Addressing the Needs of High School Aged Adolescents and Young Adults through Evidenced Based Practices

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Learning Outcomes

- Participants will be able to state the purpose and benefit of at least 2 different methods for skill development for adolescents with Autism (e.g. purpose and benefit of video modeling and self-monitoring).

- Participants will be able to utilize empirical research to develop treatment strategies for high school aged children with Autism of average or higher intelligence.

- Participants will identify the major steps to consider when planning for transition from high school to adult services (e.g. exploring vocational opportunities, establishing funding sources).

Why Should We Address these Needs?

- Increase in Autism prevalence
- Lack of availability
- Increase independence
- Increase community integration and inclusion
- Increase employability
- School vs. Adult Education
- Minimal professional oversight
- Need for more research

Difficulties That Arise

- Limited research
- Barriers to treatment such as…
  - Challenging behaviors (i.e., aggression, property destruction, SIB, etc.)
  - Expenses/Funding
  - Flexible scheduling
- Navigating in the community

Dealing with Challenging Behaviors

Challenging Behaviors

Which behaviors stand in the way of accomplishing individuals' goals?

Optimize buy-in and motivation

Reinforcement

Avoid power struggles

Visual Cues and Reminders

- Posting visual reminders for tasks that must be completed each day (with or without pictures)

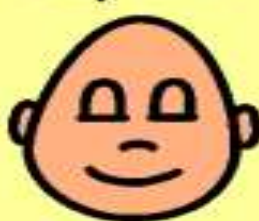**Every Morning and Night**

Wash your face

Brush your teeth

Put deodorant on
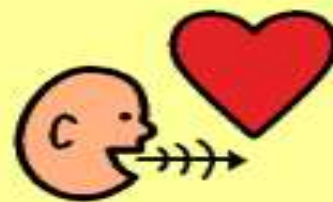
Making Happy Choices

Sit quietly	Stay calm	Use a quiet voice	Use quiet hands	Use kind words

www.livespeaklove.com

Stop, Think, Make a Good Choice

I have a choice	I need to stop	I need to think	I can make a good choice	I feel happy when I make good choices!

www.livespeaklove.com

Implications of Unresolved Challenging Behaviors

- More intrusive and restrictive placements
- Quality of Services
- Exclusion
- Higher levels of physical restraint
- Risk of abuse
- Staff burnout
- Toll on family members

Transitioning to Adult Services

Things to Consider

You are hired!

- Creating a transition plan
  - Housing
  - Transportation
  - Vocational Abilities
  - Employment
  - College
    - https://iancommunity.org/ssc/college-resources-autism

Things to Teach

- When?
  - 14 years old at the latest
  - As early as 6 years old (recommended by professionals in the field)
- What?
  - Daily living skills
  - Independent living skills
  - Leisure skills
  - Self-advocacy
  - Money management skills
  - Vocational skills
  - Safety skills

Knowing Client Rights

- Transition Planning and the IEP
  - Section 300.43 of IDEA
    - IEP must include transition planning services for all special education students at age 16
    - Based on student's needs
- What should be done?
  - Request Transition IEP
- Meet and address:
  - Measurable postsecondary goals
  - Corresponding IEP goals
  - Transition services needed

58% of youth with autism had a transition plan by the required age according to their teachers.

Source: National Autism Indicators Report Transition into Young Adulthood. AJ. Drexel Autism Institute, Drexel University.

Assessments of Skill Development

Skill Development Assessments

- Curriculum Based Assessments
  - Assessment of Functional Living Skills
  - Essential For Living
  - ACE
- Standardized Assessment
  - Vineland Adaptive Behavior Scale
  - Scales of Independent Behavior-Revised (SIB-R)
- Other
  - Task Analyses

Assessment of Functional Living Skills (AFLS)

Ages: 2 years and up

Assess, Track, and Evaluate Progress

Assessment protocols

- Basic Living Skills
- Home and Community Skills
- Vocational Skills
- School Skills
- Independent Living Skills

Includes a teaching companion containing task analyses, teaching suggestions, and prompting strategies

Essential for Living (EFL)

