

# Developing Self-Management Interventions for Learners with Autism

1st Annual Richard L. Simpson Autism Conference  
Overland Park, KS

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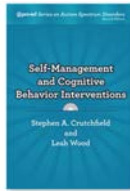
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## Overview of the Session

1. Orienting to Self-Management
2. How to Develop Self-Management Interventions for Learners with Autism
  - a. Goal Setting Interventions
  - b. Self-Monitoring Interventions
  - c. Self-Reinforcement Interventions
3. Packaging Self-Management Approaches - Case Study
4. Questions



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## Session Goal

The goal of this session is that all participants will develop sufficient knowledge of specific self-management interventions, to allow for the development and successful implementation of said approaches in school settings with learners on the autism spectrum.

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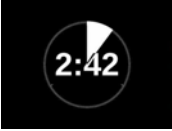
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Introduce yourself to a few people sitting near you. Share briefly your current role in schools and why your interest in self-management.




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### Self-Management

Self management refers to a collection of cognitive (thinking) processes and behaviors that allow an individual to voluntarily control their own emotions and actions in order to act in goal-directed ways. Broadly speaking self-management is synonymous with self-regulation or self-control.

Blair & Diamond, 2008

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### Let's take today for example .....

On your way to this meeting room today you likely engaged in self-management, in known and even unknown ways.

- Last night you set an alarm (with an underlying goal of leaving your residence at an approximate time)
- As you prepared yourself this morning, you likely monitored your progress relative to that goal and made adjustments to your behavior and thinking accordingly
- As you left the house you likely evaluated whether you met your goal, and perhaps rewarded (Starbuck drive through) or punished yourself (negative self-talk) accordingly

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## Students with Autism and Self-Management

Long story short.... We know these processes are difficult for most students with autism.

Which can have negative impacts across domain areas.

Adrien et al., 1995; Ozonoff & McEvoy, 1994

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## Self-Management Interventions (SMI)

A collection of strategies that seek to use self-management techniques (goal-setting, self-monitoring, self-reinforcement) to support students across a variety of outcomes (e.g., academic, social skills, engagement).

Quinn, Swaggart, & Myles, 1994

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Table 1: Brief Definitions of Specific SMI

Intervention	Definition
Goal Setting	Involves the identification and recording of specific short-term or long-term goals by the individual.
Self-Monitoring	Involves the collection and recording of specific data features (frequency, duration, etc.) overtime by the individual.
Self-Reinforcement	Involves the self-evaluation of goal/criteria attainment and the self-administration of desired stimulus.

Crutchfield, & Wood, 2018

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## Evidence Supporting SMI

Both the NCPD-ASD and the National Autism Standards Project list self-management strategies as an Evidenced Based Practice

A majority of this research supports specific self-monitoring interventions, but other approaches have supporting research.

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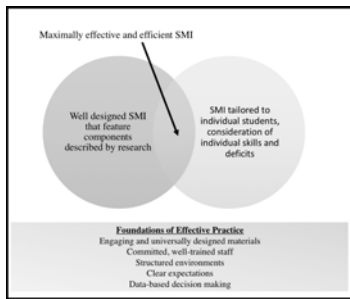
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Figure 1: Maximally Effective and Efficient SMI



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## Goal Setting Interventions

Specific scaffolds (individualized instruction, visual supports, etc) that support students in identifying areas of strength and weakness and developing meaningful short-term and long-term targets, as well as plans to meet these targets.

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## The Importance of Goal Setting

- Setting measurable targets is a foundational element of special education
- Yet as a field we infrequently support students in developing their own goals
- This is unfortunate because most of the things we do on a daily basis are goal directed
- Further students with IEPs often are expected to participate in IEP development, including goal setting, as they progress throughout their school careers

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## Goal Setting Prerequisite Skills

1. provide information about personal strengths, needs, and interests
2. choose from an array of preselected choices or goals
3. demonstrate understanding of the concept of “most,” or order choices by personal relevance or importance

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## How to Implement Goal-Setting Interventions

- Step 1: Selecting and defining a goal
- Step 2: Developing a plan for achieving a goal
- Step 3: Develop a system for measuring progress towards a goal
- Step 4: Establishing consequences

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### Step 1: Selecting and Defining a Goal

- Start simple, remember it's about helping students learning the process of goal setting
  - Start with more proximal goals
  - Make sure that goals are meaningful and relevant
  - Make sure that the goals are attainable

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### Step 1: Selecting and Defining a Goal

The first step is to help students get into the "ballpark". Start by helping them identify "things they are good at" "things they need help with" and "things that they like".

