

## Activity Schedules for Promoting Independent Play in Children with Autism

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## Why Activity Schedules?

- Promotes Independence
  - Decreases the need for adult prompting and guidance
  - Promotes increasingly longer response chains
- Choice
  - Individuals have increasing control in decision-making regarding type and sequence of daily activities
  - Provides framework for teaching choice making

## What is an activity schedule?

“...a set of pictures or words that cues someone to engage in a sequence of activities.”  
(McClannahan & Krantz, 1999, p.3)

- Beginning schedules are often comprised of a set of photos of play materials that are presented sequentially in a small 3-ring binder
- The learner independently completes the play sequence using the schedule to prompt him or her instead of adult instructions

## Activity Schedules Continued

- Social Interactions
  - Prompts initiations of social interactions and conversations
- Planning
  - A prompting and tracking sequence for tasks to be completed

## We all use schedules...

- Schedules prompt us to engage in certain activities at certain times
- They make our lives more predictable and allow us to plan future activities
- Examples of schedules include:
  - Planners
  - Palm Pilots
  - Calendars
  - “To-Do” lists
  - Sticky notes

## Pre-requisite Skills

- Picture/background discrimination
- Motivational System
- Identity matching
- Tactile tolerance
- Picture/object correspondence
- Acquired play/work skills

### Picture/background Discrimination

- Attends to picture not background
- Plain schedule pages, identical color
- Teach attending to picture cues by pointing

### Tactile Tolerance

- Manual guidance is the principle teaching procedure
- Ability to tolerate touching hands, arms, shoulders, and allow guidance
- Teach tactile tolerance before beginning a schedule
- Pair manual guidance with highly preferred physical activities

### Identity Matching

- Initially three dimensional, then two dimensional
- Teach matching using at least 4 items
- Rotate both items to be matched and position of corresponding item on table for each trial
- Collect data

### Acquired Play Skills

- Facilitates teaching of schedule following components
- Identify highly preferred or favorite activities/ tasks learner can complete independently

### Picture/object Correspondence

- Important for schedule following
- Teach via schedule book
- Can use simple instructions such as "point" or "find" or use manual guidance only
- Use highly preferred items that are easy to manipulate, portable, and accessible
- Probe for generalization using new items

### Video Example

# Higbee and Reagon--Activity Schedules for Children with Autism

## Materials

- Three ring binder (flat when open) appropriate size for the learner's age
- Velcro
- Sheet protectors
- Construction paper (same color)
- Pictures or photographs
- Containers for holding materials
- Shelf

## Selecting Activities

- Shape sorters
- Picture lotto
- Insert puzzles
- Color matching games
- Bead threading
- Nesting cups
- Pop up toys
- Hammer ball
- Pegboards
- Books on tape
- Dot to dot
- Music on tape
- Drink of juice
- Cup of popcorn, chips, candy
- Picture books
- Make curriculum!!!!



## Ideas for a First Activity Schedule

- List 5 activities
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

## Preparing a First Activity Schedule

- Beginning activity schedule should be short (5 activities)
- Select activities/toys with a clear beginning and end, easy to manipulate
- Include at least one social initiation in schedule
- Schedule should end with a preferred snack

## Other Activities

- List 5 activities
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

### Social Initiations

- List 5 activities
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

### Prompting Procedures

- "Prompts are instructions, gestures, demonstrations, touches or other things that we arrange or do to increase the likelihood that (the learner) will make a correct response (McClannahan & Krantz, 1999, p. 37),"

### Preparing the Environment

- Use natural locations if possible for materials
- Have materials always in the same location and within reach (perhaps on a shelf or on the floor in a specific location)
- Set the schedule up in close proximity of the materials initially
- Activity schedule is always placed in the same location on the work surface
- Rewards are within easy reach of the work area

### Prompting Continued

- Although learners may have many skills, they do not demonstrate these skills in the absence of adults, or a beginning instruction
- Activity schedules teach learners to initiate and complete a sequence of activities without verbal directions

