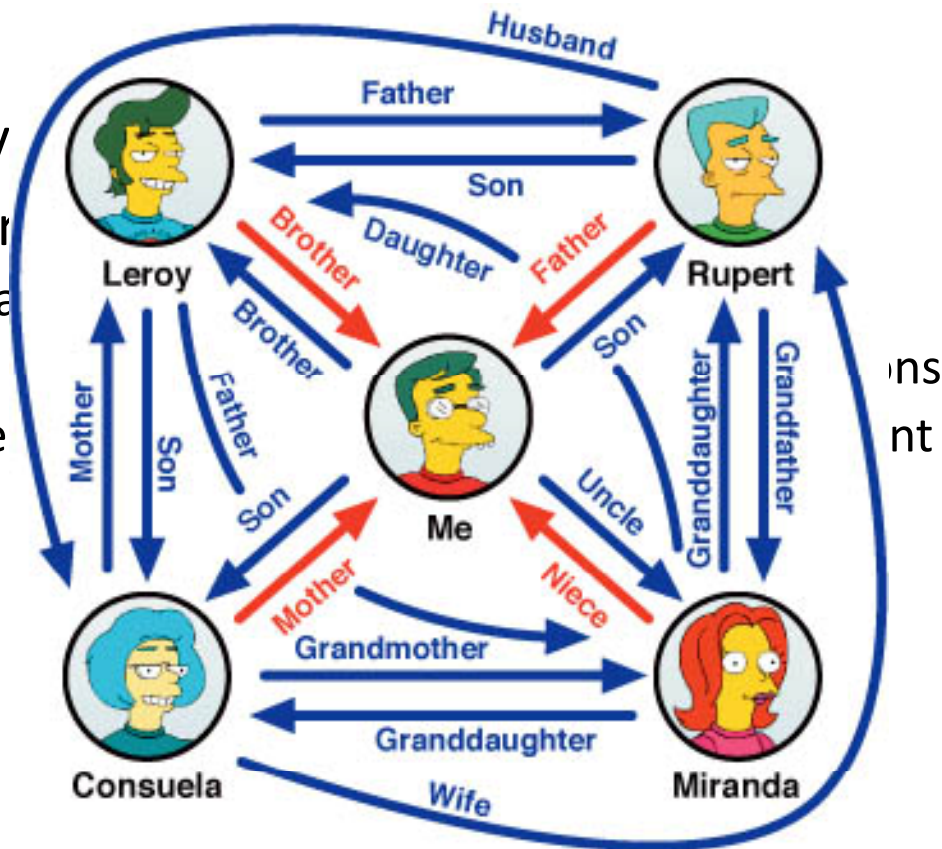
Since *Verbal Behavior*

- Sidman (early 1970s)
- Stimulus Equivalence
 - Discovered learned responses in the absence of direct training
 - Provided the basis to understanding how meaning or function can transfer across stimuli without direct contingencies

