Academic Strategies for Youth with ASD

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Credit to my colleague Dr. Jessica Steinbrenner for some slide content
About Me

• Work with individuals with ASD since 1990
• School Teacher
• Research in school-based interventions since 2008
Overview

- **Understanding** academic engagement in adolescents with ASD

- **Selecting** evidence-based practices and strategies

- **Implementing** evidence-based practices and strategies in the classroom

- **Evaluating** the impact of practices and strategies on engagement
Understanding Academic Engagement
Definitions and Examples of Engagement

Developmentally appropriate participation in activities

Middle/High School

- Taking notes
- Completing job at job site
- Participating in PE class
- Offering input during group work
- Helping create a page during yearbook club
What Is Linked To Engagement?

Student Factors
- Age and developmental level
- Type of disability
- Student interests

Partner Factors
- Interaction behaviors
- Frequency of interaction

Environmental Factors
- Student groupings
- Activity types
- Instructional strategies

(Adamson et al., 2004, 2009, 2010; deKruif & McWilliam, 1999; Kamps et al., 1991; Marks, 2000; McDonnell et al., 2003; McWilliam et al., 2003)
Engagement and Autism

• Impaired in individuals with ASD
  – More time unengaged than students with other disabilities
  – Less joint engagement and engagement with peers
  – Difficulty shifting engagement

• Related to outcomes
  – Students with higher engagement have better language & academic outcomes
  – Identified as key factor for effective interventions

(Adamson et al., 2009; National Research Council, 2001; Ruble & Robson, 2007; Wong & Kasari, 2012)
Considerations for Selecting EBPs

Student

Setting

Activity
Evidence-Based Practices for ASD

National Professional Development Center on ASD (NPDC)

• Systematic Review – 1990-2011
• List of 27 EBPs for birth-22 years old
• Modules for 16 of the 27 modules on AFIRM website (all will be released soon)
• Full report on EBPs (1990-2011)
• Coming in 2018: updated EBPs based on most recent literature (National Clearinghouse on Autism Evidence and Practice – NCAEP)

NPDC Report, Wong et al., 2014; National Standards Project Report, NAC, 2015
### NPDC: 27 Evidence-Based Practices

<table>
<thead>
<tr>
<th>Antecedent –Based Interventions</th>
<th>Functional Communication Training</th>
<th>Prompting</th>
<th>Structured Play Groups</th>
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<tbody>
<tr>
<td>Cognitive Behavior Intervention</td>
<td>Modeling</td>
<td>Reinforcement</td>
<td><strong>Task Analysis</strong></td>
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<tr>
<td>Differential Reinforcement</td>
<td>Naturalistic Interventions</td>
<td>Response Interruption/Redirection</td>
<td>Technology-Aided Instruction/Intervention</td>
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<td>Discrete Trial Teaching</td>
<td>Parent-Implemented Interventions</td>
<td>Scripting</td>
<td>Time Delay</td>
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<td>Exercise</td>
<td>PECS</td>
<td><strong>Self-Management</strong></td>
<td>Video Modeling</td>
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<td>Extinction</td>
<td>Peer-Mediated Instruction/Intervention</td>
<td>Social Narrative</td>
<td><strong>Visual Supports</strong></td>
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<td>Functional Behavioral Assessment</td>
<td>Pivotal Response Training</td>
<td>Social Skills Training</td>
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NPDC Report, Wong et al., 2014
NPDC: Matrix of EBPs by Outcome and Age

<table>
<thead>
<tr>
<th>EBP</th>
<th>Social</th>
<th>Communication</th>
<th>Behavior</th>
<th>Joint Attention</th>
<th>Play</th>
<th>Cognitive</th>
<th>School-Readiness</th>
<th>Academic</th>
<th>Motor</th>
<th>Adaptive</th>
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NPDC Report, Wong et al., 2014
# Linking Skills & EBPs

**Purpose**
The following tables list the Secondary School Success Checklist (-SSSC) skills and behaviors. These are paired with educational practices which research has shown to be effective for children and youth who have autism spectrum disorder. It is important to keep in mind the priority goals identified, your students goals/strengthens and preference and the function of the behavior(s) currently being used by the student in order to achieve their desired outcome.

Foundational evidence based practices are ones that can be used most broadly and can generalize across different activities. These are italicized. It is strongly recommended that you how to build your understanding/fidelity of use of these first.