Ages: 2 years and up

Provides the tools for assessing, tracking, and teaching various skills

Domains addressed:
- Requests and Related Listener Responses
- Listener Responses, Names, and Descriptions
- Answers to Questions and Conversation
- Daily Living and Related Skills (Leisure and vocational skills included)
- Functional Academic Skills
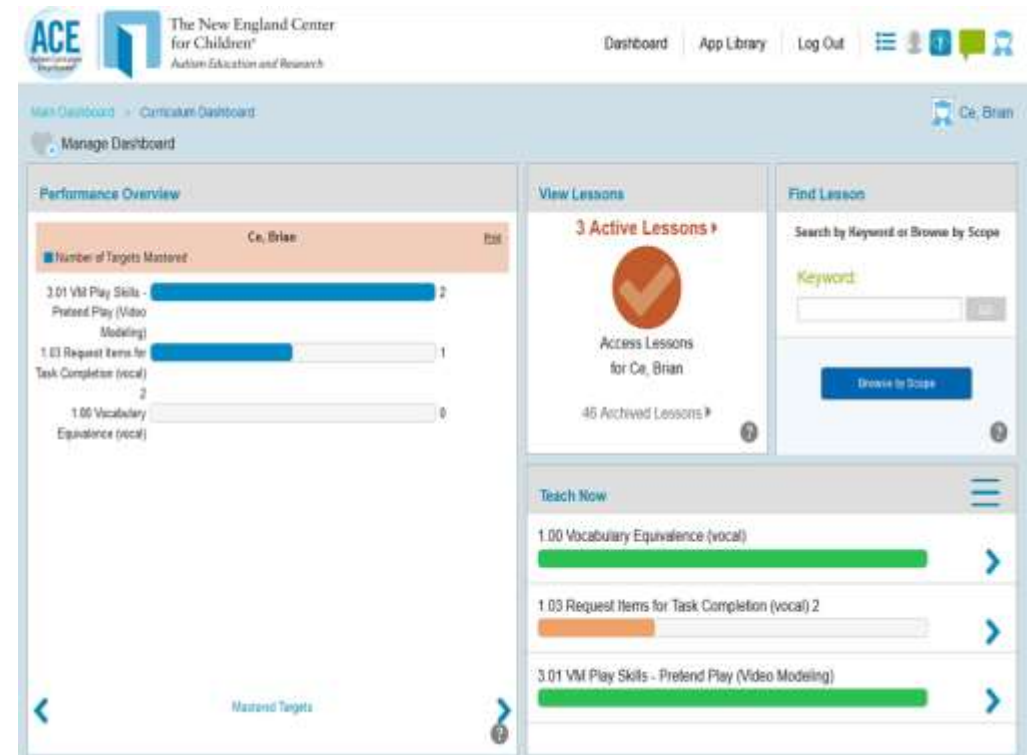- Tolerating Skills
- Tool Skills and Component Skills

ACE

Ages: 3 to 22 years

Lesson programs that utilize ABA based teaching that can be customized to learners needs

Assessment Domains:
- Academic skills
- Self-Help Skills
- Communication Skills
- Transitional Skills
- Social Skills
- Community Skills
- Vocational skills
- Leisure skills
- Discrimination skills

Vineland Adaptive Behavior Scale

Ages: birth to 90 years

Assessment Form: Survey/Expanded Interviews and Parent/Caregiver rating scales

Assessment Domains:
- Communication
- Daily Living
- Socialization
- Motor Skills
- Maladaptive Behavior Index

Scales of Independent Behavior-Revised (SIB-R)

Ages: birth to 80+ years

Assessment Form: Interview and questionnaire
- Full, Short,and Early Development Forms

Assessment Domains:
- Adaptive Behavior (259 Items)
- Problem Behavior (8 Items)

Task Analysis

- Assessing mastery level
- ~~2~~ Methods
  - Single-opportunity
    - Assess ability to perform each behavior in the task analysis in the correct sequence
  - Multiple-opportunity
    - Assess ability to perform all behaviors in the task analysis

Evidenced-Based Teaching Strategies

Evidenced-Based Teaching Strategies

- Prompting/Prompt Fading
- Task Analysis
- Visual/Written Activity & Work Schedules
- Video Modeling
- Audio Cueing
- Self-Management

Things to Consider

- Maintenance
- Generalization
- Reinforcement
- Fading

Prompting/Prompt Fading

- Increase Independence
- Decrease prompt dependency
- Use methodology that decreases reliance on others and transfer it to another stimulus (e.g. video modeling or self monitoring)
- Error correction
- Need more research

Difficulties with Prompting Older Learners

- Aversive to physical prompting
- Self-sufficient
- Difficulty with error correction
- Resistance to using visual schedules or visual cues

Task Analysis

- Complex steps are broken down into smaller, teachable steps
- Sequentially ordered
- Individualized
- Mastery level of learner must be assessed in respect to each step
- Types
  - Forward chaining - Steps are taught in their naturally occurring order
  - Total-task chaining (Aka *whole-task presentation)*
    - Variation of forward chaining
    - Whole task is presented and completed at each session
  - Backward chaining - All steps are completed except for the final step

Why Should We Use a Behavior Chain for this Population?

