

# What Constitutes a Behavioral Approach to Autism Treatment?

Mark L. Sundberg, Ph.D., BCBA-D

# Introduction

- These are exciting times for behavior analysis
- Our field is more accepted and appreciated than ever
- Conferences, workshops, college and internet courses
- Strong research base and robust current output
- BCBAAs & BCaBAAs (20,000)
- BACB approved training programs (284)
- Positive press
- ABAI is growing at a steady rate
- The “autism effect” (Catherine Maurice, 1993)

# Introduction

- Good News-Bad News
- Everybody now does ABA.....if necessary
- Health insurance money
- Private in-home companies
- Private schools
- Public schools
- Widespread dissemination of behavioral techniques, often by unqualified people
- Simplifying the concepts and procedures beyond usefulness
- Parallels to B-Mod in education in the 60s and early 70s

# Introduction

- What is applied behavior analysis?
- How can consumers, funding agencies, schools, etc. know if they really have an ABA program?
- Main goal of this presentation is to suggest a way of assessing the level of a program's adherence to the principles and procedures that make up ABA
- BACB "Guidelines" for Health Care Coverage document (2012)
- Baer, Wolf, & Risley (1968), "Some current dimensions of applied behavior analysis"

# BACB's Guidelines for ABA

- “This document provides clinical guidelines and other information about ABA as a treatment for ASD” (p. 3)
- “written primarily for insurers and health plans” (p. 3)
- “ABA is the design, implementation, and evaluation of environmental modifications to produce socially significant improvement in human behavior” (p. 4)
- “Health plans and insurers must be able to recognize bona fide ABA treatment” (p. 10)

# BACB's Guidelines for ABA

- Three general characteristics (p. 10)
- “An objective **analysis** of the client's condition by observing how the environment affects the client's behavior as evidenced through appropriate **data collection**”
- “Importance given to the context of the behavior and the **behavior's value** to the individual and the community”
- “Utilization of the **principles and procedures** of behavior analysis such that the client's health, independence, and quality of life are improved”

# BACB's Guidelines for ABA

- “Ten essential practice elements of ABA” (p. 11)
- 1) Obtain specific levels of **baseline**
- 2) Establishing **small units** of behavior (task analysis)
- 3) Direct observational **data**
- 4) Understanding the current **function** of target behaviors
- 5) **Manage the treatment** environments

# BACB's Guidelines for ABA

- 6) Detailed behavior analytic **treatment plan**
- 7) Ongoing **adjustment** to the treatment plan
- 8) Frequent and **consistent implementation** of the treatment protocol
- 9) **Support and training** to family and staff
- 10) **Supervision** and management by a behavior analyst



# “Some Current Dimensions of Applied Behavior Analysis”

(Baer, Wolf, & Risley, 1968)

- 1) **Applied:** “How immediately important is this behavior or these stimuli to this [child]?”
- 2) **Behavioral:** “Thoroughly reliable quantification of behavior”
- 3) **Analytic:** “An experimenter has achieved an analysis of a behavior when he can exercise control over it”
- 4) **Technological:** “Procedures can be described and can be replicated”
- 5) **Conceptual systems:** “Procedures are not only precisely technological, but also strive for relevance to principle”

# “Some Current Dimensions of Applied Behavior Analysis”

(Baer, Wolf, & Risley, 1968)

- 6) **Effective:** “The application...produce(s) large enough effects for practical value”
- 7) **Generality:** “Generalization should be programmed rather than expected or lamented”

# ABA Program Evaluation

- An assessment tool will be presented that was designed to evaluate a program's adherence to the guidelines suggested by the BACB, and Baer, Wolf, & Risley (1968)
- Framed by Baer et al.'s 7 dimensions of Applied Behavior Analysis
- Two levels of the tool will be presented: 1) a quick assessment, 2) a detailed assessment; followed by some data

# **Applied:** “How immediately important is this behavior or these stimuli to this child?”

- “Socially significant behavior” (BACB Guidelines, Baer et al., 1968; Cooper et al., 2007; Wolf, 1978)
- Assessment (standardized assessment is insufficient)
- (see Esch, LaLonde, & Esch, 2010; Spradlin, 1963)
- Language and social skills (criterion referenced tool)
- (VB-MAPP, Rethink Autism, New England Center)
- Academic, play, and functional skills
- Barriers to learning, language, and social skills (VB-MAPP)
- Problem behaviors (FBA)