### Sequence of Schedule Following

- Opening schedule book
- Point to page
- Obtain item
- Perform activity
- Return item to original location
- Return to schedule book
- Turn page

### Prompting Sequence

- Manual guidance
- Graduated guidance
- Spatial fading
- Shadowing
- Decreasing physical proximity

### Manual Guidance

- Most to least system of prompts used to teach schedule following
  - Fewer errors until skills are mastered
  - Higher rate of reinforcement for errorless learning decreases the likelihood of other problems (disruptive behavior, inattention)

### Manual Guidance Continued

- If task is mastered, use minimal guidance
- If the task is new, use hand over hand prompts
- When the activity is completed, use hand over hand to pick up materials and return container
- Use manual guidance from the shoulder to guide towards the bookshelf

### Teaching Procedure

- Give beginning instruction
  - “Go play”
  - “Find something to do”
- Once the initial instruction is given DO NOT talk until the schedule is finished (unless the schedule indicates a social interaction)
- Do not use gestures
- Get out of the way

### Manual Guidance Continued

- Use hand over hand prompts to place materials on the shelf
- Use manual guidance from the shoulder to return to the activity schedule
- Begin the sequence again

### Manual Guidance

- Guide towards schedule book materials by holding the learner's shoulders
- Use hand over hand prompts for opening the schedule book, and pointing to the picture
- Guide towards materials by holding shoulder
- Use hand over hand prompts for picking up materials and to complete the task

### Delivering Rewards

- High rate when beginning a new schedule
- Always deliver rewards from behind
- If you are using a token board make sure the learner sees the token being delivered
- Use a combination of tokens and rewards if necessary
- Time delivery of last token to coincide with the completion of the whole schedule

### Rewards Continued

- Do not pair with praise
- Reward for any step in the chain the learner performs appropriately
  - Initially rewarding steps completed with manual guidance
- When fading manual guidance, make rewards contingent on independent behavior
- DO NOT reward for delayed responses, errors, resisting manual prompts, engaging in tantrum behavior or stereotypic behavior

### Spatial Fading

- Changing the location of manual prompts
  - Hand
  - Wrist
  - Forearm
  - Upper arm
  - Elbow
  - Shoulder

### Fading Rewards

- Fade rewards as the learner becomes more independent
- Eventually fade out all rewards
- The independent play schedule itself should be reinforcing at this time
- May want to consider adding in social interaction opportunities

### Shadowing and Increasing Distance

- Follow movements with hands
- Follow movements to and from schedule
- Fade distance from learner
- A variety of different prompting levels may be used during one activity schedule
- The goal is fluent, errorless schedule following

### Graduated Guidance

- Probe to see if the learner is beginning to complete parts of the schedule independently.
- Manual guidance can be faded for several steps (e.g. walking to and from shelf) and can still be required for other steps (e.g. turning schedule pages)
- When and what steps are faded are decided for each learner individually and are based on the data

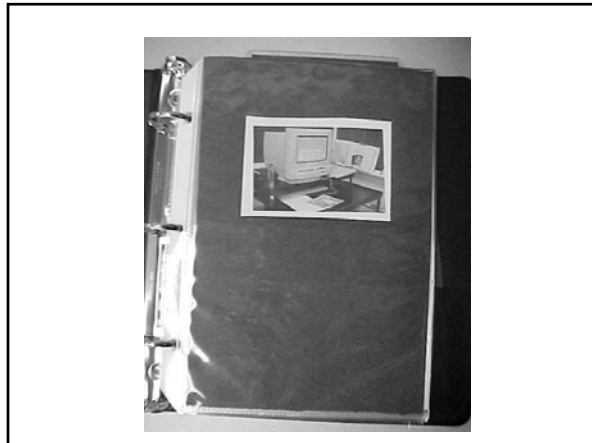
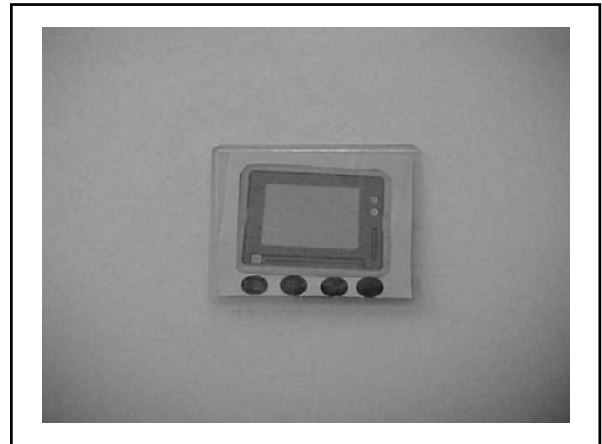
### What About Mistakes?