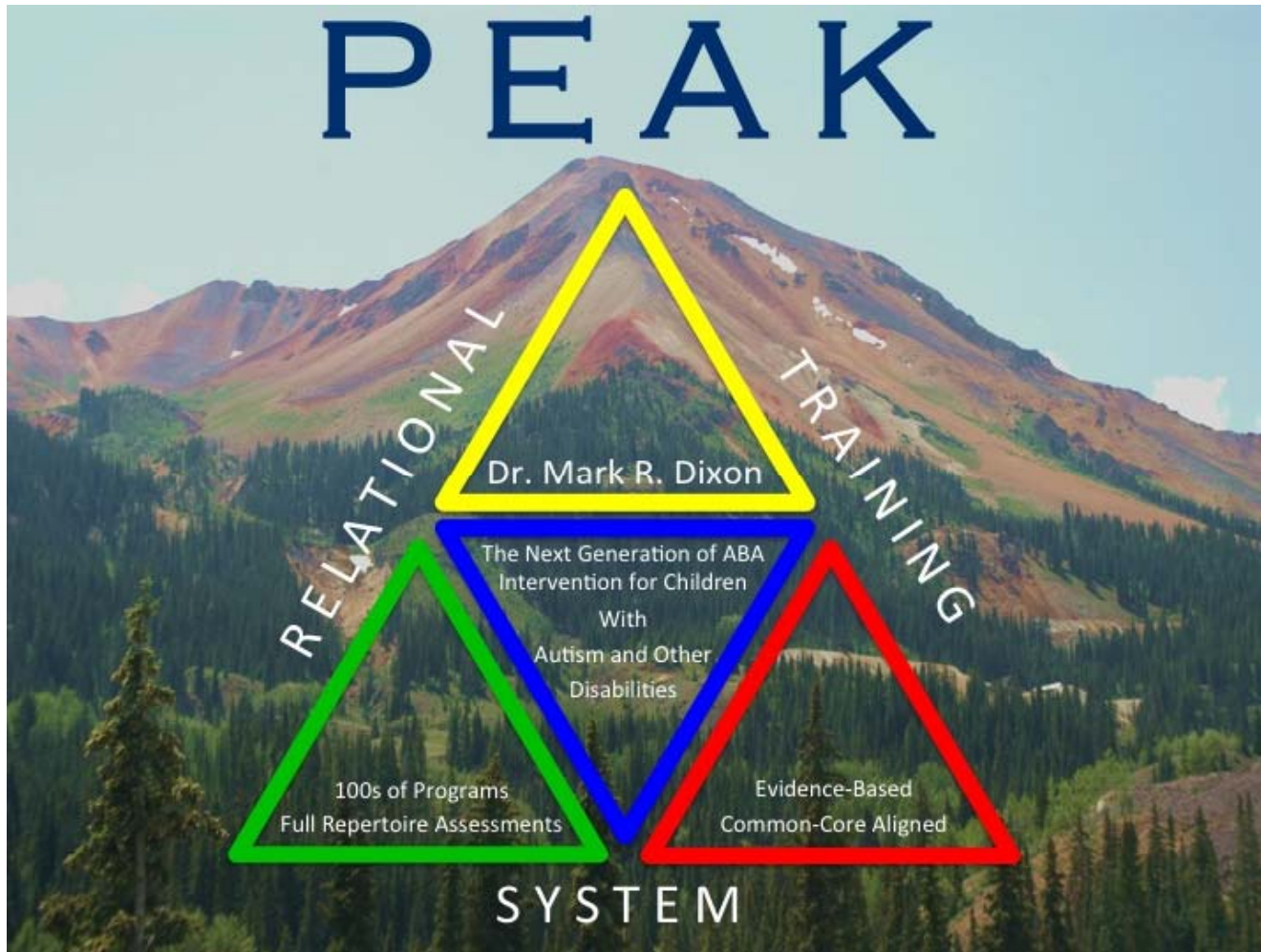


Since *Verbal Behavior*

- Hayes (early)
- Relational Fr
 - Not all rela
 - Expanded
 - Derived re



PEAK



PEAK Relational Training System

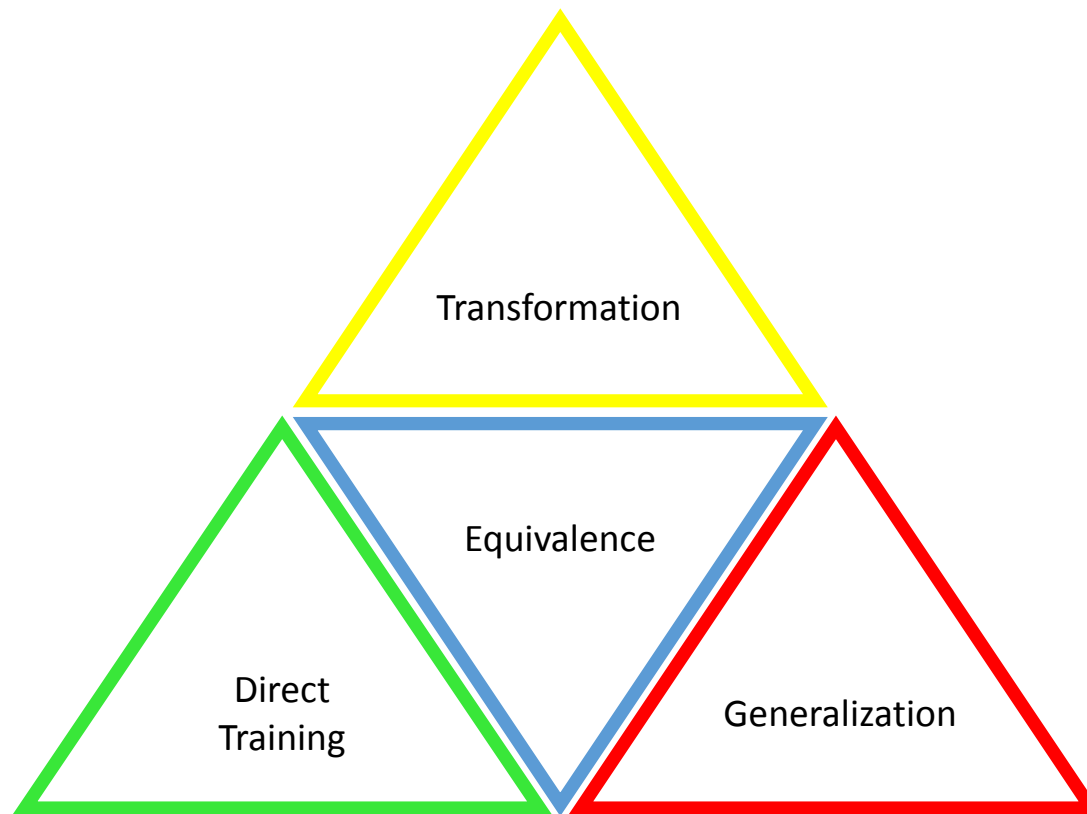
- Developed over the past 7 years in response to insufficient or underdeveloped ABA treatment protocols for children with autism
- Prior resources were too simplistic, conceptually limited, and difficult to follow
- Field tested in over 30 schools with more than 300 students with autism