This will help them start the process of goal setting. This can be accomplished through scaffolded worksheets and visual supports.

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Figure 2: Example of Goal Planning Worksheet - Part C

<p><i>Example for students with HF/ASD</i></p> <p><b>GOAL SETTING WORKSHEET</b></p> <p><b>Part A: Thinking about myself</b></p> <p>1. My strengths are: _____</p> <p>_____</p> <p>_____</p> <p>2. I need help with: _____</p> <p>_____</p> <p>_____</p> <p>3. I am interested in: _____</p> <p>_____</p> <p>_____</p>	<p><i>Example for students with more extensive support needs</i></p> <p><b>GOAL SETTING WORKSHEET</b></p> <p><b>Part A: Thinking about myself</b></p> <p>1. My strengths are:</p> <table border="0"><tr><td> reading</td><td> math</td><td> talking with friends</td><td> finishing my work</td></tr></table> <p>2. I need help with:</p> <table border="0"><tr><td> reading</td><td> math</td><td> talking with friends</td><td> finishing my work</td></tr></table> <p>3. I am interested in:</p> <table border="0"><tr><td> Batman</td><td> cars</td><td> playing with others</td><td> computer time</td></tr></table>	 reading	 math	 talking with friends	 finishing my work	 reading	 math	 talking with friends	 finishing my work	 Batman	 cars	 playing with others	 computer time
 reading	 math	 talking with friends	 finishing my work										
 reading	 math	 talking with friends	 finishing my work										
 Batman	 cars	 playing with others	 computer time										

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## Step 1: Selecting and Defining a Goal

After students are proficient in “thinking about themselves” we can use their responses to further scaffold specific goal areas.

This can include setting up queries about areas of weakness in specific domains and then helping students to identify areas they want to focus on the most or first.

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Figure 3: Example of Goal Planning Worksheet - Part B

The figure shows two versions of a 'GOAL SETTING WORKSHEET'.  
The left version, titled 'Example for students with HFA/ASD', has 'Part B: Choosing a goal' with three questions: 'Do I need to work on academic goals?', 'Do I need to work on organization goals?', and 'Do I need to work on social skills goals?'. Each question has 'YES' and 'NO' options. Below are boxes for 'Make a list of possible goals' and 'Check your goals'.  
The right version, titled 'Example for students with more extensive support needs', has 'Part B: Choosing a goal' with three questions: 'For my learning, I need to work on:', 'For my organization, I need to work on:', and 'For social skills, I need to work on:'. Each question has icons for 'reading a book', 'math facts', 'I don't know', 'drawing my work', 'writing down my homework', and 'I don't know'. Below is a box for 'The goal I want to work on the most is:'.

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## Step 1: Selecting and Defining a Goal - Considering Scope and Length

Once broad goal areas have been defined it is important to consider the scope and time parameters of the goal.

This process can be even more abstract and confusing for many students with ASD, so important to pre-teach and scaffold.

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Figure 4: Example of Goal Planning Worksheet - Part C

<p>Example for students with IEP/504</p> <p><b>GOAL SETTING WORKSHEET</b></p> <p>Part C: Choosing the scope and length of my goal</p> <p>1. My goal topic is _____</p> <p>2. For this goal, I will learn or do this much, or this often:</p> <p>3. I need this long to achieve my goal:</p> <p>4. Here is my four goal:</p> <p>I will (topic and scope) _____</p> <p>and I will be finished in (length of time to complete my goal) _____</p>	<p>Example for students with more extensive support needs</p> <p><b>GOAL SETTING WORKSHEET</b></p> <p>Part C: Choosing the scope and length of my goal</p> <p>1. My topic is:</p> <p>reading    math    talk to others    finishing my work</p> <p>2. I will finish (scope):</p> <p>all    some    none</p> <p>3. I need this much time to be finished with my goal (length):</p> <p>(M) 1 2 3 4 5</p> <p>(D) _____</p> <p>Days    Weeks</p>
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Figure 5: Technology Supports

The screenshot shows a digital version of the goal setting worksheet. It features a grid of icons for different activities like reading, math, and social skills. There are also interactive elements like checkboxes, dropdown menus, and a progress indicator. The layout is more colorful and visually engaging than the printed version.

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Figure 6: Go Worksheet Maker

**GoWorksheet Maker iPad App**

Quickly convert any printed worksheet into a digital activity!

**Version 2.0 available NOW!**

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## Step 2: Develop a Plan

Not all goals will need a step-by-step plan, but early in the process of teaching goal setting it can help to make a formal plan to meet specific goals. This will generally include helping the students answer the following questions:

- What materials do I need?
- What are the steps to achieving my goal?
- What barriers do I need to overcome ?

