Teaching Executive Function Skill Using Applied Behavior Analysis
Matthew J Meunier, BCBA
NoCal Behavioral Services, LLC
Matthew.meunier@nocalbehavioralservices.com
What is ABA?
Misconception about ABA

Nothing is more dangerous for a new truth than an old misconception

~ Goethe ~
Common Misconceptions about Behavior Analysis

- Relies on punishment
- Uses bribes
- Ruins “intrinsic motivation”
- Ignores the “real causes” of behavior just treats the symptoms
- Leads to people controlling each other
- Is only used with special needs individuals
What is Behavior Analysis?

- Behavior analysis is the scientific study of behavior.
- Behavior analysts ask "Why does behavior change over time?" They seek answers by looking at the biological and environmental factors, although they are primarily interested in the role of environment in behavior change.
Scientific Study of Behavior

Behavior itself is the focus
- Focus is not on emotions, thoughts, feelings, dreams, etc.

Looks to environment for causes of behavior
- Cause of behavior does not lie inside of the person

Specializes in changing behavior and teaching skills to enhance quality of life
- Not just problem behavior reduction
Why is it Called Behavior Analysis?

The term "behavior analysis" was coined by B. F. Skinner, generally considered the founder of behavior analysis. The term was meant to distinguish the field as one that focuses on behavior as a subject in its own right, rather than as an index or manifestation of something happening at some other level (in the mind, brain, psyche, etc.).
The field of Behavior Analysis grew out of the scientific study of principles of learning and behavior. It has two main branches: experimental and applied behavior analysis.

The experimental analysis of behavior (EAB)

This literature provides the scientific foundation for applied behavior analysis (ABA).
Applied Behavior Analysis (ABA) is the application of the principles of learning and motivation from Behavior Analysis.

Applied behavior analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behaviors to a meaningful degree, and to demonstrate that the interventions employed are responsible for the improvement in behavior (Baer, Wolf & Risley, 1968; Sulzer-Azaroff & Mayer, 1991).
What is ABA? (Cont.)

- ABA is representational of a clear and systematic way to describe, observe, & measure behavior
- ABA is a science that uses very specific information about behavior to choose interventions to improve socially significant behavior
- ABA is a research-based (or evidence-based)
- ABA is based on applied & functional goals
- ABA is involves data-driven assessment & intervention
What is ABA (Cont.)

- ABA is supportive of an individualized approach to addressing strengths & weaknesses of individuals
- ABA is focused on increasing maintenance, generalization, & independence
- ABA is a set of tools, the specific combination of which is determined based upon individual needs
Areas of Application

- Autism and Developmental disabilities
- Mental illness
- Education and special education
- Rehabilitation
- Community psychology
- Clinical/counseling psychology
- Business and industry
- Self-management
- Child management/parenting
- Prevention
- Sports
- Health psychology and behavioral medicine
- Gerontology
What ABA is Not

- ABA is NOT a specific method for treating autism or other developmental disorders
- ABA is NOT equivalent to any one strategy following ABA principles (e.g., Discrete Trial Training (DTT), Verbal Behavior Analysis (VBA))
- ABA does NOT increase dependence on others
- ABA research is NOT invalidated due to the focus on one child at a time (single case study)
What ABA is Not (Cont.)

- ABA is NOT only used for behavior reduction
- ABA is NOT based on aversives (punishment)
- ABA is NOT based on manipulating people
- ABA is NOT exclusive to the treatment of autism
What is Executive Function?

“Chief operating system” located in the prefrontal region of the brain, which is to engage in cognitive processes required for goal-directed behavior.”

- Working memory
- Task initiation
- Sustained attention
- Inhibition
- Flexibility
- Planning
- Organization
- Problem Solving

(Flexible and Focused, Najdowski 2017)
What is Executive Function?
(cont.)

Everything you do every day to manage your own behavior
Real Life Example

Making an appointment

- Scheduling (planning)
- What needs to be done prior to appointment (organization)
- How will it take to get to the appointment (time management)
- Alarm goes off day of appointment (task initiation)
- Remember what you planned and organized (working memory)
- Stay focused on task (sustained attention)
- Avoid checking Facebook (inhibition)
- Spill your coffee and don’t have time to stop (problem solving & flexibility)
Assessing

- The Behavior Rating Inventory of Executive Function (BRIEF) age range 12-Adult
- The Metacognitive Awareness System (MetaCOG)
- The Executive Skills Questionnaire (ESQ)
Key ABA terms

- Shaping
- Chaining
- Prompting
- Fading
- Extinction
- Reinforcement
- Generalization strategies, etc.
Understanding Behavior

All people’s behaviors are maintained by either 
gaining access to something they like

OR

Avoid something they don’t want to do
Positive Reinforcement

Definition
Strengthening of behavior by providing access to a highly preferred item or activity contingent upon the behavior.