- ~~In~~crease independence in completing various living skills (showering, socializing, traveling)
- Can be used to add behaviors to an existing repertoire
- Can be combined with other behavior change procedures or evidenced based strategies as demonstrated in the research

Factors Affecting the Performance of a Behavior Chain

- Completeness of the task analysis
  - The more complete, the better the learning
  - SDs should be identified
  - Sequenced appropriately

- Length of complexity of the chain
  - The longer the chain, the longer it will take to learn

- Schedule of reinforcement
  - Use of appropriate schedule

- Stimulus variation
  - All variations of stimuli should be introduced to be encountered later which can help increase generalization of the chain

- Response variation
  - Varied responses may be needed to deal with stimulus variation

Research on the use of Task Analyses

- Chazin et al. (2017)
  - Assessed the effectiveness a clustered forward chaining (CFC) procedure to teaching following written recipes
  - Participant was 23 year old diagnosed with autism
  - Data collection - unprompted correct, unprompted error, prompted correct and prompted error
  - Results
    - CFC was effective for teaching the individual to follow a written recipe
    - Maintained for 3-5 weeks for all recipes with support of a therapist
    - Maintained during 3 independence probes

Research on the use of Task Analyses
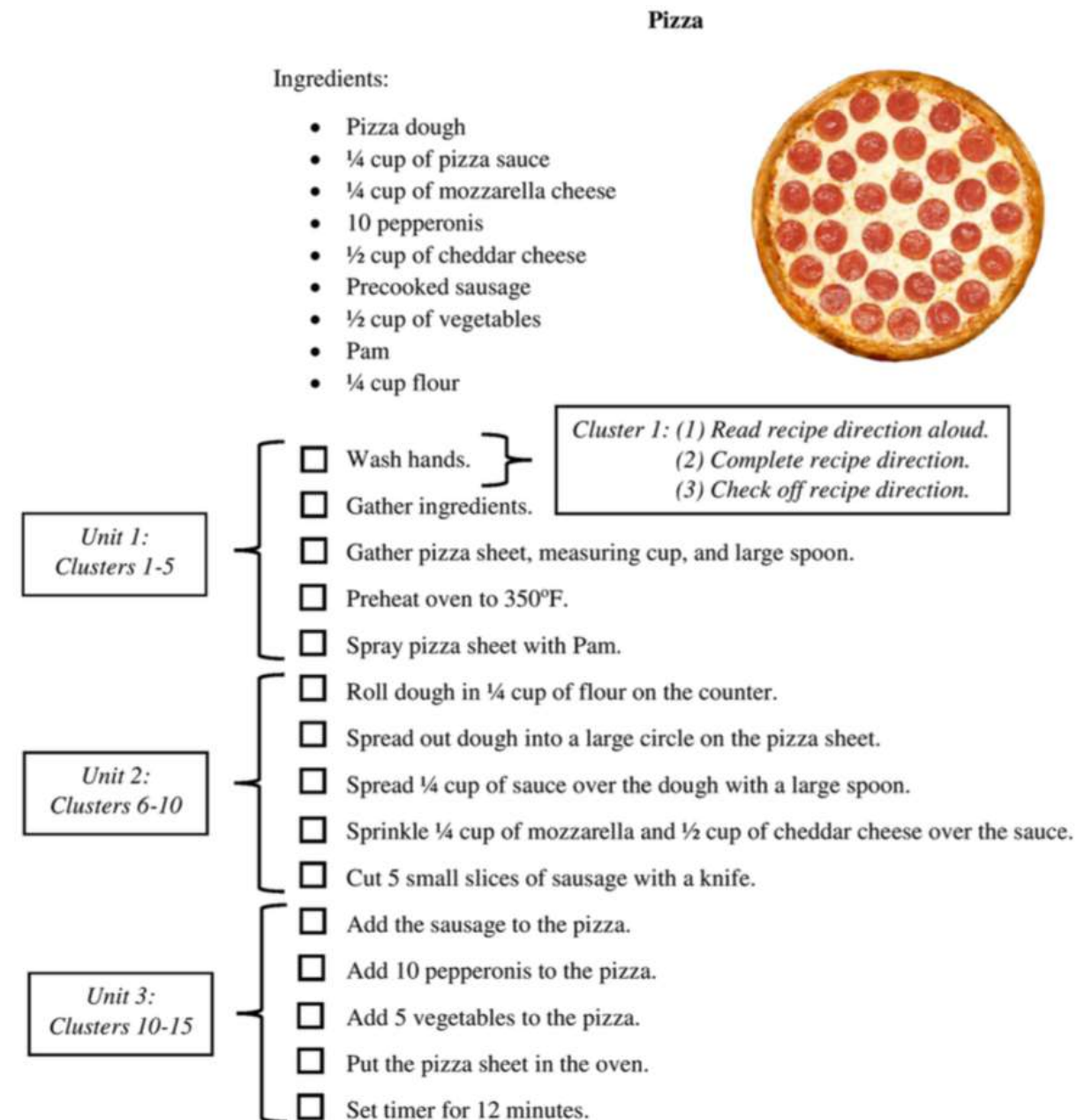
Chazin et al. (2017)

Pizza

Ingredients:
- Pizza dough
- ¼ cup of pizza sauce
- ¼ cup of mozzarella cheese
- 10 pepperonis
- ½ cup of cheddar cheese
- Precooked sausage
- ½ cup of vegetables
- Pam
- ¼ cup flour

Cluster 1: (1) Read recipe direction aloud.
(2) Complete recipe direction.
(3) Check off recipe direction.