- Return to the previous prompting procedure
- Re-teach entire schedule with manual guidance
- Begin the session again
- Consider motivation
- Assess materials/activities
- Implement rehearsals
  - Have the learner do it again so that behavior chain is free of inappropriate behaviors and or mistakes.



### Adding 'Timed' Activities into Activity Schedules

- Timed activities
  - Reading books, playground equipment, playing with toy cars, computer time, music, watching t.v. or video, drawing
  - Food preparation- using the microwave oven
- Use manual guidance within schedule to teach setting the timer
- Picture cues prompts learner to
  - Clear timer, set timer for number of minutes, start timer



### Making Open Ended Activities Closed

- Stringing beads
  - Limit the number of beads
- Matching
  - Limit the number of cards
- Coloring/Drawing
  - Give a partially completed worksheet



### Making Open Ended Activities Closed

- Other strategies
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

### Teaching Social Interaction Skills

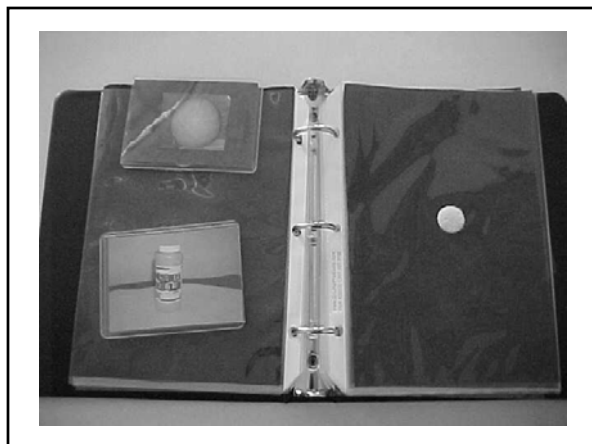
- Using an activity schedule teaches learners to initiate
  - Social interactions/activities with others
  - Comments about activities
- For non-verbal learners
  - Social interactions consisting of picture giving or signing

### Choice Making

- Rewards
- Sequencing activities
  - Add blank (color coded) page to schedule. This can add depth to your schedule.
  - Select three highly preferred activities as initial choices - change them often.
  - Use manual guidance for pointing to picture, going to choice board, placing it on schedule page, and completing activity.
  - Or use icons

### Using Scripts

- Text (for readers)
- Pairing *Language Master* cards with pictures or text, then systematically fading using script fading procedures.
  - Single words
  - Two words
  - Phrases
- Voice activated buttons
- Script fading
  - Audio-taped scripts or textual scripts are faded back to front.



### Examples of Social Interactions

- To request attention
  - “*Watch me*”
- For physical interactions
  - Tickle, hug, kiss
- For joint attention/sharing with toys or objects
  - Bubbles, ball, sing songs
- To discuss favorite topics
  - Movies, restaurants

### Examples of Interactions About Activities

- At the beginning of an activity or at the completion of an activity
  - “May I look at a book?”
  - “Look what I did!”
  - “I’m hungry.”
  - “Bathroom.”

