

The Science of Supervision

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August 3, 2017

What is your role?

Teacher

Behavior Analyst

Educational Administrator

Agency Personnel

Related Service Personnel

Other

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Agenda

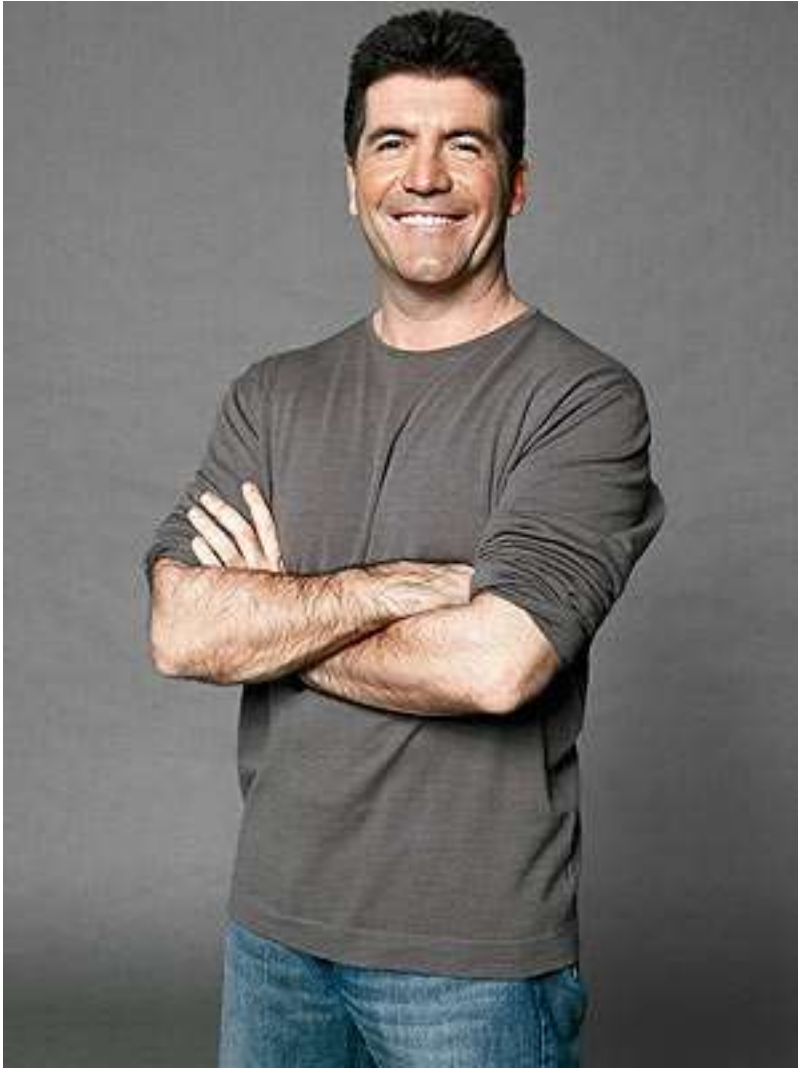
- Introduction to Leadership and Supervision
- Elements of Quality Supervision
- Extension of Need to Educators
- Recommended Guidelines for Quality Supervision
- Key components to Supervisory Program Model
 - Assessment
 - Data collection
 - Teaching Procedures
 - Performance Feedback
- Behavioral Skills Training- Review of literature
 - Training and Practice (fluency training)
- Developing a Supervision Plan

Who is this Supervisor?



Michael Scott

Who is this Supervisor?



Simon Cowell

Who is this Supervisor?



Captain Kirk

Who is this Supervisor?



Sam Malone

Who is your favorite leader/supervisor?

Michael
Scott

Simon
Cowell

Captain
Kirk

Sam
Malone

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Provide a synonym for leader or leadership



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What is Leadership?

- Google: “The action of leading a group of people or organization”
- Merriam-Webster:
 - “1. the office or position of a leader
 - 2. the capacity to lead
 - 3. the act or an instance of leading “
- Wikipedia: “Both a research area and a practical skill encompassing the ability of an individual to organize to “lead” or guide other individuals, teams, or entire organizations”



Provide a synonym for supervisor or supervisory



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What is Supervision?

- Google: “the action of supervising someone or something”
- Merriam- Webster: “the action, process or occupation of supervising; especially: critical watching and directing as of activities or a course of action”

Wikipedia: “an act or instance of directing, managing, oversight”

Are Leadership & Supervision the same?