PEAK Relational Training System

- An assessment and curriculum guide for individuals with and without disabilities to promote the emergence of language
- The PEAK assessment provides clinicians and researchers with a tool to pinpoint skills that are absent in a learner's repertoire
- The PEAK curriculum provides clinicians and researchers with a way to teach the identified skills

PEAK Relational Training System

- PEAK is divided into four modules based on four known learning modalities



The Assessment



The Assessment

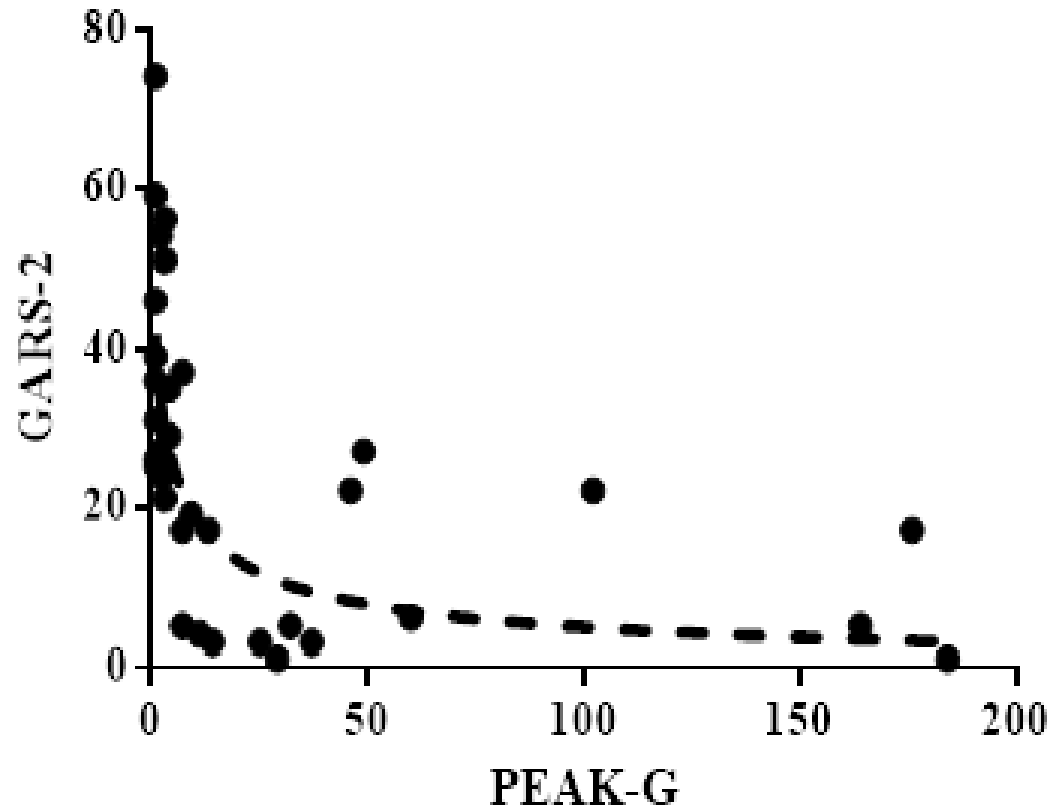
- The assessment for each module is comprised of 184 skills
- The skills range from prerequisite learning skills to complex language skills and transformations
- The assessment can be completed through self-report and/or direct observation and testing
 - Dixon, Whiting, Daar (2014)
- The time required to complete the assessment ranges from 10-minutes to 2-hours, depending on the functioning level of the learner and the experience of the assessor
 - Dixon, Belisle, Whiting, & Rowsey (2014)

Table 3

The PEAK direct assessment items that were completed by >80% of the members in each age group.