### Textual Cues Continued

- Use stimulus control fading to transfer control from picture to text
- Schedules can then be changed to list format
- Completed activities can be checked off, crossed out, or use tokens to keep place
- For learners with writing skills, begin using appointment books or a daily planner

### Scripts and Script-Fading

- “I like to eat chips.”
  - “I like to eat\_\_\_\_\_.”
  - “I like to \_\_\_\_\_.”
  - “I like\_\_\_\_\_.”
  - “I\_\_\_\_\_.”
  - \_\_\_\_\_
- Audio scripts
  - Written scripts
  - Video Models



Conner, let's play chase!

### Scripts and Script-Fading

- Increase social initiations of children with autism
- Promote generalization
- Promote adaptations of the scripts
- Increase in social responding
- Decreases adult prompts



Conner, let's play \_\_\_\_\_!

# Higbee and Reagon--Activity Schedules for Children with Autism

## Summary

- Research has demonstrated that activity schedules are an effective tool for teaching individuals with autism
  - Promote independence
  - Make choices
  - Select and sequence activities
  - Make social interactions

## Purchasing Information

- Black 3-ring binder *Avery* (7 ½ x 9 in., 1 in or 3in. Thick) - *Staples* or *Office Depot*
- Sheet protectors - *C-Line Style # 62058* [www.C-LineProducts.com](http://www.C-LineProducts.com) or 1-888-860-9120
- Timer - *Westbend* (digital kitchen timer) – *Walmart*
- *Language Master* – *EIKI International, Inc.* 1-714-457-0200

## For more information...

Handout for this presentation is available online at:

[sped.usu.edu/ASSERT](http://sped.usu.edu/ASSERT)

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## Research on Scripts and Script- Fading

- Krantz, P. & McClannahan, L. (1993). Teaching children with autism to initiate to peers: Effects of a script-fading procedure. *Journal of Applied Behavior Analysis*, 26, 121-132.
- Krantz, P. & McClannahan, L. (1998). Social interaction skills for children with autism: A script- fading procedure for beginning readers. *Journal of Applied Behavior Analysis*, 31, 191-202.

## Reference Book and Training Tapes

- "Activity schedules for children with autism: Teaching independent behavior." By McClannahan, L.E. & Krantz, P.J.
  - Available for purchase at any online bookstore (e.g. [www.amazon.com](http://www.amazon.com))
- Krantz, P.J.; McClannahan, L.E.; Fenske, E.C.; & MacDuff, G.S. Teaching independence and choice: How to use photographic and written activity schedules in autism intervention. Princeton Child Development Institute Video.
  - Purchasing information available at:
    - [www.pcdi.org](http://www.pcdi.org)

## Research on Activity Schedules

- Krantz, P., MacDuff, M., & McClannahan, L. (1993). Programming participation in family activities for children with autism: Parents' use of photographic activity schedules. *Journal of Applied Behavior Analysis*, 26, 137-138.
- MacDuff, G., Krantz, P., & McClannahan, L. (1993). Teaching children with autism to use photographic activity schedules: Maintenance and generalization of complex response chains. *Journal of Applied Behavior Analysis*, 26, 89-97.

## Higbee and Reagon--Activity Schedules for Children with Autism

### Research

- Stevenson, C., Krantz, P., & McClannahan, L. (2000). Social interaction skills for children with autism: A script-fading procedure for nonreaders. *Behavioral Interventions*, 15, 1-20.

### More Research

- Hall, L., McClannahan, L., & Krantz, P. (1995). Promoting independence in integrated classrooms by teaching aides to use activity schedules and decreased prompts. *Education and Training in Mental Retardation and Developmental Disabilities*, September, 208-217.
- McClannahan, L., & Krantz, P. (1997). In search of solutions to prompt dependence: Teaching children with autism to use photographic activity schedules. In E.M. Pinkston & D.M. Baer (Eds.), *Environment and Behavior* (pp. 271-278). Boulder, CO: Westview Press.