- Not quite...
 - It is possible and quite common to supervise and not to lead
 - It is possible but less likely to lead and not to supervise
- How do we become supervisors that lead and leaders that provide quality supervision?

Why is Supervision so Important?

- The substantial increase in BCBA certificates in recent years is creating a flooding of novice behavior analysts in the field “with 1817 new BCBAs in 2012 and a rise to 3185 new BCBAs in 2014 (Hartley, Courtney, Rosswurm , & LaMarca, 2016).
- As of March 31st, 2015 the BACB instituted the supervisor requirements and updated experience standards to assist with the alignment of supervision practices.

Experience Standards

- Require supervisees and supervisors complete training modules to ensure that all parties are aligned with supervision expectations.
- Supervisors must complete 8 hrs of training prior to initial supervision and obtain 3 hours of continuing education in supervision for each recertification period.
- Supervisors must maintain supervision records for each supervisee for at least 7 years.

Experience Standards

- The BCBA clearly outlines acceptable areas of supervision
 - Development of performance expectations
 - Observation, behavioral skills training, and delivery of performance feedback
 - Modeling technical, professional, and ethical behavior
 - Guiding behavioral case conceptualization, problem-solving, and decision-making repertoires
 - Review of written materials (e.g., behavior programs, data sheets, reports)
 - Oversight and evaluation of the effects of behavioral service delivery
 - Ongoing evaluation of the effects of supervision

Quality Supervision

- Dixon, Linstead, Granspeesheh, Novack, French, Stevens, Stevens, & Powell (2016) evaluated supervisor intensity, qualifications, and caseload on outcomes in the treatment of individuals with ASD and found that the greater the number of supervision hours an individual received the better the treatment outcomes for individuals with autism.
- The supervisor's years of experience was also demonstrated to improve performance outcomes for learners (Dixon et al., 2016).
- The clients assigned to supervisors that had a BCBA credential produced 73.7% greater mastery of learning objectives than learners receiving oversight under and non-BCBA supervisor (Dixon et al., 2016).

Quality Supervision

- Key variables: hours of supervision, experience of supervisor, and BCBA credential (Dixon et al., 2016).
- Other key components to effective supervision:
 - Aligned and balanced literature and practice experience
 - Syllabus or sequence of assigned readings
 - Supervision/supervisor that is in a position to assist with changes.
 - Experience across populations of individuals in need of intervention grounded in the principles of applied behavior analysis.
 - Focused attention to individual reinforcement contingencies and MO

Significant Variability

- Just as there is significant variability in the pass rates of individuals sitting for the BCBA exam with approved course sequence pass rates ranging from 27% to 100% in 2016 (BCBA Examination Pass Rates for Verified Course Sequences, 2013-2016).
- Supervision experiences contribute additional variables that can considerably effect the quality of behavior analysts and instructors in the field.
- Supervisors must be knowledgeable to the weaknesses in the individual skill set of the supervisee as well as the limitations that might exist in the coursework sequence they are participating in.

Leadership

- [Don't be a Jim...](#)



Supervision and Professional Development for Educators

- Begeny & Martin (2006) assessed university teacher preparation programs and evaluated the applied training of empirically-validated behavioral instruction practices and found that, “overall, participants received little training in behavioral instruction concepts, strategies, programs, and assessment practices.”
- Given that this finding is likely representative of teacher preparation programs throughout the nation, it is of key importance that the research validated strategies found to be effective in behavior analytic supervision be applied to educator training.

Recommended Practice Guidelines

Sellers, Valentino, LeBlanc (2016)

- Establish Effective Supervisor-Supervisee Relationship
 - Through supervision contracts, clear expectations, establishing systematic processes for receiving and accepting feedback, and creating a committed positive relationship.
- Establishing structured supervision content and competence evaluation
 - Measureable competencies, review of competency requirements, creating plans for supervisee failing to meet competencies.