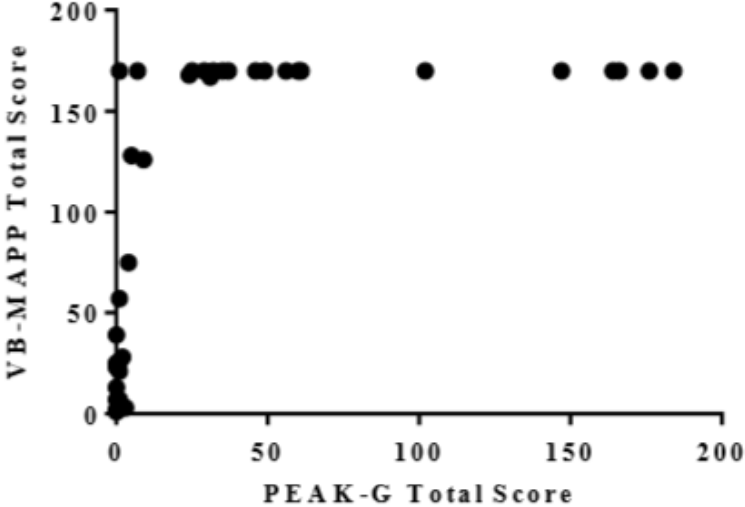
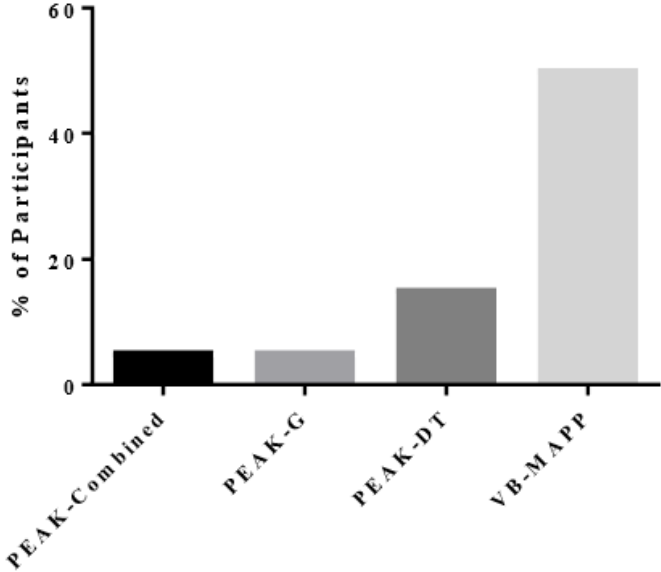
Age group														
1-2	3-4		5-6					7-8			9-10			
1A	1B	5D	7K	9C	13G	6C	9H	11G	12M	13M	14V	9E	14A	10H
2B	2A	5E	8A	9D	13Q	6D	9I	11H	12Q	13N	14W	9N	14B	10L
	3A	5F	8B	9J	13R	6G	9O	11J	12R	13O	14X	10B	14C	10R
	3B	5G	8C	9K	13T	6H	9P	11K	12S	13S		10F	14D	11B
	3C	5H	8D	9L	13X	6I	10A	11L	12T	13U		10Q	14F	11D
	3D	6A	8E	9M		6J	10G	11P	13A	13V		11I	14K	11M
	4A	6B	8F	10C		7G	10I	11Q	13B	13W		11T	14L	11O
	4B	6E	8I	10D		7H	10J	11R	13C	14E		12H	14O	12B
	4C	6F	8J	10E		7I	10K	11S	13E	14G		12I	14Q	12V
	4D	7A	8K	10M		7J	10N	12C	13F	14H		12J	14R	14N
	4E	7B	8L	10O		7L	10P	12D	13H	14I		12K	14T	14P
	4F	7C	8M	11N		8G	11A	12E	13I	14J		12N	14Y	14Z
	5A	7D	8N	12A		8H	11C	12F	13J	14M		12O		
	5B	7E	9A	12P		9F	11E	12G	13K	14S		12U		
	5C	7F	9B	13D		9G	11F	12L	13L	14U		13P		

that PEAK affords clinicians.



Evaluating the
convergent validity
of PEAK-DT, PEAK-
G, and autism
severity

Dixon, Belisle, Rowsey, Stanley, & Daar (2014)



PEAK Curriculum

- Collection of programs designed to teach language and skills based on behavior analytic technology
- Programs are designed to address skill deficits identified in the PEAK assessment
- Can be evaluated using single subject methods or group design methods

Program Instruction Sheet
Program Name: Mand for Item from Peer- 13U



Goal:

- **When a preferred item is being used by a peer, the participant will request to share the item.**

Materials Needed:

- Highly preferred items such as toys, candy, or other small pieces of food; Peer of the participant

Instructions for Caregivers:

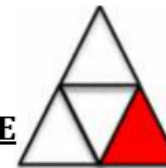
- Show the item. Give the item to the participant's peer.
- Prompt the participant to ask, "Could you share that with me?"
- If needed, prompt the peer to provide the item following a correct response.

Typical Stimuli:

- Candy, toys, items needed for preferred activities, etc.

Stimulus:	Stimulus:	Stimulus:
1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26

Program Instruction Sheet
Program Name: Advanced Gross Motor Skills: Basketball- 4E



<p>Goal:</p> <ul style="list-style-type: none"> • When told to throw a ball in a hoop or basket from a variety of distances or angles, the participant will do so successfully.
<p>Materials Needed:</p> <ul style="list-style-type: none"> • Ball and hoop target (box, garbage can, or similar)
<p>Instructions for Caregivers:</p> <ul style="list-style-type: none"> • Set the target in front of the participant. Have the child toss a ball into it. Move the target closer, further, and at different angles.
<p>Typical Stimuli:</p> <ul style="list-style-type: none"> • Train: Ball and Bucket, trash can, large container. Move the target further back. • Test: Use different items to toss and further or more indirect shots. Move the target back and forth while the participant is aiming.