Unit 1: Clusters 1-5
- ☐ Wash hands.
- ☐ Gather ingredients.
- ☐ Gather pizza sheet, measuring cup, and large spoon.
- ☐ Preheat oven to 350°F.
- ☐ Spray pizza sheet with Pam.

Unit 2: Clusters 6-10
- ☐ Roll dough in ¼ cup of flour on the counter.
- ☐ Spread out dough into a large circle on the pizza sheet.
- ☐ Spread ¼ cup of sauce over the dough with a large spoon.
- ☐ Sprinkle ¼ cup of mozzarella and ½ cup of cheddar cheese over the sauce.
- ☐ Cut 5 small slices of sausage with a knife.

Unit 3: Clusters 10-15
- ☐ Add the sausage to the pizza.
- ☐ Add 10 pepperonis to the pizza.
- ☐ Add 5 vegetables to the pizza.
- ☐ Put the pizza sheet in the oven.
- ☐ Set timer for 12 minutes.

Fig. 1 Units, instructional clusters, and discrete steps for the pizza recipe

Research on the use of Task Analyses

Chazin et al. (2017)

Table 1 Units and instructional clusters for cookies, pizza, and salad with dressing

Unit	Cluster	Cookies	Pizza	Salad with dressing
1	1	Wash hands	Wash hands	Wash hands
	2	Gather ingredients	Gather ingredients	Gather ingredients
	3	Gather cookie sheet, large bowl, large spoon, measuring cup, and measuring spoons	Gather pizza sheet, measuring cup, and large spoon	Gather large bowl, small bowl, measuring cup, measuring spoons, large spoon, and whisk
	4	Preheat oven to 350 °F	Preheat oven to 350 °F	Put ½ cup of olive oil in the small mixing bowl
	5	Spray cookie sheet with Pam	Spray pizza sheet with Pam	Add 1/3 cup of honey to the bowl
2	6	In a large bowl, add ¾ cup of sugar	Roll dough in ¼ cup of flour on the counter	Add 2 TBSP of Dijon mustard to the bowl
	7	Add the butter to the bowl	Spread out dough into a large circle on the pizza sheet	Add 1 TBSP of mayonnaise to the bowl
	8	Crack the egg into the bowl	Spread ¼ cup of sauce over the dough with a large spoon	Add 2 TBSP of lemon juice ot the bowl
	9	Add 1 tsp of vanilla to the bowl	Sprinkle ¼ cup of mozzarella and ½ cup of cheddar cheese over the sauce	Whisk the ingredients in the bowl together
	10	Add 1¼ cups of flour to the bowl	Cut 5 small sausage slices with a knife	Add the lettuce to the large mixing bowl
3	11	Add 1 cup of chocolate chips and fives shakes of salt to the bowl	Add the sausage to the pizza	Wash the carrots and cucumber
	12	Mix all ingredients together until dough forms	Add 10 pepperonis to the pizza	Slice the baby carrots in half and add them to the large bowl
	13	Place 1 heaping TBSP mounds of dough onto the cookie sheet	Add 5 vegetables to the pizza	Slice the cucumber into thin slices and add them to the large bowl
	14	Put the cookies in the oven	Put the pizza sheet in the oven	Pour the dressing from the small bowl over the salad
	15	Set timer for 12 min	Set timer for 12 min	Mix the dressing and salad together with a large spoon

Visual/Written Activity & Work Schedules

- Activity Schedules
  - Tends to focus on a sequence of activities using pictures, words or objects
- Work Schedules
  - Indicates activities to complete using pictures, words, or objects, focusing on the completion of the task.
  - Element of structured teaching developed by Division TEACCH (Treatment and Education of Autistic and related Communication handicapped Children). Hume, K., Boyd B., Hamm, J., & Kucharczyk, S. (2014)
- Teaches the concept of 'finished'
- Requires a well-organized and structured work space with few distractions that compete for a student's attention.

  (Hume, K., Boyd B., Hamm, J., & Kucharczyk, S., 2014)

Examples of Visual and Activity/Work Schedules

- First Then Visual Schedule
- Specific work tasks
- Leisure schedules
- Choiceworks*
- Story Kit

Work Schedules

A work system visually communicates at least four pieces of information to the student:

1. The tasks the student is supposed to do
2. How much work there is to be completed
3. How the student knows s/he is finished (progress towards goal)
4. What to do when s/he is finished

Hume, K., Boyd B., Hamm, J., & Kucharczyk, S. (2014)

Work Schedules

Types of work schedules:

- Left to Right
- Matching (uses visual cues- pictures, symbols or words- individual uses sequenced visual cues, matches them to the corresponding activity on the left, completes it, and then moves on to the next task in the sequence.)
- Icon Work Schedule (uses pictures, when each step is done, the picture goes in a 'finished pocket')
- Written Work System (uses words for each step)

Hume, K., Boyd B., Hamm, J., & Kucharczyk, S. (2014)

Activity Schedules

3 types of symbols to represent activities:
photographs, line drawings, and written words

Uses:
- Teaching skills
- Transitioning between activities
- Behavior changes

Clinical Application of an Activity Schedule

- 13 year old client diagnosed with Asperger's Syndrome* who was unable to complete leisure activities independently.
- Implemented a leisure activity schedule which was taught via the use of a task analysis
- Results:
  - Client was able to complete the leisure activity schedule independently after 16 sessions.
  - We were able to fade out the activity schedule completely after 37 sessions.