Verbal praise should be pair if you are using tangible reinforcer.

What is reinforcing to you may not be reinforcing to me.

Reinforcers change
Provide reinforcers in all areas of teaching new skills.
# Prompting

<table>
<thead>
<tr>
<th>Prompting</th>
<th>Prompting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full physical</td>
<td>Shadowing</td>
</tr>
<tr>
<td>Partial physical</td>
<td>Devices (timers, apps)</td>
</tr>
<tr>
<td>Model</td>
<td>Leading Questions (“What</td>
</tr>
<tr>
<td>Gestural</td>
<td>would happen if I tried</td>
</tr>
<tr>
<td>Full echoic</td>
<td>that?”)</td>
</tr>
<tr>
<td>Partial Echoic</td>
<td>Experiential Prompt (Try it)</td>
</tr>
<tr>
<td>Directive</td>
<td>Visual aids</td>
</tr>
</tbody>
</table>
Prompt Fading

Prompt dependent

- They will not answer or complete tasks without prompts
- Fade out prompts as quickly as possible
- At the start of teaching will require more assistance

Prompt fading

- As fast as possible without making mistakes
- Think about what you use as prompts
- Most difficult prompt to fade is verbal
Chaining

Definition

- Teaching individual steps to a task
- Develop list of steps required to complete the task

Forward Chaining

- Teaching the first step
- Independence only on that step
- Add new steps as they master

Backward Chaining

- Start with last step
- All other steps are prompted

Total Task Chaining

- Working on all steps
- Prompt and fade for steps
What type of chaining?

If task needs to be completed no matter what (i.e. morning time routine)
  - Backwards Chaining

If task does not need to be completed (problem solving)
  - Forward Chaining

Total task chaining
  - Learners with endurance

Not good with learners:
  - Frustrated
  - Attending issues
Self-Awareness

Noticing your own behaviors
Things your good at
Things you struggle with
# Self Awareness

<table>
<thead>
<tr>
<th>Learners who can’t do this:</th>
<th>Learners who engage in self awareness:</th>
</tr>
</thead>
<tbody>
<tr>
<td>May not notice social taboos</td>
<td>Understand social ramification</td>
</tr>
<tr>
<td>Withdrawal of friends</td>
<td>Can make improvements to own behavior</td>
</tr>
<tr>
<td>Bullying</td>
<td>Long term social success</td>
</tr>
<tr>
<td>Made fun of</td>
<td></td>
</tr>
<tr>
<td>Socially Awkward</td>
<td></td>
</tr>
</tbody>
</table>
Common Behaviors

Learners with difficulty in self-awareness, inhibition and self management:

- Unaware of personal strengths and weaknesses
- Unaware of behavior that annoy others
- Acts on impulses
- Nail biting
- Talk too loud
- Can’t stop self from behaviors
- Can’t disengage in problem behaviors when instructed to stop
Self-Awareness Worksheet

Things I am good at:_____________________________________

Things I do that make me happy:__________________________

Things I do that make my parents happy:___________________

Something I want to learn to do: _________________________

Things I could improve upon: _____________________________

Personal Goals:________________________________________
Self Awareness

1. Self awareness worksheet
2. Identify behaviors to decrease
3. Identify behaviors to increase
4. Identify how strengths can be used
5. Be positive
6. Identify goals

1. Fill out worksheet
2. Licking lips, picking nails, blurting out
3. Turning in homework, doing chores
4. Identify personal strengths
5. Avoid negatives
6. Possible goals (helpful Self Management)
Self-Management

1. Identify target behavior
   i. Use worksheet self awareness

2. Take baseline data
   i. Frequency
   ii. Duration
   1) Decreasing Behavior
   2) Increasing Behavior
   iii. Take Average
       i. Frequency
       ii. Duration
       iii. % of session

3. Set a goal
   i. Achievable
   ii. Set up for success

4. Identify a Reinforcer
   i. Ask learner

5. Teach self-monitoring
   i. Shadowing

6. Teach self evaluation
   i. Communicate Goal
   ii. Self-deliver R+ (honesty checks)

7. Make new Goals
# Self-Management Data Sheet

**Name:** ____________________  **Date:** ____________________

**Target Behavior:** ____________________________________________

**Goal:** ____________________________________________________

<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Tracking</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Did I meet my goal Yes or No

My reward for meeting my goal:
Attention

Look, it's almost 11 o'clock!

Wow, the last two hours really flew by!