# Applied: Quick Assessment

- Likert scale (0-3, None, Poor, Fair, Good); 30 items total
- Skills assessments completed: language, social, academic, play, functional skills, etc.
- Behavioral deficits assessments completed: barriers, FBAs
- IEP goals appropriate and consistent with assessments
- Daily curriculum in place and consistent with assessments and IEP goals
- Behavior intervention program consistent with the FBA
- Structured and intensive ABA style teaching sessions in place

# Applied: Quick Assessment

1) <b>Applied:</b> Socially significant behaviors	None	Poor	Fair	Good
	0	1	2	3
Skill assessments completed: language, social, academic, play, functional skills, etc.				
Behavioral deficits assessments completed: barriers, FBAs				
IEP goals appropriate and consistent with assessments				
Daily curriculum is consistent with assessment and IEP goals				
Behavior intervention program consistent with FBA assessment				
Structured and intensive ABA style teaching sessions in place				

# Applied: Detailed Assessment

- A more detailed assessment (Part 2) contains approximately 70 items
- Eleven additional applied items are assessed in Part 2, some are:
  - Behavior intervention programs implemented correctly
  - Skill development intervention programs implemented correctly
  - Daily structured classroom schedule in place
  - Staff monitoring system in place
  - Augmentative communication used and correctly implemented if necessary
  - Natural environment teaching sessions in place

# Behavioral: “Thoroughly reliable quantification of behavior”

- Data collection system in place
- Targets are based on the results of the assessments
- Targets are definable, observable, and measurable
- Uses appropriate measurement procedure for each target
- ABC recording system in place for problem behaviors
- Binder system in place



# Behavioral: Quick Assessment

2) <b>Behavioral:</b> Data system	None	Poor	Fair	Good
	0	1	2	3
Data collection system in place				
Targets are based on the assessment results				
Targets are definable, observable, and measurable				
Uses appropriate measurement procedure for each target				
ABC recording system in place for problem behaviors				
Binder system in place				

# **Behavioral: “Thoroughly reliable quantification of behavior”**

- Fourteen additional items are assessed in Part 2, some of them are:
- Data system is guiding the intervention program
- Targets, IEP, and data system match
- Skill acquisition data recorded within teaching sessions
- Data review system in place
- Measurement system in place for natural environment
- Data are graphed when appropriate
- Staff demonstrate the ability to read and act on data

**Analytic:** “An experimenter has achieved an analysis of a behavior when he can exercise control over it”

- “The ultimate aim is the prediction and control of verbal behavior” (Skinner, 1957, p. 12)
- Demonstrates prediction and control of skills and problem behaviors
- Demonstrates that skill acquisition is a function of the teaching procedures and intervention program
- The sources of control for barriers that impair language, social, and learning skills are identified and ameliorated

# Analytic: Quick Assessment

3) <b>Analytic:</b> Prediction and control	None	Poor	Fair	Good
	0	1	2	3
Demonstrates prediction and control of skills and problem behaviors				
Demonstrates that skill acquisition is a function of the teaching procedures and intervention program				
The sources of control for barriers that impair language, social, and learning skills are identified and ameliorated				

**Analytic:** “An experimenter has achieved an analysis of a behavior when he can exercise control over it”

- Four additional items are assessed in Part 2, they are:
- Demonstrates behavior change with designs (e.g., reversal, multiple baseline)
- Demonstrates reliability
- Demonstrates fidelity
- Demonstrates replication

# Technological: “Procedures can be described and can be replicated”

- Staff demonstrate correct use of basic ABA methodology
- Reinforcers identified and delivered effectively
- Staff have established clear instructional control
- Discrete trial structured teaching (DTT/EIBI) format used
- Natural environment teaching (NET) format used
- Negative behavior appropriately prevented and/or consequated

# Technological: Quick Assessment

4) <b>Technological: Standard behavioral procedures are used</b>	None	Poor	Fair	Good
	0	1	2	3
Staff demonstrate correct use of basic ABA methodology				
Reinforcers identified and delivered effectively				
Staff have established clear instructional control				
Discrete trial structured teaching (DTT/EIBI) format used				
Natural environment teaching (NET) format used				
Negative behavior appropriately prevented and/or consequted				

# Technological: “Procedures can be described and can be replicated”

- Thirty-two additional items are assessed in Part 2, some of them are:
  - Effective use of prompting procedures and a prompt hierarchy
  - Effective use of shaping procedures
  - Effective use of stimulus discrimination training ( $S^D/S$ -Delta)
  - Effective use of behavioral momentum procedures
  - Effective use of token economies
  - Effective use of mand training procedures
  - BCBA/BCaBA supervise program and systematically review progress