Completing a Leisure Activity Schedule

Percentage of Accuracy
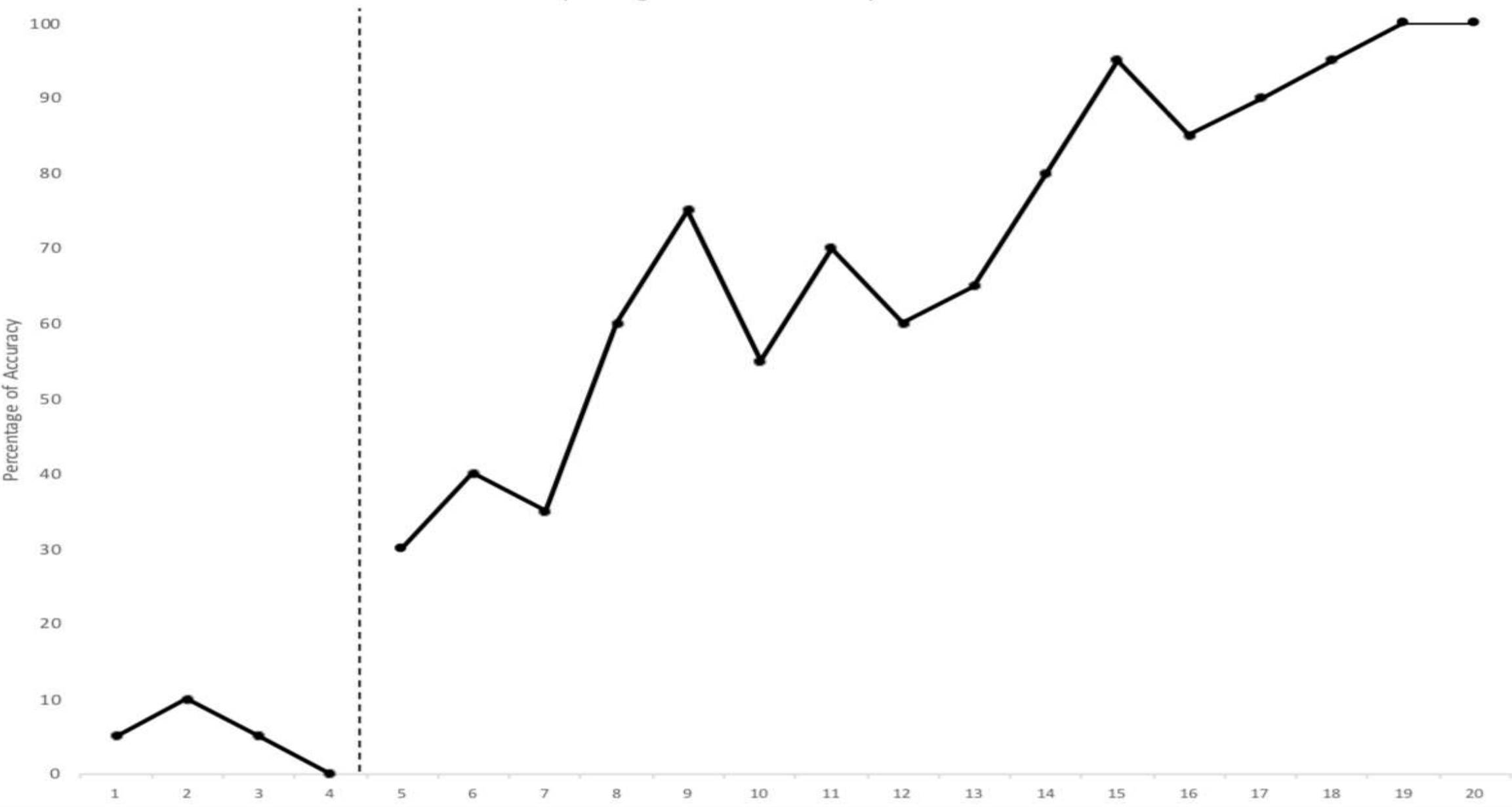
Video Modeling

- A presentation of a model completing a total chained task that participants are required to view at the beginning of each training session
- Types include:
  - Basic video modeling
  - Video self-modeling
  - Point-of-view video modeling
  - Video prompting

Benefits of Using Video Modeling

- High generalization and maintenance of skills
- Preferred by clients
- Ease of implementation in community settings
- Acceptability by parents and teachers