Train:	Test:
1	16
2	17
3	18
4	19
5	20

	Date Introduced	Date Mastered
Level 1		
Level 2		

Program Instruction Sheet
Program Name: Symmetry: Tactile to Picture- 4D



<p>Goal: When taught to select a picture when presented with a tactile stimulus, the learner will be able to select the tactile stimulus when presented with a picture.</p>			
<p>Materials Needed:</p> <ul style="list-style-type: none"> • A = Tactile stimuli • B = Pictures of the objects that have the same (A) tactile feel 			
<p>Instructions for Caregivers:</p> <table border="0"> <tr> <td style="vertical-align: top;"> <p>1. Train A – B: Ask the learner to feel a (A) tactile stimulus with their eyes closed. Then remove the stimulus, have the learner open their eyes, and present an array of (B) pictures. Say, “Find the same.”</p> </td> <td style="vertical-align: top;"> <p>2. Test B – A: Present a sample (B) picture. Then ask the learner to feel a series of (A) tactile stimuli with their eyes closed and say, “Is this the same?”</p> </td> </tr> </table>		<p>1. Train A – B: Ask the learner to feel a (A) tactile stimulus with their eyes closed. Then remove the stimulus, have the learner open their eyes, and present an array of (B) pictures. Say, “Find the same.”</p>	<p>2. Test B – A: Present a sample (B) picture. Then ask the learner to feel a series of (A) tactile stimuli with their eyes closed and say, “Is this the same?”</p>
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<p>Typical Stimuli:</p> <ul style="list-style-type: none"> • A = Stuffed animal, eraser, pine cone • B = Picture of a stuffed animal, eraser, pine cone 			

Class	Stimuli A	Stimuli B	Stimuli C	Stimuli D	Stimuli E
1					
2					
3					
4					

Program Instruction Sheet
Program Name: Perspective Taking: You and I Reversal- 12B



Goal:
When shown that paper that has different images on each side, the learner will be able to state who sees what when told to reverse perspectives.

Materials Needed:

- A, B = Paper with an image (A) on one side and another image (B) on the other side
- C, D = Paper with an image (C) on one side and another image (D) on the other side

Instructions for Caregivers:

1. Train A – B: Show both the paper, (A) and (B). Hold the paper with (A) facing the learner. Say, “If I were you and you were me, what do you see?” where (B) is correct.
2. Train B – A: Repeat step 1, but ask, “If I were you and you were me, what do I see?” where (A) is correct
3. Test C – D: Hold up the paper with side (C) facing the learner. Ask, “If I were you and you were me, what do I see?” where (C) is correct.
4. Test D-C: Repeat step 3, but ask, “If I were you and you were me, what do you see?” where (D) is correct.






Typical Stimuli:

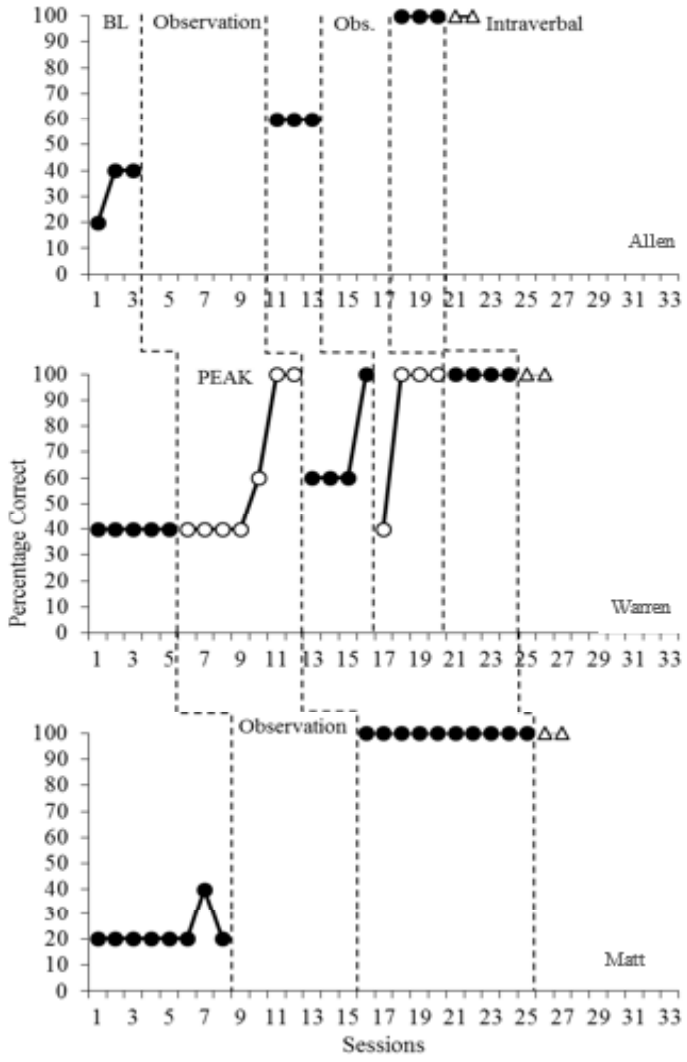
- A, D = Dog, house, plane
- B, C = Humming bird, cat, bicycle