I hope the teacher didn't say anything important.
# Attention

<table>
<thead>
<tr>
<th>Operational Definition</th>
<th>Why teach it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noticing important stimuli (things)</td>
<td>To help distinguish between things that deserve attention vs. things that should be ignored</td>
</tr>
<tr>
<td>Events in learners environment</td>
<td>Disengage with less important stimuli</td>
</tr>
<tr>
<td>Starts in infancy – baby notices mothers voice</td>
<td></td>
</tr>
</tbody>
</table>

**Attention**

**Operational Definition**

- Noticing important stimuli (things)
- Events in learners environment
- Starts in infancy – baby notices mothers voice

**Why teach it?**

- To help distinguish between things that deserve attention vs. things that should be ignored
- Disengage with less important stimuli
Example

When completing bedtime routine and the learner sees her iPad on her bed, is she able to ignore the iPad?
Attention deficits behaviors

- Hast difficulty finishing tasks
- Leaves little messes around the house
- Forgets what they were about to say or do
- Struggles with sustained attention
- Easily distracted
- Takes longer time to complete task
- Focused on unimportant details
- Difficulty tasks with multiple steps
- Concentration issues
- Struggles with shifting attention
- Difficulties completing two tasks same time
Activities to teach attention skills

Stimulus orienting
- Teach learner to notice important stimuli
- Visual and auditory

Saliency
- Teach learners important stimuli
- Main idea of sentences
- Attention from others

Disengagement
- Disengaging with unimportant stimuli
- Reinforcement for not engaging
Activities to teach attention skills

**Shifting attention**

Teach engaging in a task and then switching attention to salient stimulus for a moment

Goal to get back to the task at hand

Example: Writing in journal but shift attention to directions up front and back to the writing

**Divided attention**

Paying attention to multiple stimuli at once

Watching a presentation

Conversation while walking

Choose targets that are real life for the learner
# Morning & Evening Routines

## Materials
- Checklists
- Breakdowns

## Baseline
- Time to complete task
- How long it really takes learner

## Cuing task initiation

<table>
<thead>
<tr>
<th>Alarm clock</th>
<th>Shadowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone Alarm</td>
<td>Hand over hand</td>
</tr>
<tr>
<td>Timers</td>
<td>Verbal</td>
</tr>
</tbody>
</table>

## Prompts
- Remember need to fade these at some point
# Morning & Evening Routines

<table>
<thead>
<tr>
<th>Chaining</th>
<th>Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward</td>
<td>Total task – are you R+ after every step or entire routine</td>
</tr>
<tr>
<td>Backward</td>
<td>Motivation vs. skills</td>
</tr>
<tr>
<td>Total tasks</td>
<td>Thicker at first then thin R+</td>
</tr>
</tbody>
</table>
# Morning/Afternoon/Evening Routine Checklist

- **Name:** 
- **Week of:** 

## Morning Routine

<table>
<thead>
<tr>
<th>Alarm</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thur</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>L</td>
<td>P</td>
<td>L</td>
<td>P</td>
<td>L</td>
<td>P</td>
<td>L</td>
</tr>
</tbody>
</table>

## Afternoon Routine

| L | P | L | P | L | P | L | P | L | P | L | P | L | P |

## Evening Routine

| L | P | L | P | L | P | L | P | L | P | L | P | L | P |

L = Learner    
P = Parent    
Total =
Homework Routine

First figure out if the learner does not understand material, if so provide extra help.

Seek tutoring for the learner because a well run homework routine will deal with this issue.
Homework Routine

1) Backpack Checklist
   o Has homework
   o Store checklist in convent location
   o School person to help

2) Location for completing homework
   o Consistent
   o Quiet area
   o Max on-task behavior remove all electronics

3) Homework routine task analysis
   Use Task Analysis for completing routine

4) Chaining
   o Forward
   o Backward
   o Total Task
Homework Routine

5) Prompts
   - Shadowing
   - Hand over hand
   - Verbal

Refer back to prompts list

Remember need to fade these at some point

6) Reinforcement

Total task – are you R+ after every step or entire routine

Motivation vs. skills

Thicker at first then thin R+
# School Backpack Checklist

<table>
<thead>
<tr>
<th>#</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Binders/Folders needed for homework</td>
</tr>
<tr>
<td>2</td>
<td>Books needed for homework</td>
</tr>
<tr>
<td>3</td>
<td>Other materials needed for homework</td>
</tr>
<tr>
<td>4</td>
<td>Homework folder or planner</td>
</tr>
<tr>
<td>5</td>
<td>Lunch box</td>
</tr>
<tr>
<td>6</td>
<td>Water bottle</td>
</tr>
<tr>
<td>7</td>
<td>Jacket/Sweatshirt</td>
</tr>
<tr>
<td>#</td>
<td>Steps</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Organizes loose papers</td>
</tr>
<tr>
<td>2</td>
<td>Identifies what needs to be completed</td>
</tr>
<tr>
<td>3</td>
<td>Begins assignment 1</td>
</tr>
<tr>
<td>4</td>
<td>Checks for mistakes</td>
</tr>
<tr>
<td>5</td>
<td>Checks off on homework planning sheet</td>
</tr>
<tr>
<td>6</td>
<td>Places completed assignment in binder</td>
</tr>
<tr>
<td>7</td>
<td>Begins assignment 2</td>
</tr>
<tr>
<td>8</td>
<td>Checks for mistakes</td>
</tr>
<tr>
<td>9</td>
<td>Check off on homework planning sheet</td>
</tr>
</tbody>
</table>