Recommended Practice Guidelines

Sellers, Valentino, LeBlanc (2016)

- Evaluate the effects of supervision
 - Monitor effects and ensure feedback
- Embed ethics and professional development into supervision
- Continue professional relationship post-supervision as mentor or establish guidelines for on-going support

Key Components of Supervisory Program Model

- Assessment of supervisee skills
- Data collection on performance
- Performance feedback
- Set teaching procedures grounded in ABA

ASSESSMENT & DATA COLLECTION

Assessing Supervisees Skill Sets

- Three core areas of Assessment
 - 1: Direct observation of skill demonstration use of fidelity checklists
 - 2: Measurement of theory and conceptual skills through written formal assessments.
 - 3: Oral competencies to evaluate analytic behavior and mastery of instructional design and research methodology

MSWO Fidelity Check

- video

Conduct Direct Observations

<p>Multiple Stimulus reference Assessment w/o replacement</p>	<ol style="list-style-type: none"> 1. Instructor can verbally describe the steps of the multiple stimulus preference assessment without replacement. 2. Instructor will present <u>no less than 8</u> items at a time for initial presentation. 3. Instructor will select items for presentation based on narrative description of preference and novel qualities. 4. Instructors will not mix edible and tangible items in presentation. 5. Instructor will initially present each item in isolation and state the name prior to assessment. 6. Instructor will observe orienting/approach response and record the item that was selected first. 7. Instructor will remove selected item and place in bin corresponding to the order in which it was selected. 8. Repeat process until all items are selected or the learner shows no approach or orienting response. 9. Instructors repeat the entire process until sufficient number of reinforcers are identified for assessment (approximately minimum of 32 items consistently selected within the first 4 selection opportunities). 10. Instructor will record the items selected 1st, 2nd, 3rd, & 4th and will post in assessment area for differential reinforcement throughout the assessment. 	<p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p> <p><input checked="" type="radio"/> Y <input type="radio"/> N</p>
<p>Percent of Steps completed with fidelity</p> <p><u>100%</u></p>		

Written Assessments

3. A common word for a mand is a
 - a. Question
 - b. Label
 - c. Request
 - d. Pause
4. Before providing instruction to any learner you should
 - a. Condition the instructor, instructional materials, and instructional environment with reinforcement
 - b. Conduct a behavioral assessment to ensure instruction is at the appropriate instructional level
 - c. Slowly fade in demands through reinforcing activities
 - d. All of the above
5. An appropriate replacement behavior for a student demonstrating problem behavior that is motivated by escape (socially mediated negative reinforcement) is
 - a. Use of break card program
 - b. Interruption- transition program
 - c. Count and mand program
 - d. Use of a visual schedule

Oral Competencies

- Use discussion and literature groups with purpose.
- Have curriculum identified and skill sequence.
- Identify the skills that should be demonstrated throughout the course of discussion groups.
- Oral participation, challenging concepts, identifying weaknesses in methodological design, synthesizing other relevant research, leading others in the analysis

DATA COLLECTION

Data Collection on Performance

- Skills addressed in supervision should be aligned to some type of measurement system.
- Areas found as weakness in initial assessment processes may need a more sensitive data collection system and the development of a specialized skill sequence to help learners develop in the areas of need identified.

First Determine Type of Training

- Acquisition:
 - Used for skills that are not yet mastered
- Maintenance:
 - To demonstrate skill are still mastered after a period without teaching
- Fluency:
 - Used for skills that are learned but not fast or consistently accurate
- Generalization:
 - Skill potentially acquired in one case/client, but need to work on the generalization of skills to another circumstance, client/population

Selecting a System

- Fidelity checklists: Checklists are going to be a significant tool for most supervision partnerships. These are a primary method for evaluating instructor behavior
- Timed trials: Can be helpful for developing improved vocabulary, basic components
- Trial-by-trial: could be needed if consistent demonstration is an issue.
- Permanent products: written documents, FBA/BIPs, development of materials, development of test kits, case studies.
- All of these different formats of data collection will typically be tracked on a skills tracking sheet or curriculum sequence where the supervisee and supervisor can work together to identify which skills will be actively addressed.

Example: Selecting and Developing Appropriate Measurement Systems

- Identify objective or skill that needs to be addressed.
 - Ex: VB-MAPP Assessment Practices
 - Options:
 - » Organization of test kit to ensure mastery of conceptual understanding
 - » Video or in-person observation of learner behavior with fidelity checklist.
 - » Fluency assessment of tacting milestones

Monitoring Supervisee Performance

- Supervisee 1: has no experience administering VB-MAPP assessment.
- Assignment 1: Read VB-MAPP Guide Book
- Assignment 2: Mastery fluency of VB-MAPP Milestones.
- Data system: tact fluency of milestones number. T-8, IV-7,

Example: Selecting and Developing Appropriate Measurement Systems

- Supervisee 2: has minimal experience administering the VB-MAPP assessment.
- Assignment 1: Review VB-MAPP Guide Book and demonstrate fluent mastery of milestones
- Assignment 2: Develop test kit of materials for milestones.
- Data system: permanent product of test kit by milestone and fluency.