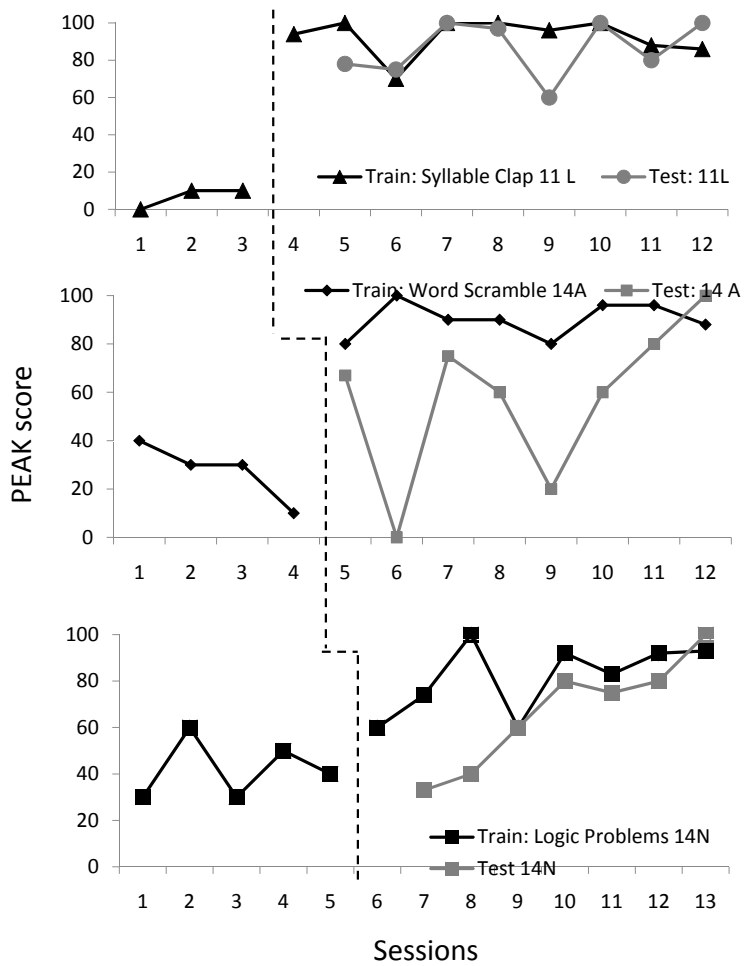
Class	Stimuli A	Stimuli B	Stimuli C	Stimuli D	Stimuli E	Stimuli F
1						
2						
3						
4						

The use of PEAK-DT to teach metaphorical emotional responding to a group of children

Table 1. Stimuli used in the baseline and training phases.

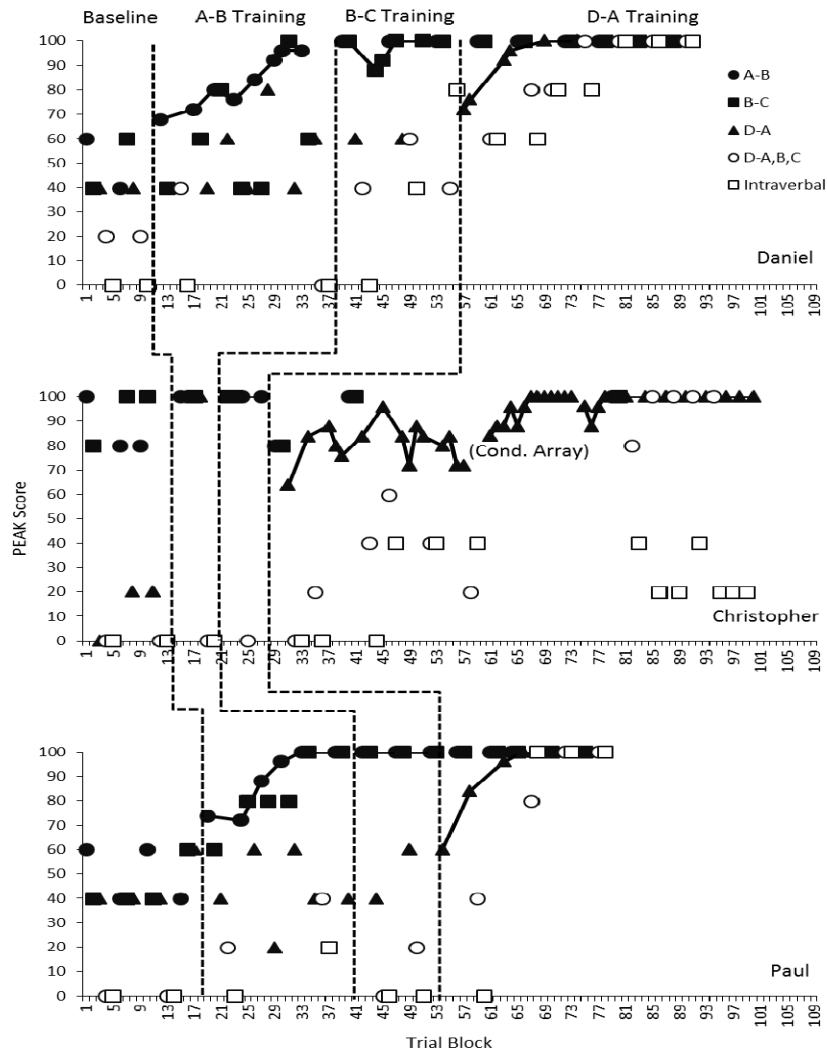
Discriminative Stimulus (X)	Metaphorical Picture (Y)
"Lonely"	
"Stomach Sick"	
"Nervous"	
"Excited"	
"Scared"	