(Carlile, DeBar, Reeve, & Reeve, 2018; Miltenberger & Charlop, 2015)

Disadvantages of Video Modeling

- Feasibility
- Typically only one model is presented
- Lack of availability of stimuli
- Problem solving is not taught

Research on the use of Video Modeling

- Scott, Collins, Knight & Kleinert (2013)
  - Utilized a self-operated podcast containing video modeling and auditory prompts to increase skill acquisition of withdrawing $20 from an ATM machine
  - Teaching Procedure
    - Video podcast of peer completing task presented on an iPod
    - Included an error correction procedure
    - Peer narrated praize for correct responses
    - Total Task Chaining
  - Results

Clinical Applications of Video Modeling

- Advantages of First-Then Visual Schedule
- Video record each steps of a task analysis separately for complex task for learners

   -Visuals of task analysis and record the steps with most challenges

   -Fade recordings of steps quickly of the task analysis that are mastered to a visual picture to increase independence

- Disadvantages of First-Then Visual Schedule

   -Prompt dependence if steps are not systematically faded

Audio Cueing

- An auditory stimulus indicating the need for a response or action
- Uses:
  - Vocational training
  - caregiver praise
  - Self-Monitoring
- Modes:
  - headphones
  - alarms
- Benefits:
  - Portable
  - Schedule/Task flexible

Audio Cueing Research

- Gentry, et al- iPod touch using alarms/reminder alerts to notify participants when to move from task to task or complete other skills.

- Used task lists in the Notes section to complete the tasks.
    - Modification: for participant who did not read, used VoCal app

Audio Cueing Research

- Results:
  - Completed jobs without direct supervision
  - Early discharge from job coach services for 1 participant
  - Continued using iPod 1 year later
  - Eliminated self-calming stereotypy within the work shift (spinning and humming) in 1 participant.
  - *1 participant lost the iPod Touch during treatment phase and increased problem behaviors were noted and increased job support was required. Reminders on the phone and picture prompts were used but ineffective.

Self-Management

- Teach individual to regulate their own behaviors
  - Discriminate between inappropriate vs. appropriate behavior
  - Select their own goals
  - *Self-monitor*
  - Select their own procedures and reward their own behavior
  - *Self-evaluate*

(Mayer, Sulzer-Azaroff, & Wallace, 2014)

Advantages to Self-Monitoring

- Can be used to change behaviors that are not observable by others
- External change agents may miss important instances of appropriate behavior
- Can promote generalization and maintenance of behavior change
- Small repertoire of self-management skills can control many behaviors
- Can be used with anyone
- Some individuals perform better when they select their tasks and performance criteria
- Benefits society
- Provides a good feeling for the individual

(Cooper, Heron, & Heward, 2007)

Antecedent-Based Self-Management Skills

- Manipulate motivating operations
- Provide response prompts
- Perform the initial steps of a behavior chain
- Remove materials required for inappropriate behavior
- Limit inappropriate behavior to restricted stimulus conditions

Self-Administered Consequences

- Increasing Desired Behavior
  - *Self-Management Analogs of Positive Reinforcement*
    - Self-determined amount of positive reinforcement (i.e., tokens, points, minutes of free time, etc.)
    - Self-delivered or delivered by others
  - *Self-Management Analogs of Negative Reinforcement*
    - Self-determined escape/avoidance contingent on the target behavior
    - Set up a small but effective aversive outcome and engage in the target behavior to avoid the outcome

Recommendations for Self-Administered Consequences

- Select small and easy-to-deliver consequences
- Help set a meaningful but easy-to-meet criterion
  - Common mistakes: too low or too high
- Eliminate bootleg reinforcement
- When necessary, have someone else deliver the consequences
- Keep it simple

Teaching Individuals to use Self-Management

- Utilize prompt procedures and fade added prompts
- Teach individual to self-record
- Teach discrimination of inappropriate and appropriate responses
- Train individual to gain access to reinforcement when they reach the criterion
- Conduct ongoing, intermittent checks
- Gradually increase the initial criterion once mastered
- Gradually increase duration of self-management session
- Gradually increase the interval length as the session length increases

(Busick & Neitzel, 2009)

Research on the Use of Self-Management

- Faloon & Rehfeldt (2008)
  - Use of overt and covert self-rules for skill acquisition, maintenance, and generalization via task analysis
  - 3 Participants between the ages of 19 and 22 with mild developmental disabilities and well-developed receptive & expressive language skills
  - Training Sessions
    - Overt Self-Instruction
    - Blocking and Nonblocking for Overt and Covert
    - Covert Self-Instruction

Research on the Use of Self-Management

- Faloon & Rehfeldt (2008) Cont'd
  - Results
    - Self-rules assisted with control over participants' responding
    - Generalized in the absence of experimenter delivered reinforcement
    - Performance deteriorated when the emission of overt self0-rules were blocked but not when covert self-rules were blocked
    - Rapid acquisition