Percentage Independent
Homework Planning Sheet

1) Learner writes down homework required
   - Use planning sheet

2) Column for Estimate how long it will take to complete each assignment
   - Helps with time management
   - Helps with planning

3) Column for start time
   - Control over own behavior
   - If learner has difficulty with attending build in more breaks
   - Less parental/teacher support

4) No column on actual time
   - Not recommended using a timer undo pressure
   - Time management may need to be taught
# Homework Planning Sheet

Name:_______  
Date_______

<table>
<thead>
<tr>
<th>Homework Assignment</th>
<th>Estimated Time to complete</th>
<th>Start Time</th>
<th>Completed ✓</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5) If learner does not like to write, you can fill it out with them telling you what to put.
Sustained Attention

1) Target Behaviors

Identify areas where learner struggles

3) Target time length

Ensure success set initial target time length just below baseline time length

Age appropriate:

Kindergartener – 5-10 minutes

First Grade – 10 minutes

Go up by 10 minutes each age group

2) Baseline

Collect how many minutes the learner can engage in the task

4) Prompting

a) If learner requires prompting to get back on task interval too long

b) Begin to increase interval across as you see success. If you need to prompt back on task use non-vocal prompts (pointing to task)

c) Setting a device prompt to remind learner to “check in” to see if they are on task.
Sustained Attention

5) Reinforcement

a) Learner meets target time length without problem behaviors provide immediate reinforcement

b) Increase time (1-2 minutes or by seconds) after 2-3 consecutive meeting target time

c) Decrease time after 2-3 consecutive failing to met target time

d) May need different time goals for each type of tasks

Name:________

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
<th>Time Length</th>
<th>+/-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Organization
Organization

Can begin when learners are young

Example: Toddlers and the “clean up song”

Placing pictures on bins and labeling

Parents develop organizational schemes: hamper in bedroom to place dirty cloths

Backpacks in one location

Chores
Organizational Deficits

- Can’t find personal items at home
- Can’t find completed homework
- Doesn’t know where to put things when it is time to clean up
- Can’t seem to part with old and unnecessary items
- Items are scattered throughout school backpack and desk with no rhyme or reason
Organizing Homework & School Supplies

Kindergarten through 2\textsuperscript{nd} or 3\textsuperscript{rd} Grade

Simple homework folder with pockets
One side papers to go home
Other side papers to turn in

4\textsuperscript{th} and beyond

Organized by subject
Binders
Planners
More material to keep track of
Organizational Scheme for Schoolwork

1) Determine how many subjects
2) Determine what to use: binders, folders, or both
3) Use binders or folders that are a different color
4) Older kids use binders that have dividers
5) Homework folder one side to complete, other side to turn in
6) If middle school or high school may include several binders and folders
Organizational Scheme for Backpacks

1) Pockets – Backpack with pockets can be very helpful, small and larger pockets can be used for different items, water bottles, money for lunch

2) Small items – If learner has a lot of loose items and they keep them in a small pocket figure out what can be kept in the classroom and what can go into the backpack. Pencil pouch or other containers might be helpful

3) Packing Backpack – Teach the learner how to do this skill

4) Visual aid – Take a picture of what the backpack should look like and include the learner in the process of determining location of items.
Organizational Scheme for Desk
Organizational Scheme for Desk

1) Determine where items will be stored

2) Books stacked largest to smallest

3) Painters type used to provide spatial awareness

4) Take a picture of the learners desk when organized

5) Provide praise for keeping up
Organizing Personal Space

1) Explain how to sort items

5 Decisions:

I. Throw away
II. Donate
III. Put in storage
IV. Goes in a different room
V. Keep

2) Negotiate items to keep versus purge

“Pack rat”

“Will you ever use this?”

“When was the last time you used this?”

“How long has it been here?”

If the answer are no, I don’t know get rid of. If they refuse encourage to move into storage
Organizing Personal Space

3) Determine how much of the project to tackle
   Start with one area at a time

5) Find homes for items in the room
   Teach learner where to put things:
   Closets
   Bookcase
   Shelves

4) Use household cleaner
   Once items are sort clean organized area

6) Move items that go in different rooms
   Place items in the appropriate locations:
   Trash, donation, storage

7) Prompts
Problem Solving

Skinner (1974) a problem is a situation wherein an outcome would be reinforcing if one had a behavior needed to produce the outcome.

