

PaTTAN Autism Initiative

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PATTAN AUTISM INITIATIVE

EVIDENCE BASED PRACTICES LEARNING MODULES

PATTAN AUTISM INITIATIVE



The PaTTAN Autism Initiative guiding principle is to provide systemic support utilizing evidence-based practices to empower special education teams across Pennsylvania.

PATTAN AUTISM INITIATIVE CORE VALUES

We support all Local Education Agencies (LEAs) to cultivate internal capacity to effectively implement teaching strategies and classroom systems.
We provide on-site coaching, modeling and classroom training and technical support to ensure that all classroom teams and teachers receive the necessary tools to meet the diverse needs of students, including those with autism and related disabilities, as well as other complex needs.
We collaborate closely with districts to foster inclusive learning environments, thus elevating student outcomes and championing equity in education, ensuring that every student can meet their fullest potential.
Consultation provided by the PaTTAN Autism Initiative is ongoing and adaptable to the evolving needs of classrooms and students.





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SELF ADVOCACY AND SOCIAL COMMUNICATION INSTRUCTION

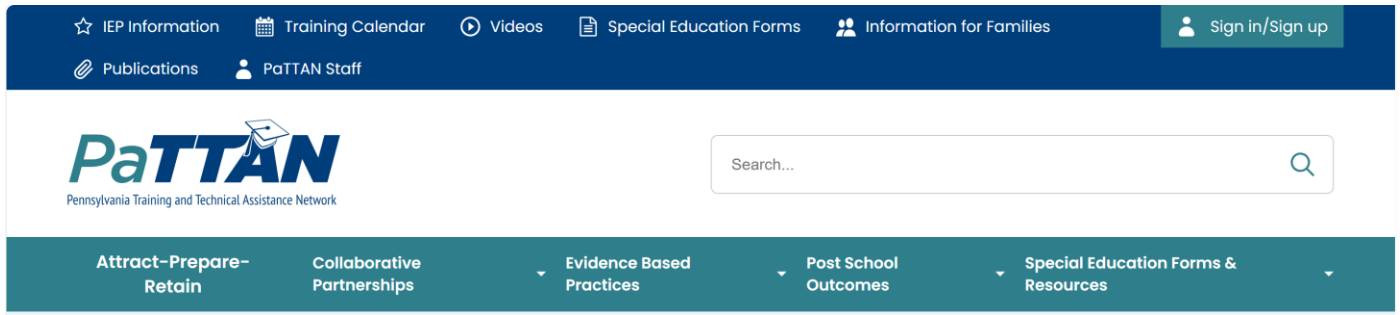
EXPLICIT TEACHING-MAND TRAINING

EVIDENCE BASED PRACTICES LEARNING MODULES

EVIDENCE BASED PRACTICES LEARNING MODULES-RESOURCES

Padlet Resources

PaTTAN Website



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TRAINING MODULE OVERVIEW

This training will provide an overview of explicit evidence-based teaching procedures used to provide instruction to students in need of developing early social communication and self advocacy skills.



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AUTISM DEFINITION

Autism spectrum disorder (ASD) is a complex developmental condition that is characterized by:

- Social communicative deficits
- Restricted and repetitive patterns of behavior, interests, or activities
- Examples of challenges and impact on educational performance:
  - Generalization
  - Discrimination
  - Social interactions
  - Require systematic instruction
  - Problem behavior
- Other such disorders or disabilities may also present with similar deficits

Centers for Disease Control and Prevention. (n.d.). *National Center on Birth Defects and Developmental Disabilities (NCBDDD)*. Centers for Disease Control and Prevention. https://www.cdc.gov/ncbddd/

WHEN TO USE INTENSIVE TEACHING?

- Intensive Teaching is used to teach students to interact with and understand their environment and comprehend both spoken and written language which serves as the foundation for all academic learning

- Intensive Teaching can be used to teach language, communication, self-advocacy, self-help, academics, independent skills, prevocational skills, and more



COMPARISON OF INTENSIVE TEACHING PROCEDURES AND MAND TRAINING

Components of Errorless Teaching	Intensive Teaching	Mand Training	Evidence Based Explicit Teaching Procedures
Pairing/Modeling		★	I Do
Prompt	★	★	We Do
Transfer	★	★	You Do
Distract	★	Interspersed Pairing & Maintenance Mand Trials	Spiraling of content and concepts
Check	★	Mand Acquisition Data & Frequency Data	Progress Monitoring
Reinforce	★	★	Reinforce



MAND TRAINING

- **Mand Training** is a type of intensive teaching that uses errorless instructional procedures
- **Mand Training** should occur all day and, in all environments, or settings
- A **Mand Session** is a dedicated instructional time with a systematic structure, procedures for data collection, teaching, and error correction
- Mand training procedures provide a decision-making process for instructors to meet student needs in the moment and to provide in the moment teaching
- Mand training is lead by the learner's interests