Research on the Use of Self-Management

- Beaver et al. (2017)
  - Assessed whether participants would remain on-task for more intervals and complete tasks independently with self-reinforcement or teacher-delivered reinforcement
  - Text-based activity schedule was followed on an iPod
  - Dependent variables
    - Independent schedule completion - task analysis
    - On-task behavior
  - Taught to utilize a golf counter to deliver tokens to themselves
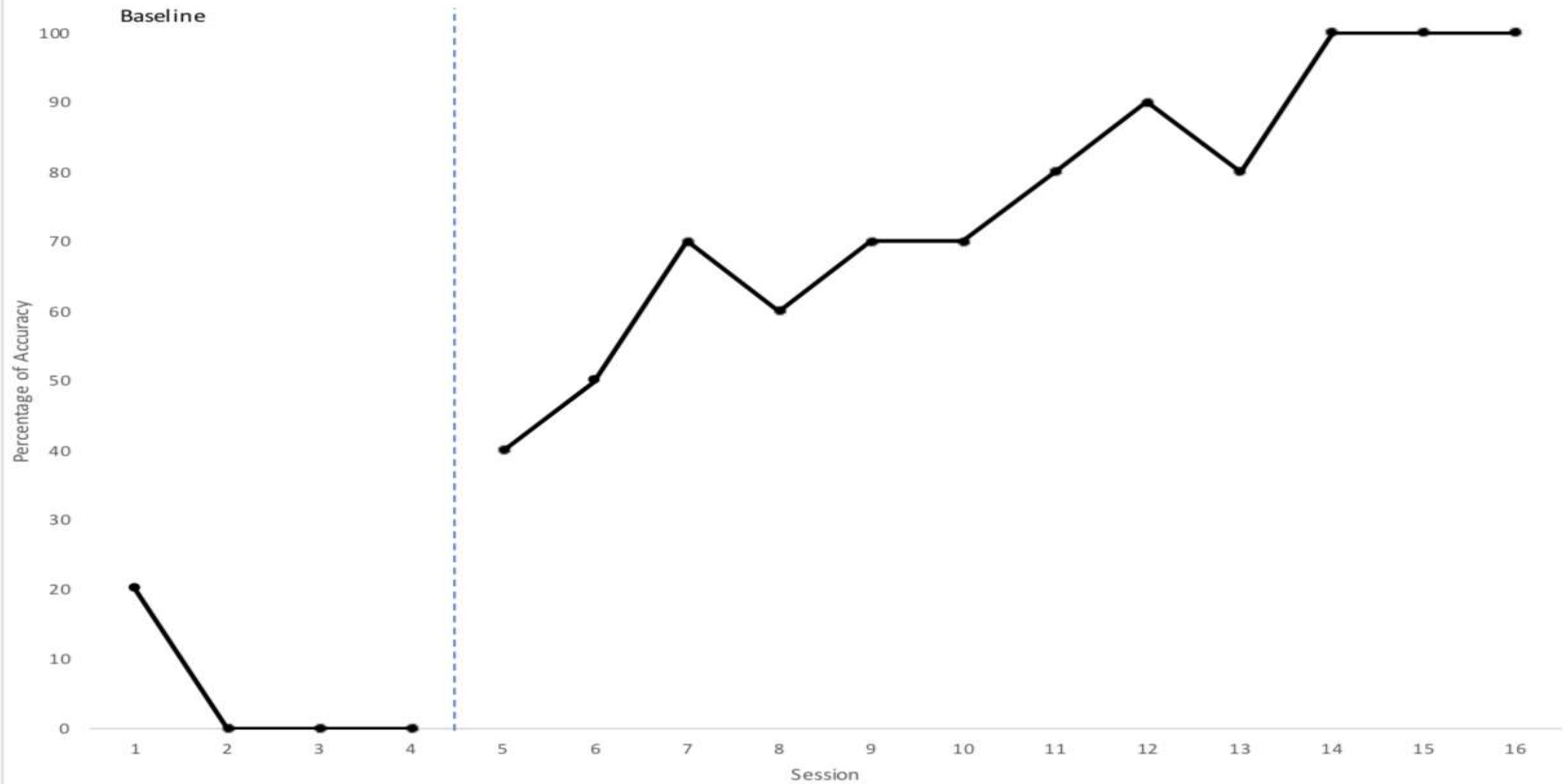
Research on the Use of Self-Management

- Beaver et al. (2017)
  - Results
    - Schedule Completion - Minor differences between the two
    - On-Task Behavior - No difference between the two
    - Results maintained during the generalization and maintenance probes
    - Self-reinforcement was just as effective as teacher-delivered reinforcement

Clinical Application of Self-Management

- Self-Match (a form of self-management) was utilized with a 15 year old boy diagnosed with Autism Spectrum Disorder of higher intelligence
- A reward and criteria (low enough) for earning that reward was established prior to implementation. Client participated in creating the criteria and chose his reward from a list of available reinforcer
- Together the team came up with a list of tasks.
- Each day, the client completed the checklist each day and checked off when he completed the assignment
- Parent/Caregiver checked to ensure that the task was completed and checks off as well
- Child earns specified reward after meeting the criterion