Example: Selecting and Developing Appropriate Measurement Systems

- Supervisee 3: has introductory level of experience administering the VB-MAPP assessment.
- Assignment 1: Conduct assessment with direct observation
- Data system: Procedural integrity checklists for various sections and checklist for vital elements of overall assessment administration.

How to Teach Analysis

- How does one measure the true use of the principles of Applied Behavior Analysis to guide decision-making, to question, to problem solve?
- The development of this type of complex skill set does not lend itself easily to a clear data system.
- Could participation in basic research (or even applied research) be a key component to ABA principles as practitioners?
- Sidman (2011) makes a strong argument that the lack of basic research in supervision and training programs is potentially detrimental to the development of conceptually sounds behavior analyst practitioners.

PERFORMANCE FEEDBACK

Direct vs. Indirect

- [When and how to give performance feedback?](#)
- Direct supervision results in greater fidelity on implementation of procedures than indirect supervision (Green, Rollyson, Passante, & Reid, 2002).
 - Green et al. (2002) compared weekly general supervision with direct and immediate feedback on adherence to observation checklists in the residential clinical setting for supervisees overseeing direct care workers

Immediate vs. Delayed

- Immediate is better than delayed.
 - Feedback needs to be immediate. Immediate feedback in the classroom and clinical settings has been evidenced to improve staff/implementer behavior and to be more effective than feedback occurring at a later time in a different setting (Himle & Wright, 2014; Lerman, Hawkins, Hoffman, Caccavale, 2013; Green, Rollyson, Passante, & Reid, 2002; Goodman, Brady, Duffy, Scott, & Pollard, 2008; Gallant, Thyer & Bailey, 1991; Scheeler, Congdon, & Stansbery, 2010)
- Ideally, feedback should occur within 3 seconds of the behavior. (Scheeler, McKinnon and Stout, 2012)

Performance Feedback

- Following any direct observation, written assessment, or oral competency direct feedback on performance is needed
- Feedback should be aligned with data and should provide explicit information for improved performance on a given skill.
- Feedback should clearly cover elements of the skill demonstration that went well and things that need improvement,
- If the supervisee did not demonstrate mastery of the skill an opportunity to readdress the skill should be scheduled.

TEACHING PROCEDURES

Teaching Procedures

- Literature on training of supervisees in behavior analysis is dominated by the use of Behavioral Skills Training (BST).
- In 2011-2017 there were 25 publications in JABA highlighting the effectiveness BST as an intervention with adult learners.

Behavioral Skills training

- Research validated treatment package used to effectively teach a variety of skills to a variety of populations.
 - Ex: Gun safety, abduction prevention techniques, safety skills, training school professionals to work with students, training parents to improve feeding techniques with children, behavior professionals to conduct FAs, etc.
 - Core elements: instruction, modeling, rehearsal, feedback

(Buck, 2014)

Instructions

- Basic steps needed to complete the given task in simplistic and explicit behavioral terminology.
- Previous research has demonstrated that written directions/access to research articles outlining procedures alone without other key elements of BST including modeling, rehearsal, and feedback was not as effective in teaching adults learners new skills as use of a treatment package that includes the general elements of BST (Lambert, Bloom, Kunnavatana, Collins, Clay, 2013; Howard & Reed, 2014)

Behavioral Skills Training

- Many BST treatment packages include both verbal and written directions/instructions (Lerman, Hawkins, Hoffman, & Caccavale 2013; Sarokoff & Sturmey, 2004; Nigro-Bruzzi & Sturmey, 2010).
- Others include modeling embedded with the delivery of the instructions. Modeling with the delivery of the instructions is supported in the literature through in-vivo (Lambert et al., 2013; Lerman et al. 2013; Himle & Wright, 2014; Homlitas, Rosales, & Candel, 2014; Sarokoff & Sturmey, 2004) and video modeling presentation formats (Nigro-Bruzzi & Sturmey, 2010; Howard & Reed, 2014)

Instructions

Multiple Step LR Directions: Joint Control Procedure

- video

Behavioral Skills Training: Modeling

- Modeling: This step requires the instructor to present the steps sequentially demonstrating correct performance
- Could include narration
- Could include adult confederate learner or actual learner

Modeling

- video

Rehearsal/ Role Play

- A common element embedded into BST treatment packages is the use of role-play or rehearsal.
- The use of rehearsal/role-play as an element of BST treatment packages has been evidenced as successful when used with set number of rehearsals (Sarokoff & Sturmey, 2004; Homlitas, Rosales, & Candel, 2014) and when done using set mastery criteria to determine when modeling/rehearsal phases were done (ie: two runs of demonstrating all six steps without error) (Nabeyama & Sturmey, 2010; Nigro-Bruzzi & Sturmey, 2010; Himle & Wright, 2014; Lambert et al. 2013). Use of set number of repetitions combined with mastery criteria was also evidenced (Lerman et al., 2013).