This tool should be used to link the skills and behaviors identified as priorities for a student with interventions to be used to learn the skill or increase/decrease the skill or behavior.

## Domain: Independence Behavior

<table>
<thead>
<tr>
<th>Subdomain: Organization</th>
<th>EVIDENCE BASED PRACTICES</th>
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<td><strong>Differential reinforcement</strong></td>
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<td><strong>Technology aided instruction and intervention</strong></td>
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<td><strong>Video modeling/Modeling</strong></td>
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<td><strong>Visual supports</strong></td>
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[Link to PDF](https://csesa.fpg.unc.edu/sites/csesa.fpg.unc.edu/files/resources/Linking%20Domains%20and%20EBP6_2_14%2BFixed%20links.pdf)

[Link to PDF](https://csesa.fpg.unc.edu/sites/csesa.fpg.unc.edu/files/PRISMTtraininingforATEam.pdf)
Implementing EBPs and Strategies

These apply across content, setting, and skill

https://afirm.fpg.unc.edu/afirm-modules
Visual Supports
Visual Supports

• Purpose
  – Provide a concrete, visual support in order to help skill development or performance

• Implementation
  – Many different forms: written, picture, icon
  – Examples: drawings, Post-it notes, notebooks, schedules
Visual Supports: Ideas

Schedules to indicate WHERE to go

- Monday
  - Homeroom
  - Independent Work
  - 1:1 table
  - Reading Group
  - Computer
  - snack
  - Bathroom
  - Choice Time
  - Lunch
  - Sensory PE

- Tuesday
  - Homeroom
  - Independent Work
  - 1:1 table
  - Reading Group
  - Computer
  - snack
  - Bathroom
  - Choice Time
  - Lunch
  - Sensory PE

- Wednesday
  - Homeroom
  - Independent Work
  - 1:1 table
  - Reading Group
  - Computer
  - snack
  - Bathroom
  - Choice Time
  - Lunch
  - Sensory PE

- Thursday
  - Homeroom
  - Independent Work
  - 1:1 table
  - Reading Group
  - Computer
  - snack
  - Bathroom
  - Choice Time
  - Lunch
  - Sensory PE
Visual Supports: Ideas

- **To Do List** to indicate WHAT to do once you’ve arrived

---

**Sorting**

1. Get laundry from closet
2. Dump clothes on sorting table
3. Hang bag and get cards
4. Put cards on baskets
5. Sort clothes
6. Check if washer is open

7. **IS WASHER OPEN?**
   - **YES**- TURN TO WASHING PAGE.
   - **NO**- ASK BERT “What do I do next”? Then turn to that page.
Visual Supports: Ideas

**Cues** to provide additional reminder or detail

- Looked around to see what my classmates are doing?
- Asked a friend for help?
- Review my assignment information?
Visual Supports: Ideas

Cues to make concepts more obvious

Super Bowl “Small Talk” Cheat Sheet

Who is playing?
New England Patriots vs. Seattle Seahawks

Where are they playing?
Glendale, Arizona.

Who is favored to win?
New England by 1 point

When is the game?
Sunday at 6:30 on NBC

Half-Time Show Performer
Katy Perry

Cost of air time per commercial
$4.5 million for 30 seconds

Details
The game will feature the best defense in the league in Seattle against one of the top offenses in New England. New England is coming in to the game under some scrutiny; they have been accused of deflating the footballs in their last game to gain an advantage in cold weather in a 45-7 win over the Ravens. This will be Tom Brady’s 6th trip to the Super Bowl, winning 3, and Russell Wilson 2nd, he won last year. Russell Wilson was a QB for the NC State Wolf pack; so many people in Raleigh continue to follow his success in the NFL.
Visual Supports: An Example

Challenge:
A high school student is not motivated to complete tasks at his work site
Implementation of Visual Supports

Create a visual work system

Work that needs to be done. Finished work.

These visual cues tell Mark what/how much work needs to be done. They also indicate when to take breaks, when he is finished, and what is next on his schedule.
Implementation of Visual Supports
Visual Supports: An Example
Task Analysis
Task Analysis: The Basics

Purpose

• Break down a complex skill or behavior to facilitate learning or completion

Implementation

• Break skill into small, discrete steps
• Create supports (often visual)

Examples/Types

• Forward chaining,
• Backward chaining
• Total task

Sam and AFIRM Team, 2015
Task Analysis: Ideas

Provide explicit breakdown of steps on worksheets (or up on board for all students)
Use visual supports in the classroom for each step of repeating tasks or common activities.
Task Analysis: Ideas

How to make small talk...