It’s not that I’m so smart, it’s just that I stay with problems longer.

Albert Einstein
Problem Solving

Develops around the age of 6
Involves complex chain of behaviors
Identify there is a problem
Helpful to identify likely outcomes
If solution is not effective figure out another one
If the problem is solved reflect on what worked and what did not work

Many different types of problems:

- Opening a package
- Fixing a broken item
- Social problems/conflict require perspective taking skills

Perspective taking requires:

- Considering thoughts and emotions of others
- Inference skills
- Understanding how one’s behavior effect others

Perspective taking requires:

- Considering thoughts and emotions of others
- Inference skills
- Understanding how one’s behavior effect others
Issues with problem solving

- Gets into personal conflicts with others
- Is always asking others for help
- Tries the same solution over and over again, rather than coming up with new ideas
- Gets stuck easily when doing projects
- Does not appear to learn from mistakes
Working on Problem Solving

1) Materials

problem scenario, written, video, in the moment, or past issues

3) Task initiation

Continue to have learner work on problem until successful solutions are reached

2) Prompts

Use shadowing – walk the learner through the steps of solving a problem

Use less intrusive prompts – leading questions, experiential prompts

Fade prompts – if presenting questions vocally fade out questions, if using worksheets fade out assistance completing worksheet

Visual – index card (1) problem, (2) possible solutions, (3) choose and try one, (4) keep trying
### Example Problems and Solution

<table>
<thead>
<tr>
<th>Non-social Problems</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to open a package but don’t have scissors</td>
<td>Use keys</td>
</tr>
<tr>
<td></td>
<td>Rip tape off</td>
</tr>
<tr>
<td></td>
<td>Tear package open</td>
</tr>
<tr>
<td>Need a pen but can’t find one</td>
<td>Use a marker</td>
</tr>
<tr>
<td></td>
<td>Use a color pencil</td>
</tr>
<tr>
<td></td>
<td>Use a mark up pencil</td>
</tr>
<tr>
<td>Get lost</td>
<td>Use GPS</td>
</tr>
<tr>
<td></td>
<td>Ask someone for direction</td>
</tr>
<tr>
<td></td>
<td>Call parents for directions</td>
</tr>
<tr>
<td>Zipper on pants broke at school</td>
<td>Tie sweatshirt around waist</td>
</tr>
<tr>
<td></td>
<td>Fasten with safety pin</td>
</tr>
<tr>
<td></td>
<td>Change into gym cloths</td>
</tr>
</tbody>
</table>
# Example Problems and Solutions

<table>
<thead>
<tr>
<th>Social Problems</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| Disagreement about who gets to go first in a game | Rock Paper Scissors  
Pick a number between 1 to 10  
Let the other person go first |
| Disagreement about what activity to engage in during a play-date | Take turns picking activities  
Choose an activity both want  
Flip a coin |
| Getting left out of the group | Find someone else to hang out  
Present something interesting that the group will want to do  
Ask them nicely if they’ll include you |
| Teasing | Laugh it off by making fun of self  
Tease back  
Pay no attention |
# Problem Solving Task Analysis

<table>
<thead>
<tr>
<th>#</th>
<th>Steps</th>
<th>Questions (initial prompts)</th>
<th>Date/Initials</th>
<th>Date/Initials</th>
<th>Date/Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifies the problem</td>
<td>“What is the problem?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Identifies own perspective of what happened (Social only)</td>
<td>“What do you think happened”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Identifies what the other person thinks happened (Social only)</td>
<td>“What does (person) think happened”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Identifies possible solution 1</td>
<td>“What’s one thing you could do to fix the problem”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Identifies likely outcome of solution 1</td>
<td>“What might happen if you do (solution 1)”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentage Independent: ____________

Name: ____________
# Problem-Solving Worksheet (Nonsocial Problems)

**Name:**

**Date:**

## What’s the problem?

<table>
<thead>
<tr>
<th>Things I could do to fix the problem (solutions):</th>
<th>What might happen if I try the solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>1)</td>
</tr>
<tr>
<td>2)</td>
<td>2)</td>
</tr>
<tr>
<td>3)</td>
<td>3)</td>
</tr>
</tbody>
</table>

## Best Solution:

**TRY IT**

Did it work

- [ ] Yes
- [ ] No

If it didn’t work, keep trying new solutions until one works.

The solution that worked was:

What did I learn from solving the problem?
### Problem-Solving Worksheet (Social Problems)

**Name:** __________

**Date:** ______________

<table>
<thead>
<tr>
<th>What's the problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you think happened?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Things I could do to fix the problem (solutions):</th>
<th>What might happen if I try the solution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) ____________________________________________</td>
<td>1) _______________________________________</td>
</tr>
<tr>
<td>2) ____________________________________________</td>
<td>2) _______________________________________</td>
</tr>
<tr>
<td>3) ____________________________________________</td>
<td>3) _______________________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best Solution</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TRY IT</th>
<th>Did it work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

If it didn’t work, keep trying new solutions until one works.