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Figure 7: Goal Planning Worksheet - Part A

<i>Example for students with HFASD</i>	<i>Example for students with more extensive support needs</i>
<b>GOAL PLANNING WORKSHEET</b>	<b>GOAL PLANNING WORKSHEET</b>
<b>Part A: Materials</b>	<b>Part A: Materials</b>
1. What materials I need? _____ _____ _____	1. What materials do I need?  books  calculator  pencil  ruler
2. Are there choices I can make about my materials? _____ _____ _____	2. How will I get my materials?  my teacher  the classroom  other students  someone else
3. How will I get my materials? _____ _____ _____	

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Figure 8: Goal Planning Worksheet - Part B

<i>Example for students with HFASD</i>	<i>Example for students with more extensive support needs</i>
<b>GOAL PLANNING WORKSHEET</b>	<b>GOAL PLANNING WORKSHEET</b>
<b>Part B: Steps for achieving my goal</b>	<b>Part B: Steps for achieving my goal</b>
My goal is to: _____ _____	My goal is to: _____ _____
To meet my goal:	To meet my goal:
1. First, I will _____	1st 1. First, I will _____
2. Next, I will _____	2nd 2. Next, I will _____
3. Last, I will _____	3rd 3. Last, I will _____
	Response options for sequencing (add specific steps plus picture supports as needed)
	_____
	_____
	_____

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Figure 9: Goal Planning Worksheet - Part C

**GOAL PLANNING WORKSHEET**

**Part C: Overcoming barriers**

When I think about my goal...

- What seems hard for me?
- What are things I have trouble doing by myself?
- What are things that make me want to give up?

Write possible **problems** in the table below.

When I think about getting help at school...

- Who can ask for help?
- Where can I go to get things I need?
- What makes me want to keep trying?

Write possible **solutions** in the table below.

Problem	Solution
1. Get Frustrated	Consequence Map
2.	
3.	

**Consequence Map**

Circle all possible **problems**.

Circle all possible **solutions**.

**Problem Solving**

I don't like the sound of this story. I don't like getting help at school. I can't ask for help. I can't get a number that I need. I can't get a number that I need.

Everyone gets frustrated. How I deal with it is MY choice!

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### Step 3: Develop a measurement system

This will help students monitor their progress and make adjustments as necessary.

More on "how to do this" in the next section on Self-Monitoring.

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### Step 4: Establishing Consequences

It is important to attach a desired stimulus to the successful completion of the goal. This can be done easily by developing a "contingency contract" with the student.

Again more on this in the self-reinforcement section.

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As a way to bookend goal setting, take a minute or two to chat with those around you. Try to identify something specific that you want to try in your classroom and also try to add something from your experience.



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### Self-Monitoring Interventions

Self-monitoring interventions involve the collecting and recording of data overtime by the target individual

Self-monitoring interventions are the most widely utilized and most scientifically supported SMI

Lee, Shogren, & Simpson 2007

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### Self-Monitoring



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## Self-Monitoring Prerequisite Skills

- Discriminate between occurrences and non-occurrences of the target skill
- Record these occurrences reliably and accurately overtime,
- Eventually manage the self-monitoring system (e.g., checklists, timers) independently.

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## How to Implement Self-Monitoring Interventions

- Step 1: Selecting an appropriate target behavior
- Step 2: Developing the self-monitoring system
- Step 3: Conducting student training
- Step 4: Implementing the self-monitoring system
- Step 5: Evaluating intervention effectiveness
- Step 6: Troubleshooting
- Step 7: Fading the intervention

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### Step 1: Selecting an Appropriate Target Behavior

Table 2: Overview of Outcomes Supported by Research

Increasing Social and Play Skills	Increasing Classroom Routines	Decreasing Problem Behavior	Increasing Task Related Behaviors	Increasing Daily Living Proficiency
<ul style="list-style-type: none"> <li>• Responding to peers</li> <li>• Non-verbal communication</li> <li>• Social initiations</li> <li>• Sharing</li> <li>• Appropriate play</li> </ul>	<ul style="list-style-type: none"> <li>• Following a schedule</li> <li>• Transitioning between activities</li> <li>• Following directions</li> </ul>	<ul style="list-style-type: none"> <li>• Disruptive behavior</li> <li>• Stereotypic behavior</li> <li>• Inappropriate vocalizations</li> <li>• Aggression</li> </ul>	<ul style="list-style-type: none"> <li>• Independent work skills</li> <li>• On task</li> <li>• Writing accuracy</li> <li>• Productivity</li> <li>• Academic accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Setting table</li> <li>• Making lunch</li> <li>• Getting dressed</li> <li>• Purchasing items from store</li> </ul>

As a general rule behaviors that best lend themselves to self-monitoring include behaviors that occur frequently or need consistent monitoring, behaviors that have more distal consequences, and behaviors that are already in the student's repertoire.