1. Ask a question
   - So what do you do?
   - What have you been up to?
   - How did — go?
   - Giving a Compliment
     - Nice Haircut
     - Cool Watch
     - Wow, that is a nice dress

2. Use a surrounding object as an anchor
   - I love those Ionite teas
   - Have you tried Moroccan Mint?

3. Share something about yourself
   - I'm a programmer

4. Ask for help
   - Can you help with my homework?

5. Giving a Compliment
   - Nice Haircut
   - Cool Watch
   - Wow, that is a nice dress
Task Analysis: Ideas

Have student create their own breakdown of steps on iTouch and check off each step

HOW TO SET THE ALARM

1. Touch
2. On the bottom, touch “Alarm”
3. Touch
4. Move the time to when you want the alarm to turn on – hour, minute, am or pm
5. Do you want the alarm to ring on more than one day?
   a. If yes,
      i. Touch “Repeat”
      ii. Touch the days you want the alarm to ring
      iii. Go to step 6
   b. If no, go to step 6
6. Touch “Sound”
7. Choose “Sound”
8. Touch
Task Analysis: An Example

Challenge:
A middle school student is in an art class and is struggling to maintain engagement
Potential Solutions:

1. Break down the task into smaller steps
2. Create materials list and an example of the art project (visual support)

Task Analysis: An Example

1. Feet
2. Body (Front)
3. Cane
4. Score feet to body
5. Decorate bag w/cape
6. Add nose
7. Add hat
8. Decorate hat

Wizard project

- Step 1
- Step 2
- Step 3
- Step 4
- Step 5
- Step 6
- Step 7
- Step 8
Self-Management
Self-Management: The Basics

Purpose

• Encourage self-awareness and independence related to skill performance

Implementation

• Select a target behavior, develop a data collection system, and select reinforcers
• Teach behavior (correct vs. incorrect)
• Teach to use data collection and support as needed

Sam and AFIRM Team, 2016
Self-Management: Ideas

Use paper and pencil to create a self-monitoring system for task completion.
Provide examples of calming strategies as part of self-management system
Self-Management: Ideas

Use reminder and notes function on phone to monitor anxiety and emotion levels
Self-Management: Ideas

Use an app to track asking for help
Self-Management: An Example

Challenge

A high school student is asking too many questions during class
Self-Management: An Example

Potential Solutions

1. Use sticky note to track number of questions during class
2. Use phone app to track on-topic versus off-topic questions
Peer-Mediated Instruction & Interventions
Peer-Mediated Instruction & Interventions: The Basics

Purpose

• Teach peers to engage/interact with students with ASD to support learning and/or interaction

Implementation

• Conduct a peer training, develop plan, provide support and feedback

Examples/Types

• Peer supports
• Peer modeling
• Peer networks
• Peer initiation training
• Direct training for peer & target student
Peer-Mediated Instruction & Interventions: Ideas

Peer network lunch groups
Peer supports in class

Peer-Mediated Instruction & Interventions: Ideas
Teaching peers to implement classroom interventions
Peer-Mediated Instruction & Interventions: An Example

Challenge

A high school student rarely interacts with peers during classes (is mostly nonverbal during class) and seems very isolated in the classroom.
### Peer Support Plan

#### Example One of Peer Support Plan

The Biology class is a great place for Brad to work on goals related to developing social and conversational skills, as well as expanding his typing and writing skills. Below are some ideas for how Brad might become more involved in class activities during Biology, as well as some ideas for how the peers at Brad’s table could support him.