MAND TRAINING

- Is a type of intensive teaching
- Is a type of instruction for a specific set of skills-Mand Skills
- Is a range of skills more commonly known across disciplines and educations as:
  - Social skills
  - Self advocacy skills
  - Social interactions
  - Social communication
  - Expressive language
  - Expressive communication



PREPARE TO TEACH MANDS

1. Complete an assessment of skills
    - Identify skill strengths and needs
2. Determine what skills to teach
    - Teams should determine priorities for instruction
3. Determine the student's mode of communication (response form)
    - Vocal responding and/or alternate methods of speaking
4. Prepare your teaching Plan
    - Sequence instruction to be systematic in building foundational or pre-requisite skills before complex skills; sequence skills to teach from easiest to hardest when possible
    - Errorless Teaching and Error Correction Procedures
5. Monitor Student Progress and adjust instruction as needed

MAND TRAINING PREPARATION: ASSESSMENT

- Create a list of what is frequently and consistently valuable to the learner

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Preference Assessment Observation Data Sheet

Observer:_____ Date:_____

Item/Activity	Speed of approach (slow, medium, fast)	Strength of Response (weak, strong, very strong)	Total engagement time	Frequency of approaches	Notes

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MAND SAMPLE DATA SHEET
BASIC MAND PROFILE

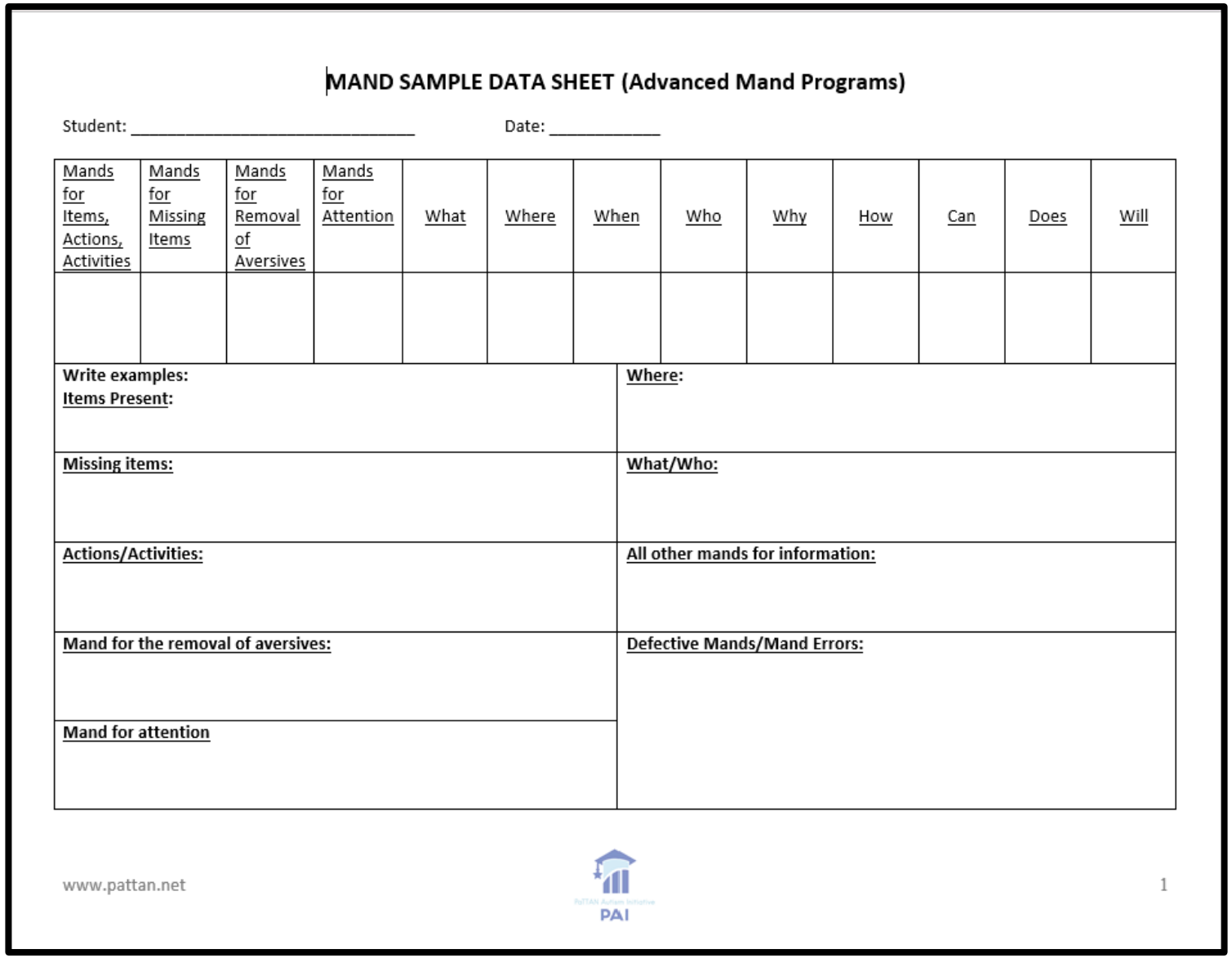
MAND SAMPLE DATA SHEET (Basic Mand Programs)