Rehearsal / Role Play

- Common Procedures:
- Following modeling the trainee rehearses or practice the skills.
 - Option 1: Practice is encouraged multiple times in a row and feedback is withheld.
 - Option 2: Feedback is given immediately during the rehearsal process.
- Often the instructor alternates with the trainee to intermittently model sections of the procedures or the entire procedure.
- Rehearsal is conducted until mastery criteria is met.

Rehearsal and Feedback

- video

Performance Feedback

- As previously highlighted, performance feedback is a vital component to instructor behavior change.
- Research supports immediate and direct delivery of feedback in close temporal proximity to the instructor's behavior.

BST Performance Feedback

- Performance feedback is often structured to include key features:
 - Identify correct and incorrect steps, identify and state the error, describe the procedure again, model the procedure, provide an opportunity for the trainee to practice (Lambert et al., 2013; Lerman et al. 2013).
 - Howard & Reed (2014) included an explanation as to why procedures were incorrect and utilized descriptive praise as elements of the feedback procedure.
 - Nabeyama & Sturmey (2010) extended their feedback package to include both verbal and physical prompts improve instructor skill sets in improving safe ambulation of individuals with multiple disabilities.

Rehearsal & Feedback

- video

Let's Try



25
The number of
BST adult
learner articles
highlighted in
JABA 2011-
2017

Don Baer

Author of Some Current
Dimensions of Applied
Behavior Analysis and
leader in the initial
extension of behavior
analysis to children.



Mark Sundberg

Author of the VB-
MAPP and
champion in the
application of VB
to the treatment
of individuals
with autism.



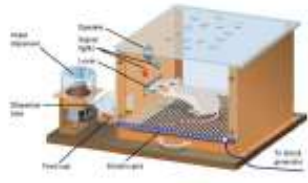
**Known for
Personalized
System of
Instruction.**



Fred Keller

3

The amount of
supervision CEUs
needed to
maintain the
ability to
supervise each
certification
cycle.



B.F. Skinner

Founder of modern
behavior analysis.
Inventor of
operant chamber
and author of
Verbal behavior
(1957)

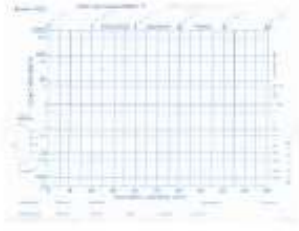


Known for his
conceptual
development,
clarification, and
highlighting the
relevance of the
concept of MO

Jack Michael

TX package including
modeling, rehearsal &
feedback vital to the
training of new
behavior analysts.

BST



BST- ABA FORTUNES

- REVIEW INSTRUCTIONS
- MODEL
- REHERSE
- FEEDBACK

Steps to Making Fortune Teller

1. Fold in $\frac{1}{2}$ and fold in $\frac{1}{2}$ again
2. Open fully, turn over so top is blank and fold each corner to the middle
3. Turn over and repeat
4. Turn over so you can see the pictures
5. Slide your thumb & finger behind 2 of the pictures so they bend round and touch.
6. Repeat with other hand and remaining two pictures
7. Open and close based on spelling or counting to access information/fortunes.

PRACTICE-Find a Partner

- Select one person to be the supervisor and one to be the supervisee.
- **BST TEACHING TACT FLUENCY**
 - REVIEW INSTRUCTIONS
 - MODEL
 - REHERSE
 - FEEDBACK



Steps for Tact Fluency

- Before the session:
 - Present array of known tact pictures (you have 2 cards for this).
 - Identify the length of the timing and number of responses needed to gain access to a promise reinforcer prior to conducting sessions.
 - For this session 20 sec timing and the goal is 18 tacts
 - Instructor must be knowledgeable of generally reinforcing items of the learner.