# Conceptual Systems: “Procedures are not only precisely technological, but also strive for relevance to principle”

- Staff can identify the relevant concepts and principles that underlie teaching procedures
- Staff use the concepts and principles of behavior analysis to guide the intervention
- Staff use behavioral terminology

# Conceptual Systems: Quick Assessment

5) <b>Conceptual systems:</b> Procedures are relevant to principles	None	Poor	Fair	Good
	0	1	2	3
Staff can identify the relevant concepts and principles that underlie teaching procedures				
Staff use the concepts and principles of behavior analysis to guide the intervention				
Staff use behavioral terminology				

# Conceptual Systems: “Procedures are not only precisely technological, but also strive for relevance to principle”

- One additional item is assessed in Part 2:
- Staff generate intervention procedures for new specific skills, or problem behaviors based on the principles

**Effective:** “The application...produce(s) large enough effects for practical value”

- The students are acquiring appropriate and meaningful skills
- Negative behavior is significantly decreasing
- IEP benchmarks and goals are consistently being met

# Effective: Quick Assessment

6) <b>Effective:</b> Effects have sizeable practical value	None	Poor	Fair	Good
	0	1	2	3
The students are acquiring appropriate and meaningful skills				
Negative behavior is significantly decreasing				
IEP benchmarks and goals are consistently being met				

**Effective:** “The application...produce(s)  
large enough effects for practical value”

- One additional item is assessed in Part 2:
- Valuable and measurable yearly progress is demonstrated (outcome data)

# Generality: “Generalization should be programmed rather than expected or lamented”

- Daily programming for generalization occurs (different settings, people, time, materials, etc.)
- Systematic stimulus and response generalization after acquisition is in place
- Parent training program in place

# Generality: Quick Assessment

7) <b>Generality:</b> The skills are durable and generalize	None	Poor	Fair	Good
	0	1	2	3
Daily programming for generalization occurs (different settings, people, time, materials, etc.)				
Systematic stimulus and response generalization after acquisition is in place				
Parent training program in place				



# Generality: “Generalization should be programmed rather than expected or lamented”

- Four additional items are assessed in Part 2, They are”
- Systematic natural environment generalization occurs
- Parent training program in place
- Parent classroom observation system
- Parent and family homework activities

## ABA Program Evaluation Form: Quick Assessment

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1) <b>Applied:</b> Socially significant behaviors	None	Poor	Fair	Good
	0	1	2	3
Skill assessments completed: language, social, academic, play, functional skills, etc.				
Behavioral deficits assessments completed: barriers, FBAs				
IEP goals appropriate and consistent with assessments				
Daily curriculum is consistent with assessments and IEP goals				
Behavior intervention program consistent with FBA				
Structured and intensive ABA style teaching sessions in place				
<b>2) Behavioral:</b> Data system				
Data collection system in place				
Targets are based on the assessment results				
Targets are definable, observable, and measurable				
Uses appropriate measurement procedure for each target				
ABC recording system in place for problem behaviors				
Binder system in place				
<b>3) Analytic:</b> Prediction and control				
Demonstrates prediction and control of skills and problem behaviors				
Demonstrates that skill acquisition is a function of the teaching procedures and intervention program				
The sources of control for barriers that impair language, social, and learning skills are identified and ameliorated				
<b>4) Technological:</b> Standard behavioral procedures are used				
Staff demonstrate correct use of basic ABA methodology				
Reinforcers identified and delivered effectively				
Staff have established clear instructional control				
Discrete trial structured teaching (DTT/EIBI) format used				
Natural environment teaching (NET) format used				
Negative behavior appropriately prevented and/or consequated				
<b>5) Conceptual systems:</b> Procedures are relevant to principles				
Staff can identify the relevant concepts and principles that underlie teaching procedures				
Staff use the concepts and principles of behavior analysis to guide the intervention				
Staff use behavioral terminology				

## ABA Program Evaluation Form: Quick Assessment

Mark L. Sundberg, Ph.D., BCBA-D

6) <b>Effective:</b> Large enough effects for practical value	None	Poor	Fair	Good
	0	1	2	3
The students are acquiring appropriate and meaningful skills				
Negative behavior is significantly decreasing				
IEP benchmarks and goals are consistently being met				
7) <b>Generality:</b> The skills are durable and generalize				
Daily programming for generalization occurs (different settings, people, time, materials, etc.)				
Systematic stimulus and response generalization after acquisition is in place				
Parent training program in place				
Score	None	Poor	Fair	Good
	0	1	2	3
Total tallies				
Sub-Total scores (multiple number of tallies times point value)				
Final Quick Assessment Score :	/90 possible points			