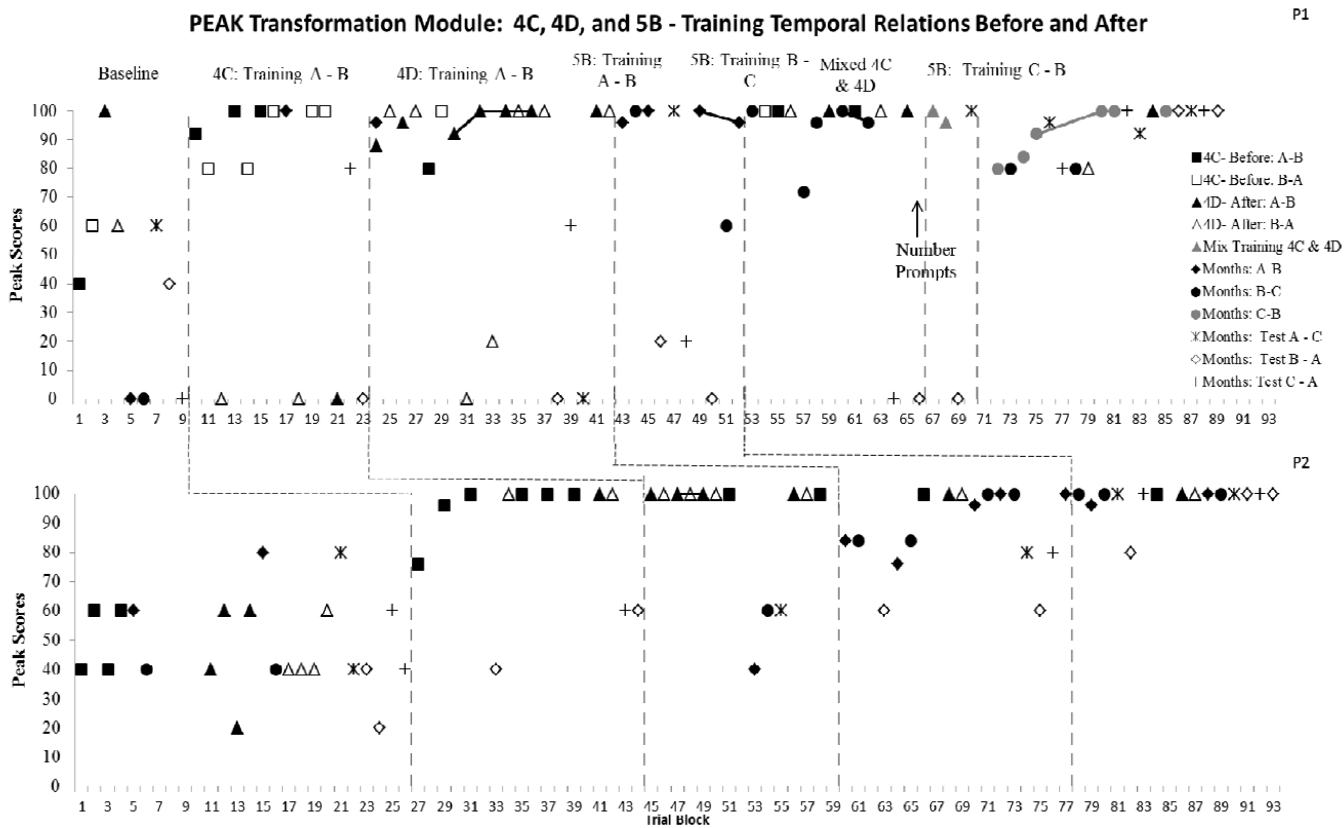


The use of PEAK-G to teach complex verbal behaviors to a child with autism

The effectiveness of PEAK in training categorization of stimuli under a lag schedule of reinforcement



Stimulus	A	B	C	D
1	Red	Blue	Green	Color
2	L	R	S	Letter
3	Triangle	Square	Circle	Shape



• Teaching Temporal Relational Responding to Children with Autism

- 1. Baseline
- 2. Teaching "Before"
- 3. Teaching "After"
- 4. Teaching order of the months

Where do we go from here?