Steps- Tact Fluency

- Session begins
 - Conduct MO check on reinforcers to assess current strength
 - Tell learner you are going to do a fast responding activity.
 - Remind them of the number of items they need to get in the timing and what they can potentially earn.
 - If it is a learner's first time doing fluency model the process and “try to beat the teacher.”
 - Tell the learner that they must touch and say the name going in order and establish a phrase to indicate when the learner should begin.
- Count correct and Incorrect behaviors of the learner as they occur.
 - Correct behavior is defined as stating the name of the item that the student is touching.
 - Incorrect behavior is defined as the following:
 - Stating the name of a card that the student is not touching
 - Stating the wrong name of the item the student is touching
 - Repeating the name of the item after prompting.
 - A self correct of the item.

Steps- Tact Fluency

- If an error occurs, prompt the learner back to the card with an imitative prompt and say the missed items name; the student should echo your response.
- Counting will stop when the counting floor has been reached.
- The student will be reinforced differentially after each run-through. If goal is achieved PR is delivered.
- Responses should be recorded and the process repeated.
- Materials should be randomized between each run-through.
- The number of sessions and run-throughs individualized.
- Following the last session of the day convert the best score of the day to the number of responses per minute and graph.

Instructions: Tact Fluency

- video

Modeling

- video

Rehearsal and Feedback

- video

PRACTICE-Switch Roles

- Select one person to be the supervisor and one to be the supervisee.
- **BST TEACHING LR FLUENCY**
 - REVIEW INSTRUCTIONS
 - MODEL
 - REHERSE
 - FEEDBACK



Steps for LR Fluency

- Before the session:
 - Present array of known LR pictures (you have 2 cards for this). The size of the array will be determined by the individual learner.
 - Identify the length of the timing and number of responses needed to gain access to a promise reinforcer prior to conducting sessions.
 - For this session 20 sec timing and the goal is 15 LR.
 - Instructor must be knowledgeable of generally reinforcing items of the learner.

Steps- LR Fluency

- Session begins
 - Conduct MO check on reinforcers to assess current strength
 - Tell learner you are going to do a fast responding activity.
 - Remind them of the number of items they need to get in the timing and what they can potentially earn.
 - Tell the learner that they are going to have to touch the card whose name is heard as fast as possible
- Count correct and Incorrect behaviors of the learner as they occur.
 - Correct behavior is defined as touching the named item on the first attempt.
 - Incorrect behavior is defined as
 - Touching the wrong card on the first attempt.
 - Self correcting after touching the wrong card on the first attempt.
 - When prompting is necessary to evoke correct card touching on the first attempt.

LR FLUENCY

- If an error occurs, prompt him to the correct card with an imitative prompt and say and state the command again, “touch cat”.
- Counting will stop when the counting floor has been reached.
- The student will be reinforced differentially after each run-through. If goal is achieved PR is delivered.
- Responses should be recorded and the process repeated.
- Materials should be randomized between each run-through.
- The number of sessions and run-throughs individualized.
- Following the last session of the day convert the best score of the day to the number of responses per minute and graph.

Developing a Supervision Plan

- A supervision plan is an individualized sequence of competencies/ objectives that drive the on-going supervision process.
- This supervision plan serves as a scope and sequence for areas to be addressed in supervision and includes individualized behavioral objectives identified based on the weaknesses identified in initial assessments.
- A supervision plan is first developed shortly after starting the supervision process, but should be continuously re-evaluated and modified throughout the supervision experience.

Areas of Focus for Supervision Plan

- The Experience Standards, Task List, and Supervisor Training Curriculum Outline provided by the BACB provide a framework for supervision areas that are needed.
- Some areas of content require repeated exposure and explicit modeling, guided practice, and eventually independent practice during supervision experiences.
 - Conducting Functional Analyses (FAs)
 - Developing Functional Behavior Assessments and Behavior Intervention Plans

Goals/ Skill Development

BCBA Supervisee: _____

Individual Goal	Date Completed
Supervisor Recommended Skills	
VB- MAPP administration	
Reinforcer identification procedures/ preference assessment administration	
Language/ instructional and academic programming based off assessment	
Discrete trial instruction/ intensive teaching procedures	
Mand training	
Writing behavioral definitions	
Development & implementation of individualized measurement systems	

Final Thoughts

- The field of behavior analysis is dependent on quality supervision to maintain credibility.
- Weak supervision hurts not only the supervisee and future clients, but the field as a whole.
- Make quality supervision a priority.

Thank you!

- For questions or additional resources contact:
- rachel@pittsburghbehavior.org