## ABA Program Evaluation Form

Mark L. Sundberg, Ph.D., BCBA-D

<b>Applied:</b> Socially significant behaviors	None	Poor	Fair	Good
<b>Quick Assessment</b>	0	1	2	3
Skill assessments completed: language, social, academic, play, functional skills, etc.				
Behavioral deficits assessments completed: barriers, FBAs				
IEP goals appropriate and consistent with assessments				
Daily curriculum is consistent with assessment and IEP goals				
Behavior intervention program consistent with FBA assessment				
Structured and intensive ABA style teaching sessions in place				
<b>Detailed Assessment</b>				
Behavior intervention programs implemented				
Skill development intervention programs implemented				
Skills and negative behaviors are broken down into small units (task analysis)				
Daily structured classroom schedule in place				
Structured curriculum in place				
Staff monitoring system in place				
Augmentative communication used and correctly implemented if necessary				
Natural environment teaching sessions in place				
Sufficient amount of teaching trials				
Strong focus on social skills and social development				
Strong focus on language skills and language development				
<b>2 Behavioral:</b> Data system				
<b>Quick Assessment</b>				
Data collection system in place				
Targets are based on the assessment results				
Targets are definable, observable, and measurable				
Uses appropriate measurement procedure for each target				
ABC recording system in place for problem behaviors				
Binder system in place				
<b>Detailed Assessment</b>				
Skill acquisition data recorded within teaching sessions				
Targets, IEP, and data system match				
Written behavior plan in place, and data correspond with it				
Systematic focus and measurement of replacement behaviors				
Effective behavior deceleration data and recorded within teaching sessions				
Baseline data is obtained				
Binder review system in place				
Data system is guiding the intervention program				
Data demonstrate learning				

## ABA Program Evaluation Form

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System for data review in place				
Measurement system in place for natural environment generalization, and new skill acquisition				
Home involvement data system				
Data are graphed when appropriate				
Staff demonstrate the ability to read and act on ABC data				
<b>Analytic:</b> Prediction and control				
<b>Quick Assessment</b>				
Demonstrates prediction and control of skills and problem behaviors				
Demonstrates that skill acquisition is a function of the teaching procedures and intervention program				
The sources of control for barriers that impair language, social, and learning skills are identified and ameliorated				
<b>Detailed Assessment</b>				
Demonstrates behavior change with designs (e.g., reversal, multiple baseline)				
Demonstrates reliability				
Demonstrates fidelity				
Demonstrates replication				
<b>Technological:</b> Standard behavioral procedures are used				
<b>Quick Assessment</b>				
Staff demonstrate correct use of basic ABA methodology				
Reinforcers identified and delivered effectively				
Staff have established clear instructional control				
Discrete trial structured teaching (DTT/EIBI) format used				
Natural environment teaching (NET) format used				
Negative behavior appropriately prevented and/or consequted				
<b>Detailed Assessment</b>				
Systematic ABA staff training program in place				
Conditioned reinforcers are established and used				
Effective use of intermittent reinforcement procedures				
Effective use of differential reinforcement procedures				
Motivation (MOs) strong when consequences are delivered				
Effective use of pairing procedures				
Appropriate use of prompting procedures and hierarchy				
Effective use of fading procedures				
Effective use of correction procedures				
Effective use of shaping procedures				
Effective use of chaining procedures				
Effective use of stimulus discrimination training (S <sup>o</sup> /S-Delta)				