Student: _____ Date: _____

Mands for Items	Mands for Actions	Mands for Activities	Mands for Missing Items

Write examples: **Items Present:**	**Activities:**
Actions:	**Mand Errors:**
Missing Items:	

MAND PREFERENCE ASSESSMENT TOOL
ADVANCED MAND PROFILE



MAND SAMPLE DATA SHEET (Advanced Mand Programs)

Student: _____ Date: _____

Mands for Items, Actions, Activities	Mands for Missing Items	Mands for Removal of Aversives	Mands for Attention	What	Where	When	Who	Why	How	Can	Does	Will

Write examples: **Items Present:**	**Where:**
Missing items:	**What/Who:**
Actions/Activities:	**All other mands for information:**
Mand for the removal of aversives:	**Defective Mands/Mand Errors:**
Mand for attention	

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GUIDANCE FOR MAND TARGET PLANNING

1. Can the item/activity/interaction be delivered quickly or immediately when requested
    - Meaningful to the student's daily life and interactions
    - Frequent opportunities occur naturally or can be arranged
    - This includes consideration for delivery across all school settings
2. Allow for a brief period of contact
    - Are consumable
    - Terminate on their own (ex. Bubbles)
    - Can be delivered in small bits/pieces at a time (ex. Puzzle pieces, legos, play doh, push on the swing, snacks)
3. Contact with the item/activity/interaction is easy for staff to
    - Provide when the student may and may not access
    - Be a part of the interaction/item/activity



CONSIDERATIONS FOR MAND INSTRUCTION

1. Arrange instruction to teach more than one mand at a time
   - Initiates discrimination learning from the onset of instruction
   - Enables variation of targets-number and category (ex. Item, social, consumable, sensory, technology, activity, etc.)
   - In general, early language learners may begin with 2-3 active mand targets but a learner may benefit from 3-5 active mand targets
2. Avoid teaching one mand that may serve to request many different things
   - For example: “candy” can serve to request many different candies
   - Instead ensure the mand means a specific candy
     - “Chocolate” for chocolate bar
     - “Gummies” for gummy bear



CONSIDERATIONS FOR MAND INSTRUCTION CONTINUED

3. Target specific mands
   - Specific mands allows for the precise communication between the learner and listener
   - Connect language skills across other operants-tact, listener, echoic, intraverbal, motor imitation
   - Allows listeners to respond quickly to student wants and needs
4. If possible, avoid teaching generalized mands initially
   - Generalized mands may be easily acquired but difficult to determine precise student motivation
   - Generalized mands can include –more, help, yes/no, please



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MAND TRAINING

ERRORLESS TEACHING PROCEDURES

ERRORLESS TEACHING

Intensive Teaching Procedure

1. PROMPT
2. TRANSFER
3. DISTRACT
4. CHECK
5. REINFORCE

Mand Teaching Procedure

1. PROMPT
2. TRANSFER
3. REINFORCE



2 TYPES OF ERRORLESS MAND TEACHING PROCEDURES

Within Trial Transfer

1. Check for Motivation
2. Prompt
3. Transfer
4. Reinforce

Second Trial Transfer

1. Check for Motivation
2. Prompt
3. Reinforce
4. Transfer
5. Reinforce MORE



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WITHIN TRIAL TRANSFER

MAND ERRORLESS TEACHING PROCEDURE

WITHIN TRIAL TRANSFER TEACHING PROCEDURE

Instructor	Learner
• **Check for Motivation** →	Learner wants item
• **Prompt:** models mand →	Learner mands
• **Transfer**: Move reinforcer closer and pause →	Learner mands again
• **Reinforce** →	Learner enjoys their reinforcer!
• Delivers reinforcer	
• Model the response form!	