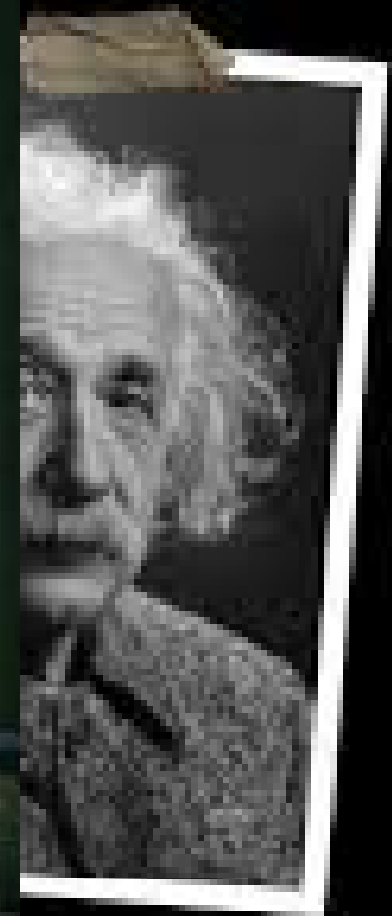
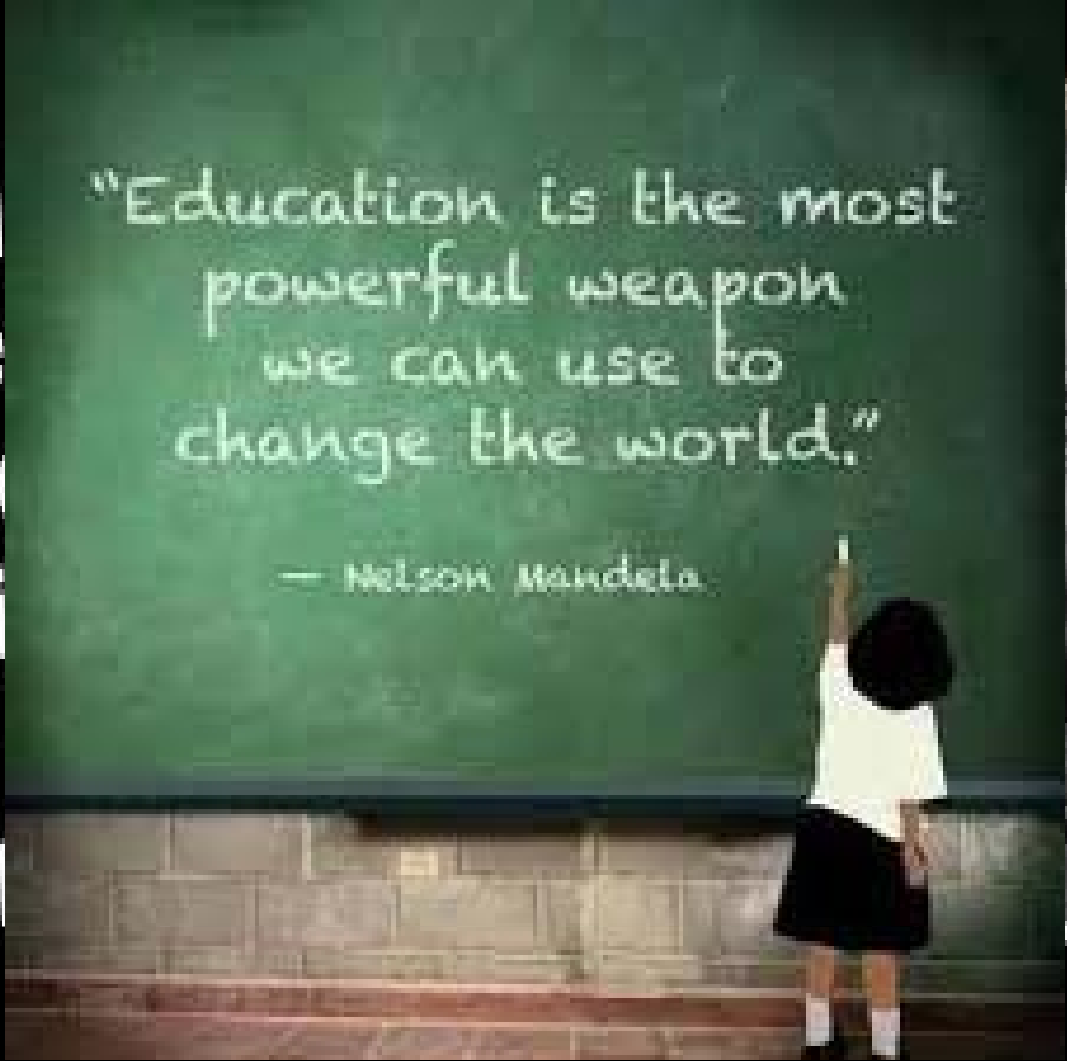
- Continue to develop an understanding of the psychometric properties of the PEAK assessment
- Evaluate the effectiveness of the curricular programs, and effective manipulations to the programs at the clinical level
- Disseminate the technology

"Edu
the
fa
traini

-A

"Education is the most
powerful weapon
we can use to
change the world."

- Nelson Mandela



Thank you.