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 **Step 2: Developing the Monitoring System**

The self-monitoring system is the actual tool that students use to monitor and record their behavior over time. This multi-component tool requires careful thought and planning.

**Important elements of the system include:**

- The monitoring prompt
- The monitoring intervals
- The timing and cueing mechanisms
- The student recording materials

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 **The Monitoring Prompt**

The purpose of the monitoring prompt is to query a specific behavior or features of behavior directly connected to the targeted outcome.

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## Features of Monitoring Prompts

- In student language
- Can include simple questions, rating scales, checklists, selection of picture symbols
- Important thing is that students can make meaning of the prompt

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Figure 10: Examples of Monitoring Prompts

**Monitoring Prompts  
On Task Examples**



**Yes/No Monitoring Questions**



Are you checked in?

Are you:  
Listening to teacher?  
or  
Working on assignment?

**Choice Between Behavior Features**

 or 

Are you:  
Checked in or Checked out

I am:  
 Listening  
 Looking at teacher  
 Working on assignments  
 Talking to friends  
 Playing with pencil

↑ More Support Needs  
↓ Fewer Support Needs

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Figure 11: Examples of Monitoring Prompts

**Today in math class, did I?**

- Follow directions
- Complete activities
- Keep my body quiet
- Be safe with my body and words.

yes  no

Class	Bring items from...	
Communication	Working?	Yes No
Art	Ready?	Yes No
	Do I have homework?	Yes No N/A
	Did I write it in my planner?	Yes No N/A
	Did I turn in _____?	Yes No N/A
American	Working?	Yes No
History	Ready?	Yes No
	Do I have homework?	Yes No N/A
	Did I write it in my planner?	Yes No N/A
	Did I turn in _____?	Yes No N/A

Are you...	 or  Quiet? Talking Out?	 →	<b>Right now I am.....</b> <input type="checkbox"/> Listening or working <input type="checkbox"/> Asking for help <input type="checkbox"/> Drawing pictures <input type="checkbox"/> Talking to my friends <input type="checkbox"/> On Task <input type="checkbox"/> Off Task
Are you...	 or  Quiet? Talking Out?	 →	<b>Right now I am.....</b> <input type="checkbox"/> Listening or working <input type="checkbox"/> Asking for help <input type="checkbox"/> Drawing pictures <input type="checkbox"/> Talking to my friends <input type="checkbox"/> On Task <input type="checkbox"/> Off Task
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The screenshot shows a Google Forms survey. The first question is "How much TV did you watch?" with radio button options: 0, 1-2 hrs, 2-3 hrs, and >3 hrs. The second question is "Are you caught up on your emails?" with radio button options: Yes and No. Two pie charts are shown: one for the email question (Yes: 52.4%, No: 47.6%) and one for the TV question (0: 10.2%, 1-2 hrs: 47.6%, 2-3 hrs: 37.8%, >3 hrs: 4.4%).

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### The Cueing Interval

- Now the question becomes "how frequent to cue the self-monitoring prompt?"
- For students new to self-monitoring err on the side of more frequent cueing
- Take data to determine current levels of targeted outcomes, as this can inform how frequently to cue

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### The Cueing Interval

High Frequency Cueing	Low Frequency Cueing
<ul style="list-style-type: none"> <li>• For target behaviors that need frequent monitoring (e.g., engagement, rule following, work completion, etc.).</li> <li>• Select an interval that is slightly more frequent than the students current performance in that skill area.</li> </ul>	<ul style="list-style-type: none"> <li>• For target behaviors that occur at more fixed time points (e.g., turning in homework, responding to others).</li> <li>• Monitoring generally occurs right after the behavior is expected to have occurred or at specific time each day.</li> </ul>

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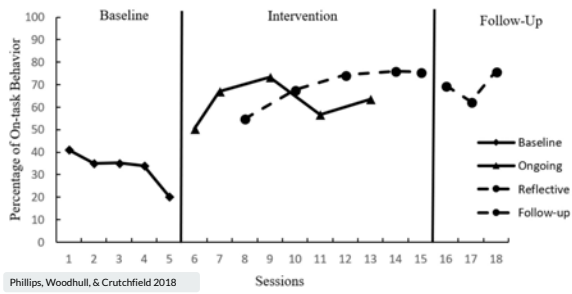


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Figure 12: Data From Pilot Study Comparing Cueing Intervals




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### The Cueing Mechanism




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### The Student Recording Materials

Figure 15: Student Recording Materials

When the timer goes off have you been...