The solution that worked was:

What did I learn from solving the problem?
WALLY, ARE YOU ALMOST DONE WITH YOUR PART OF THE PROJECT?

I WORK BEST UNDER PRESSURE, SO I WAIT UNTIL THE DEADLINE IS ALMOST HERE.

WHAT IF SOMETHING MORE IMPORTANT COMES UP AND YOU DON’T HAVE TIME?

THAT’S THE CORNERSTONE OF MY SYSTEM.
## Time Management

### Involves:

1. Scheduling activities based on amount of time it will take.
2. Checking in on the time remaining.
3. Either speeding up to remain on time or readjusting the schedule to be on time for other tasks.

### Early Learners:

Parents can teach concept of time (5 more minutes and it's time to clean up).

Need the concept of telling time and passage of time to learn time management.

Between ages 11 and 14 years of age engage in time management behaviors by estimating the time length.
Time Management Deficits

- Is often late for commitments
- Overextends self with commitments
- Fails to end task with enough time to transition to the next task scheduled
- Does not consider how long task will take when scheduling self
- Does not get task done within allotted time
- Gets off task and starts working on other things
Teaching Time Management

1) Identification of elapsed time
   Have learner note start and end times
   How long it took log
   List of items that take varying time lengths (use Time Lengths of Activities form)

2) Prediction of elapsed time
   Predict how long task might take
   Compare prediction with actual times
   Use Time Lengths of Activities form
Teaching Time Management

3) Make & Follow a Schedule

a) Making a practice schedule – Short period of time (2-4 hours) and work on making a schedule. Nothing with real deadlines.

b) Task analysis – break schedule down

c) Tracking of time – use a timer to keep track at the start, if learner is running out of time ask if they should speed up or readjust schedule

d) Moving from practice to real schedule
## Schedule

<table>
<thead>
<tr>
<th>Start time</th>
<th>Stop Time</th>
<th>Activity</th>
<th>Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name:_________  Date:_________
# Following a Schedule Task Analysis

<table>
<thead>
<tr>
<th></th>
<th>Steps</th>
<th>Initials/Date</th>
<th>Initials/Date</th>
<th>Initials/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Looks at the schedule and initiates activity, setting timers as needed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Checks remaining time during activity and determines if activity will be completed on time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>If activity won’t be completed on time, decides whether to speed up or continue at the current speed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>When time runs out, decides whether to (1) continue activity, which involves removing or eating into time of another activity on the schedule (2) move on to the next activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Places checkmark to indicate completes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Adjust start/stop times on schedule as needed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentage Independent
"With Thanksgiving around the corner, I thought this would be a good time to review my estate plan."
Planning

Involves being able to:

1) Identify a goal, the steps for reaching the goal, and materials that may be needed
2) Initiate the plan
3) Monitor progress
4) Complete the plan

Around 7 years old:
- Identify a short-term goal
- Steps needed

Between 8 and 11 years:
- Plan simple school projects
- How to make and save $$$$

Between 11 and 14 years:
- Plan and Manage several long-term projects
- Including timelines
Planning Deficits

- Has difficulty figuring out how to start a task
- Has difficult completing tasks
- Finds tasks with many steps difficult to do
- Makes mistakes and has to redo some steps of a task in order to get it right
- Does not think through the steps and materials needed to complete a task or achieve a goal
Using a Planner/Device for Planning

1) Choose a planner
   - Type of planner with learners input (paper or electronic)
   - Smartphone use calendar
   - Phone can provide visuals and auditory reminders

2) Teach to use planner
   - Should have learned time management skill at this point
   - Where and how to enter activities into the schedule
   - How to set recurring activities
   - How to set reminders and identify where they will be
   - How to set alarms
Planning: Short and Long Term Goals

1) Planning worksheets – teach
   (1) identify the goal, required materials, and steps of a plan
   (2) initiate, monitor, and complete the plan

2) Short & Long Term
   Short – cleaning out desk
   Long – school projects, tryouts

3) Task analysis
   Walk through steps
   Use a task analysis short and long term goals
   Questions you can ask
Planning Short Term Task

<table>
<thead>
<tr>
<th>Name:_________</th>
<th>Date:_________</th>
</tr>
</thead>
</table>

**Goal:**

**Materials needed:**

**Steps**

<table>
<thead>
<tr>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
</tr>
</tbody>
</table>