<table>
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<tr>
<th>At the beginning of class...</th>
<th>Brad could...</th>
<th>Peers could...</th>
<th>The facilitator could...</th>
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<td></td>
<td>Talk quietly with his peers (when it is okay with the teacher)</td>
<td>Ask Brad about his day or upcoming school events</td>
<td>Try to draw some of the peers at the table into conversation with Brad—you may have to do some modeling or give them some ideas of things they could ask about or prompt Brad to ask questions of his peers</td>
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<td>Pass out worksheets or other materials to the class (if there are any that day)</td>
<td>Help Brad pass out any worksheets</td>
<td>Make sure Brad has the same materials as his classmates, such as a book, worksheets, lab materials, etc.</td>
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<td>Listen and respond to Ms. Hale as she does attendance</td>
<td>Make sure Brad has all of the same materials for class, such as a book, worksheets, lab materials, etc.</td>
<td>Look through the materials quickly to see if there are any things that could be adapted readily</td>
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<td>Boot up his laptop, if he will be taking notes in class</td>
<td>Help Brad get out his notebook, pen, paper, etc. for class</td>
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<tr>
<th>When there are lectures or whole group instruction...</th>
<th>Brad could...</th>
<th>Peers could...</th>
<th>The facilitator could...</th>
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<td>Listen to Ms. Hale as she presents information to the class</td>
<td>Make sure Brad has all of the same materials for the activity as they do</td>
<td>Make sure Brad has the same materials as his classmates</td>
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<td>Quietly ask his peers questions about the material Ms. Hale is presenting</td>
<td>As you are taking your own notes, copy down on a separate piece of paper some of the important words or ideas from the class discussion; Brad can then type these as his own notes or copy them down with the facilitator’s help. Write clearly large so Brad can see clearly.</td>
<td>Always brainstorm ways Brad can be engaged in the discussion: Can he answer a question? Can he share an idea?</td>
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<td>Take notes by typing important specific key words or phrases that are being written down by a peer (preferably) or the facilitator</td>
<td>Periodically check to make sure Brad is doing okay with typing or writing his notes</td>
<td>Help Brad to take modified notes by typing key words/ phrases on the laptop (preferred) or writing them out by hand</td>
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<td>Copy by hand those same key words or phrases with the facilitator’s help or highlight notes</td>
<td>Occasionally lean over and quietly summarize a key point or interesting fact for Brad, or ask him simple questions that help him follow along</td>
<td>Encourage Brad to look at Ms. Hale or the whiteboard as instruction is taking place</td>
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<td>Turn off/on the lights when Ms. Hale is using the overhead projector</td>
<td>Encourage Brad with lots of positive feedback such as “Wow, you take really good notes!”</td>
<td>Let the peers know when they are doing a great job interacting with or supporting Brad</td>
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<td>Prompt Brad to ask his peers to double check his notes</td>
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(Carter et al., 2013)
An Example
Goals of Peer Supports

- Students with disabilities who are supported by peers have been found to:
  - Have more interactions with classmates
  - Be more actively engaged in class activities
  - Gains in social skills
  - Increases in friendship connections
- Peers providing support to classmates with disabilities have reported:

  I didn't think I was going to become so close to this person, but I did, which is cool.

  I never understood how social students with disabilities really are. Getting to know Justin has really opened my eyes to my peers with disabilities.

  I have a better understanding of Kristine. I know she is smart and has a distinct personality. I feel like I know how to interact with anyone who has a disability.

https://cresa.fpg.unc.edu/sites/cresa.fpg.unc.edu/files/Peer%20Supports%20Training_0.pdf
Evaluating EBPs and Strategies
Tips for Data Collection

Carefully consider criteria for goals

- Number of times vs. percentages
- Use time qualifiers thoughtfully (days vs. consecutive days)
Tips for Data Collection

Keep it simple
- Sticky notes, clipboards, dry-erase markers

Capitalize on technology
- Apps, Google forms, surveys
A Final Note

• Strengths-based approach
  – Recognize the strengths of the individual
  – Capitalize on the strengths as you work on needs

• Self-determination
  – Adolescents have preferences and interests
  – Encourage independence
Web Resources

- AFIRM Modules (http://afirm.fpg.unc.edu/afirm-modules)
- ASHA (www.asha.org/SLP/clinical/Autism-Resources/)
- Autism Internet Modules (http://www.autisminternetmodules.org/user_mod.php)
- Center on Secondary Education for Students with ASD (http://csesa.fpg.unc.edu/)
- Direct Behavior Ratings (http://www.directbehaviorrating.org/cms/)
- National Professional Development Center on ASD (http://autismpdc.fpg.unc.edu/)
- Tarheel Reader (http://tarheelreader.org/)
- Ohio Center for Autism and Low Incidence (OCALI) (www.ocali.org)
- Peer Supports Video Trainings (http://www.pattan.net/Videos/Browse/Training%20Series/Starting+Points+and+Possibilities+Promoting+Inclusion+Learning+and+Relationships+for+Students+with+Complex+Needs)
Questions?
Join the Discussion Board and check in across the next 2 weeks!