Working	Looking at notes	Looking at work
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No
Yes No	Yes No	Yes No

Total Yes Circles: \_\_\_\_\_

Yes gets 15 minutes of \_\_\_\_\_ time

2. \_\_\_\_\_

3. \_\_\_\_\_

Date: \_\_\_\_\_

Are you on task?

😊 Yes

😞 No

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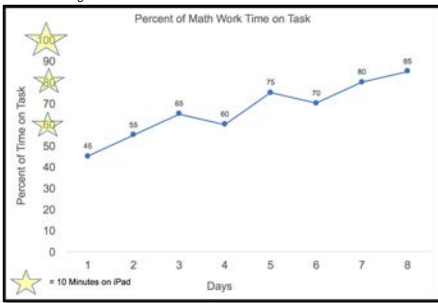
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Figure 14: Student Recording Overtime



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### Step 3: Conducting Student Training

- Very important part of the self-monitoring intervention
- Train students to accurately discriminate between occurrences and non-occurrences of
- Train students to use the monitoring materials independently

*\*\*Use of video in discrimination training can be a valuable procedure*

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### Video Feedback

- A video instructional technique in which students watch a video of themselves and evaluate their own behavior
- Useful for discrimination training and example/non-example training
- Should include formal feedback routines
- Control over the medium appears to offer great benefit

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## Video Feedback Self-Evaluation Tools

Self-Evaluation...

			
 1. I responded to my name.			
 2. I listened to my friend when they were speaking.			
 3. I waited my turn to talk.			
 4. I answered my friend's question.			
 5. I looked at my friend when talking to them.			
 6. I gave my friend a good answer.			
 7. I used nice words.			

During the Game  
.....

Waited my turn

Used a nice tone of voice (even if losing)

Followed the rules

Asked for help if needed



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### Step 4: Implementing the Self-Monitoring Intervention

- When implementing the intervention it is important to use specific error correction procedures
- This ensures that students do not miss consecutive intervals or do not respond incorrectly to consecutive intervals

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### Step 5 and 6: Evaluating the Intervention and Troubleshooting

- Of course we need to continue to monitor the overall levels of the behavior of interest so we can make adjustments to the treatment as needed
- Can increase intervals, can package with reinforcement, can return to training

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### Step 7: Fading the Intervention

- Self-monitoring interventions are often easy to fade as it simply requires increasing the monitoring intervals slowly overtime.
- This should be done carefully and strategically while continuing to monitor behavioral levels

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As a way to bookend self-monitoring, take a minute or two to chat with those around you. Try to identify something specific that you want to try in your classroom and also try to add something from your experience.



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### Self-Reinforcement Interventions

Self-reinforcement includes identifying effective reinforcers or rewards, determining if and when reinforcers should be delivered, and independently accessing reinforcers.

These approaches are most likely to be packaged with other self-management approaches and fit nicely with self-monitoring

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### Prerequisite Skills for Self-Reinforcement

- Discriminate between preferred items and non-preferred items
- Evaluate their own behavior and make a determination when behavioral thresholds have been met
- Wait to exchange secondary reinforcers (i.e., tokens) for other primary or secondary reinforcers

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### How to Implement Self-Reinforcement Interventions

- Step 1: Conduct a reinforcement inventory
- Step 2: Support self-evaluation
- Step 3: Establish a schedule of reinforcement and fading

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### Step 1: Conduct Reinforcement Inventories/Assessments

- Use age appropriate reinforcers
- Identify preferred items through student input
- Helpful to create categories: "things I like" "things I do not like" "things I like the most"

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### Step 2: Support Self-Evaluation

- Importantly if students access reinforcement based on inaccurate self-evaluation we are essentially reinforcing undesired behavior
- Very important that if you are packaging self-monitoring and self-reinforcement students are accurately evaluating their performance

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### Step 3: Establish Schedules of Reinforcement

The purpose of self-reinforcement is not to allow students free access to reinforcers at any time. Students should recognize (through teacher explanation and think aloud modeling) that one reason we have schedules of delivery is to ensure that growth is happening along the way.

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As a way to bookend self-reinforcement, take a minute or two to chat with those around you. Try to identify something specific that you want to try in your classroom and also try to add something from your experience.



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### Putting It all Together

Take a few minutes to read the case study on packaging these SM treatments together.

When finished, talk with those near you about how you might take some of these ideas into your classroom

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### Questions

Contact: [sacrutch@calpoly.edu](mailto:sacrutch@calpoly.edu)

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