**My Plan (circle one):** Had many problems  Had some problems  Went well  Went very well

**What I would do differently next time:**
# Planning Long Term Task

**Goal:**

<table>
<thead>
<tr>
<th>Materials needed:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My Plan (circle one):</th>
<th>Had many problems</th>
<th>Had some problems</th>
<th>Went well</th>
<th>Went very well</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What I would do differently next time:

**Completed**

Completed ✔

Name:_________  Date:_________
# Planning Long-Term Goals

## Task Analysis

<table>
<thead>
<tr>
<th>#</th>
<th>Steps</th>
<th>Questions (initial Prompts)</th>
<th>Date/Initials</th>
<th>Date/Initials</th>
<th>Date/Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifies the goal</td>
<td>“What is the goal?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Identifies materials needed</td>
<td>“What materials will you need?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Identifies the steps</td>
<td>“What are the steps needed to meet the goal?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Schedules the steps (may use calendar/planner)</td>
<td>“Get started”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Initiates relevant step of the plan</td>
<td>“Get started”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Completes the step</td>
<td>“Keep going”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name:_________
Working Memory

The good thing about having a bad memory is that jokes can be funny more than once.
Working Memory

**Working memory** – the ability to hold and manipulate information for short periods of time.

- **IQ test:**
  - Recall digits
  - Letters
  - Words forward and backward
  - Follow multiple step instructions
  - Recall information with distractors present

<table>
<thead>
<tr>
<th>Typically Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-4 years old</td>
</tr>
<tr>
<td>3 step instructions</td>
</tr>
</tbody>
</table>

| 5-8 years old         |
| 2-3 step instructions moving to different rooms (errands) |

| 8-11 years old        |
| More complicated errands with time delay |
Working Memory Deficits

- Has difficulty completing actions that involve two or more steps
- Forgets what they are doing in the middle of a task
- Has difficulty completing task even when instructions are given
- Has difficulty remembering instructions
- Has difficulty remembering information
Improving Working Memory

- Digit, letter, and word recall forward and backward
- Follow 2-3-4 step instructions – take off your backpack, pull out your lunch, place in bin, and put in cubby
- Delivering a message – “go tell Mrs. Jones I need staples please.”
- Memory board games
- Online memory games
- Spelling words
- Math Facts
- Reading comprehension
Teaching Studying Skills

1) Introduce studying strategies
   a) Flashcards – memorize information, one side key works other side information that needs to be memorized
   b) Writing information multiple times
   c) Rehearsing information orally
   d) Practicing – math facts
   e) Mental association – dessert you want more than one
   f) Acronyms and acrostics – PEMDAS
   g) Songs
   h) Visual images
Teaching Studying Skills

2) Prompts
   o Homework routine
   o Shadowing
   o Assist learner in identifying appropriate studying strategy
   o Assist learner in correctly recalling
   o Errorless teaching
   o Remember fade prompts
Remembering to turn in homework

1) Meet with teacher – work collaboratively with team
   a) Daily verbal instructions to turn in homework made by the teacher
   b) Daily or weekly check-in at the end of class time
   c) Vibrating alarm to prompt learner to turn in

2) Prompts
   a) When using teachers verbal prompting fade as quickly as possible
   b) Self management

3) Self-evaluation
   a) Each time receives a grade engage in self evaluation
Self-Evaluation of Graded Assignments

Name:_________

<table>
<thead>
<tr>
<th>Date:</th>
<th>Assignment</th>
<th>My Grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Steps</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Check each item I got wrong and figure out the correct answer.</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>If I can’t figure out the answer, ask for help.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What I would do differently next time:</td>
<td></td>
</tr>
</tbody>
</table>
Emotional Self-Regulation and Flexibility

Self-regulation makes it easier for young people to move through challenges and choose how to respond to events in their lives.
Emotional Self-Regulation

Involves the ability to behave in a social acceptable manner, even when situations are disappointing, annoying, frustrating, stressful, anxiety-provoking.

Individuals with proficient regulation skills:

- Notice Negative emotions
- Choose different behaviors to engage in
- Can take a birds eye view
- Understand consequences
- Much more successful in adulthood
Emotional Self-Regulation Deficits

- Tends to overreact to situations when compared to peers same-age
- Remains upset about a situation for longer than same-age peers
- Is short tempered and has emotional outbursts
- Has mood swings
- Reacts to small problems as though they are major problems
Teaching Emotional Self-Regulation

1) Wait for a good mood
   - Introduce when in a good mood
   - Not when they are already upset
   - Think of teaching as proactive ways to teaching learner coping skills

2) Emotional levels chart
   - Create visual
   - Include different types of emotions
   - Take pictures of learner emitting the emotions
   - Have the level more in a progression
Teaching Emotional Self-Regulation