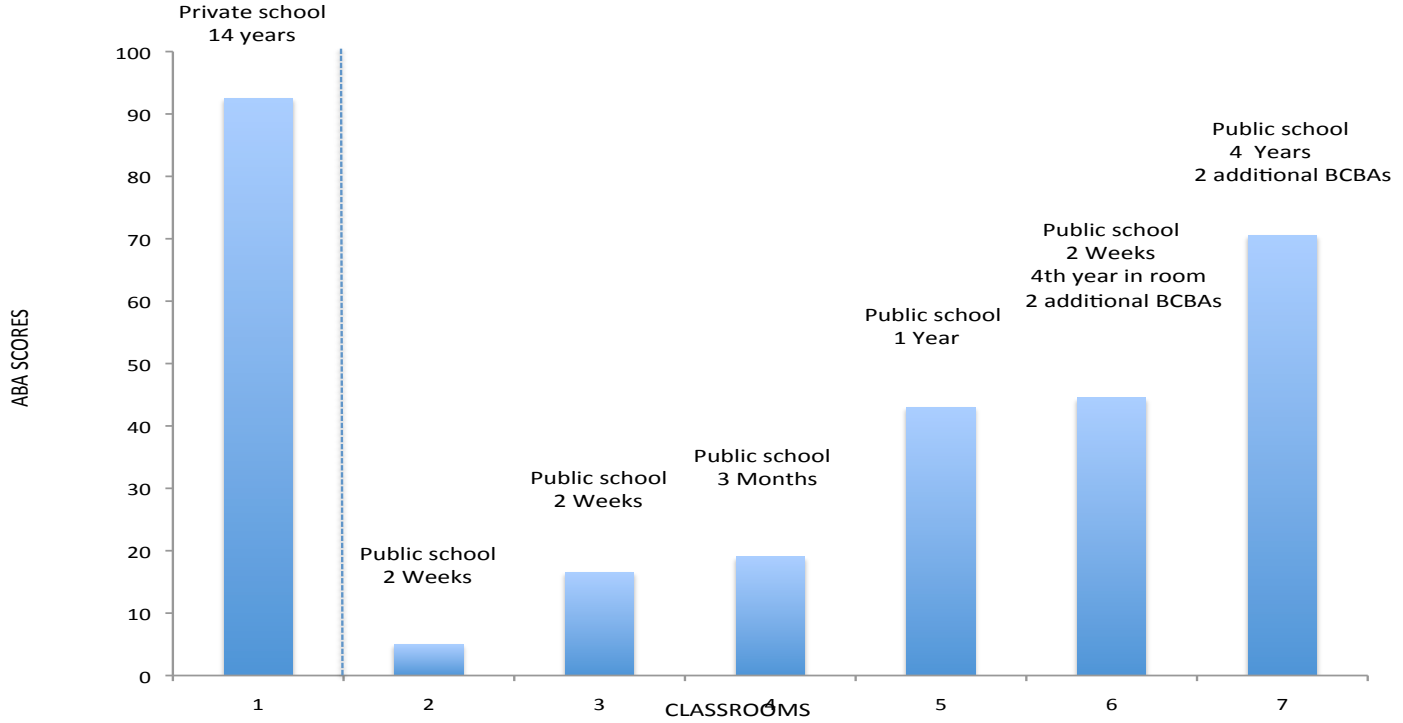
# ABA Program Evaluation Form

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Effective use of extinction procedures				
Effective use of punishment procedures				
Effective use of interspersal procedures				
Effective use of behavioral momentum procedures				
Effective use of maintenance procedures				
Effective use of token economies				
Treatment integrity checked through frequent staff monitoring				
BCBA/BCaBA supervise program and systematically reviews progress				
Staff meet regularly to analyze progress				
Systematic language instruction program in place				
Effective use of mand training procedures				
Effective use of tact training procedures				
Effective use of echoic training procedures				
Effective use of imitation training procedures				
Effective use of intraverbal training procedures				
Effective use of matching to sample procedures				
Effective use of listener training procedures				
Systematic social skills program in place				
Systematically teaching verbal interaction with peers				
ABA teaching methodology used across the day and skills				
<b>Conceptual systems:</b> Procedures are relevant to principles				
<b>Quick Assessment</b>				
Staff can identify the relevant concepts and principles that underlie teaching procedures				
Staff use the concepts and principles of behavior analysis to guide the intervention				
Staff use behavioral terminology				
<b>Detailed Assessment</b>				
Staff generate intervention procedures for new specific skills or problem behaviors based on the principles				
<b>6) Effective:</b> Large enough effects for practical value				
<b>Quick Assessment</b>				
The students are acquiring appropriate and meaningful skills				
Negative behavior is significantly decreasing				
IEP benchmarks and goals are consistently being met				
<b>Detailed Assessment</b>				
Valuable and measurable yearly progress is demonstrated (outcome data)				



# ABA PROGRAM EVALUATION SCORES





# Conclusion

- The language, learning, social, and behavior problems presented by autism are often quite complex
- ABA programs must be correspondingly complex, and any simplification invites the charge that behavior analysis is impoverished, or ineffective
- The BACB Guidelines and Baer, Wolf, & Risley (1968) provide us with a framework that ensures all the critical components of ABA are addressed in a given program

# Conclusion

- It is hoped that this ABA program evaluation will guide autism service providers in their efforts to improve their programs, and implement state-of-the-art ABA treatment
- A need for field-testing data
- A need for program intervention strategies
- A need for the further refinement and measurement, as well as consensus, of what constitutes a behavioral approach to autism treatment