Self-Match Data Sheet

	Task	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
		Client	Mom/Dad	Client	Mom/Dad	Client	Mom/Dad	Client	Mom/Dad	Client	Mom/Dad	Client	Mom/Dad	Client	Mom/Dad
1	Brush Teeth														
2	Get Dressed for School														
3	Eat Breakfast														
4	Clean Bedroom														
5	Homework														
6	Eat a Healthy Snack														
7	Take a Shower														
8	Read for 30 minutes														
9	Exercise for 30 minutes														
10	Compliment a family member														
	Total														

Completion of Self-Match Across Sessions

Percentage of Tasks Completed Utilizng Self-Match
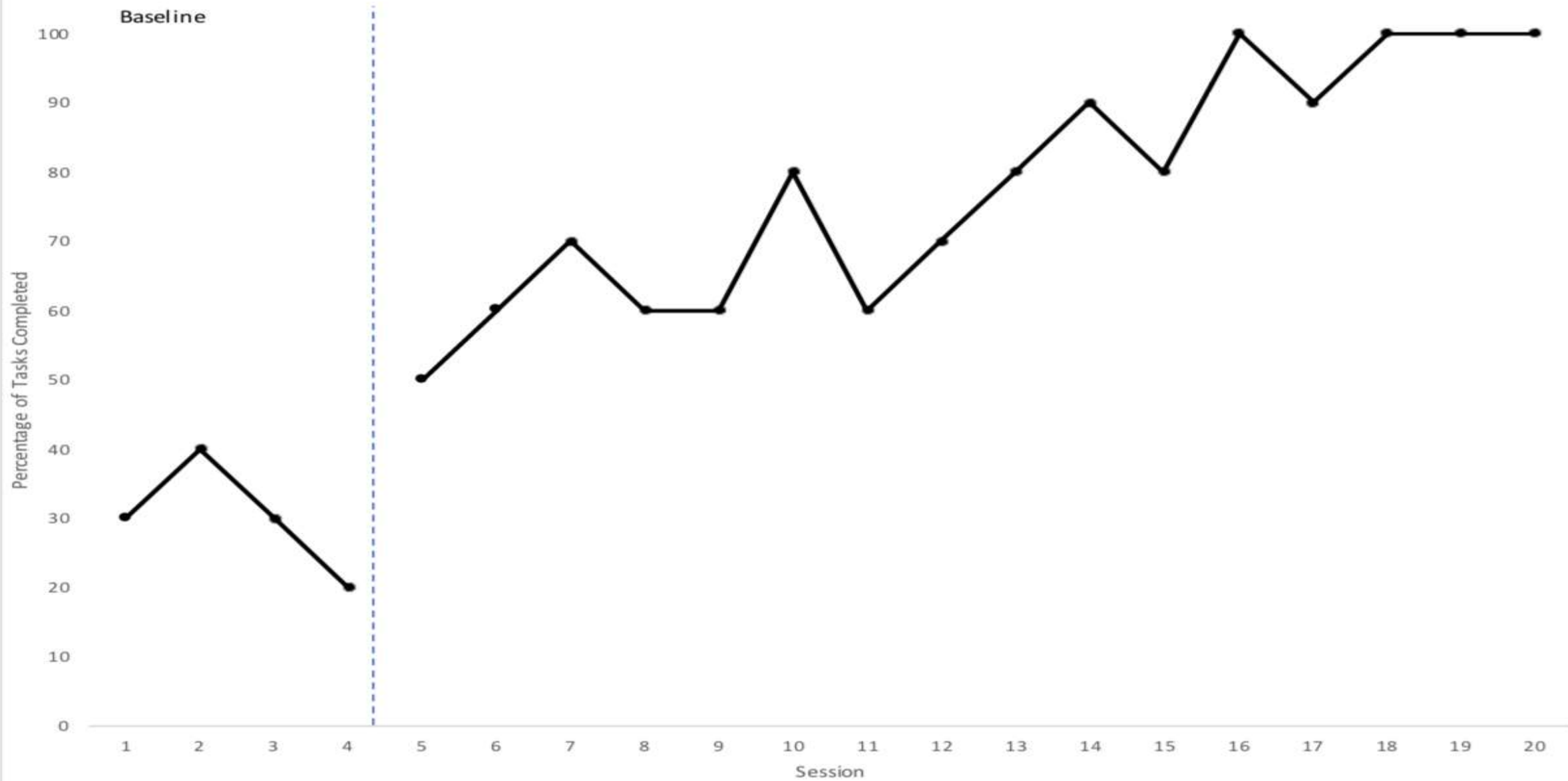
Case Studies

Case Studies

- Separate into groups
- Review case study and use the research presented to develop a treatment plan