3) Teach to relate emotional levels to situations
   a) Ask learner what situations make them feel this each emotion
   b) Present scenarios and ask to identify level they would be at (think role-playing)
   c) Teaching coping skills
      i. Counting to 20
      ii. Asking for a break
      iii. Asking for help
      iv. Writing in journal
   d) Contrive opportunities – teach learner to start using coping skills at lower levels
   e) Capture opportunities to practice in the real life – once learner is able to calm down warning stage
Teaching Emotional Self-Regulation

4) Plan in advance
   - Recurring situations have learner identify what they can do
   - Write a plan
   - Be proactive

5) Include effective behavioral interaction strategies
   Think about it this way teach the learner to have better outcomes

Examples:
   - Avoid getting in trouble
   - Losing preferred items
   - Negative Consequences

REINFORCE SUCCESS!
Flexibility

“Notice that the stiffest tree is most easily cracked, while the bamboo or willow survives by bending with the wind.”

BRUCE LEE KUSHANDWIZDOM
Flexibility

Involves:” the willingness to adapt to one’s environment by engaging in different behavior when things in one’s environment change.”

Typically Developing Toddlers:

- Get use to routines and become upset when they change

5-7 years of age:

- More accepting

Inflexibilities can include:

- Not wanting an item moved
- Insisting routines occur a certain way
- Plans do not turn out the way expected

(Flexible and Focused, Najdowski 2017)
Flexibility Deficits

- Does not react well to a change in plans or routines
- Does not react well or takes a while to warm up to new situations
- Wants things done in a specific way and becomes upset if they are changed
- Perseverates on topics and activities
- Has difficulty interacting in unfamiliar social situations
- Does not want to try new things
- Has particularly limited varieties in food or toy preferences
- Dictates to others how they are “supposed” to do things
Teaching Flexibility

1) Start by creating a list of inflexible situations
   a) Being barefoot
   b) Crinkled run
   c) Unexpected events
   d) Different routes
   e) Plans change
   f) Items moved

2) Exposure & response prevention
   a) Expose – Place learner in situations were they are inflexible and present them from getting out of it
   b) Reinforce – provide reinforcement for tolerating situations, may need to shape up a response
   c) Repeat with other inflexibilities
   d) Take baby steps
   e) Test for generalization
Teaching Flexibility

3) Teach definition of flexibility
   - Difference between flexible and rigid
   - Use tangible objects
   - Things flexible change
   - Things that are rigid stay the same

4) Teach thinking flexibly
   - Explain our minds are flexibly
   - When flexible we get upset less
   - People want to be around us
   - Learn new things
   - Try new things
Teaching Flexibility

5) Use flexibility worksheet
   o Role-play situations teach the learner what would happen is inflexible
   o Be proactive

a) Let it be – not allowing a situation to fix or escape from

b) Back up plan – teach learner that things may not always turn out like we want, what to do during these situations

c) Compromise – teach the learner how to compromise with other people, give strategies:
   o Choose number between 1-10
   o Rock, paper, scissors
## Example of Rigid Versus Flexible Behavior Situations

<table>
<thead>
<tr>
<th>Situations</th>
<th>Rigid</th>
<th>Flexible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom drives a different direction</td>
<td>Scream, cry, make mom upset with me</td>
<td>Let it be, take deep breaths, I can still get there</td>
</tr>
<tr>
<td>Change in schedule/routine</td>
<td>Refuse to participate, running late</td>
<td>Let it be, think of happy place, find another time to do the thing I want to do</td>
</tr>
<tr>
<td>How a game is played</td>
<td>Refuse to play the game; play alone</td>
<td>Compromise; get to use some of each of our ideas for rules</td>
</tr>
<tr>
<td>Friends wants to play a different game</td>
<td>Act mad; refuse to have fun</td>
<td>Compromise; get to play a little of both games flip a coin to see whose game goes first</td>
</tr>
<tr>
<td>Lost a piece of a game</td>
<td>Refuse to play the game; have nothing to do; friends don’t want to play with me</td>
<td>Back-up plan; use a piece from another game; still get to play have fun</td>
</tr>
<tr>
<td>Forgot favorite sweater</td>
<td>Refuse to stay at school; have a tantrum in class</td>
<td>Back-up plan; get a moment to calm down in another room, and then go back to class</td>
</tr>
</tbody>
</table>
### Flexibility Worksheet

**Inflexible Situation:**

<table>
<thead>
<tr>
<th>What will happen if I’m rigid:</th>
<th>What will happen if I’m flexible:</th>
</tr>
</thead>
</table>

**How I will be flexible:**

- Let it be
- Compromise
- Back up plan

**Coping strategy I will use:**

**Other:** __________________________
THANK YOU
Flexible and Focused, Teaching Executive Function Skills to Individuals with Autism and Attention Disorder, Najdowski, 2017
Matthew J Meunier, BCBA
NoCal Behavioral Services, LLC
Matthew.meunier@nocalbehavioralservices.com