WITHIN TRIAL TRANSFER LEARNING POINTS

- Consider this teaching procedure when:
  - The learner demonstrates the ability to wait for direct reinforcement for brief periods of time under highly motivating conditions
  - An immediate prompt fade procedure is likely to result in an independent mand
  - Mands are close to acquisition, becoming more consistent in the learners repertoire
  - Attention to removing reinforcement on prompted trials is needed
- Reinforcement is
  - Delivered after the transfer trial and should be signal to the learner their independent mand is correct and the desired response

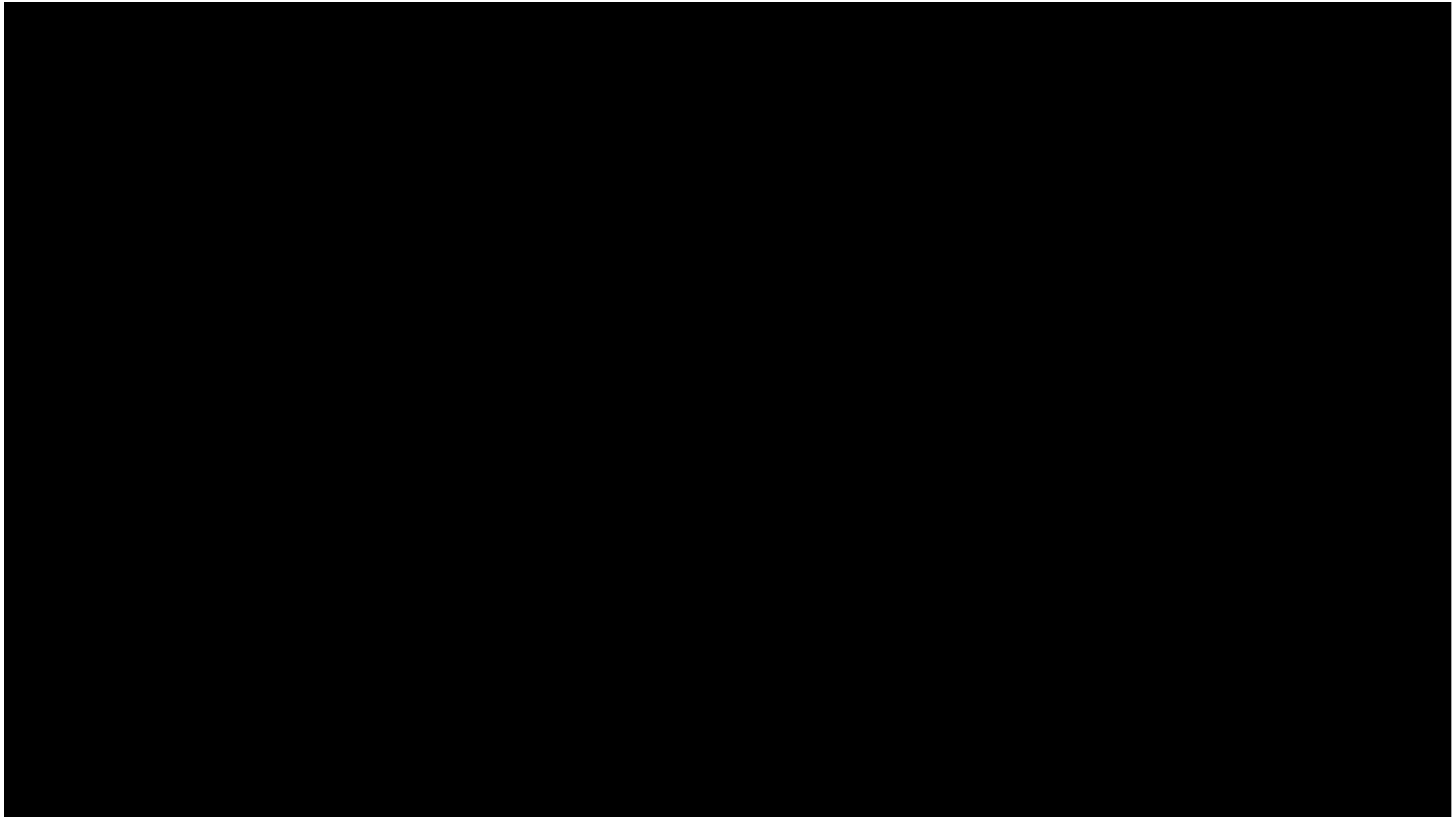


VIDEO MODEL INTRODUCTION

- Mand Target is a Social Interaction
  - “Fast Hands”
- Within Trial Transfer Procedures
  - Check for Motivation
    - Observable approach, engaging behavior(s)
  - Prompt
    - Ensures a correct response
  - Transfer
    - Immediately fades the prompt
  - Reinforce

- Interaction begins with contriving motivation through social engagement
- Manding involves pairing language with engagement
- Mand teaching begins after motivation is established for the Mand Target
- Mand practice and differential reinforcement are ongoing



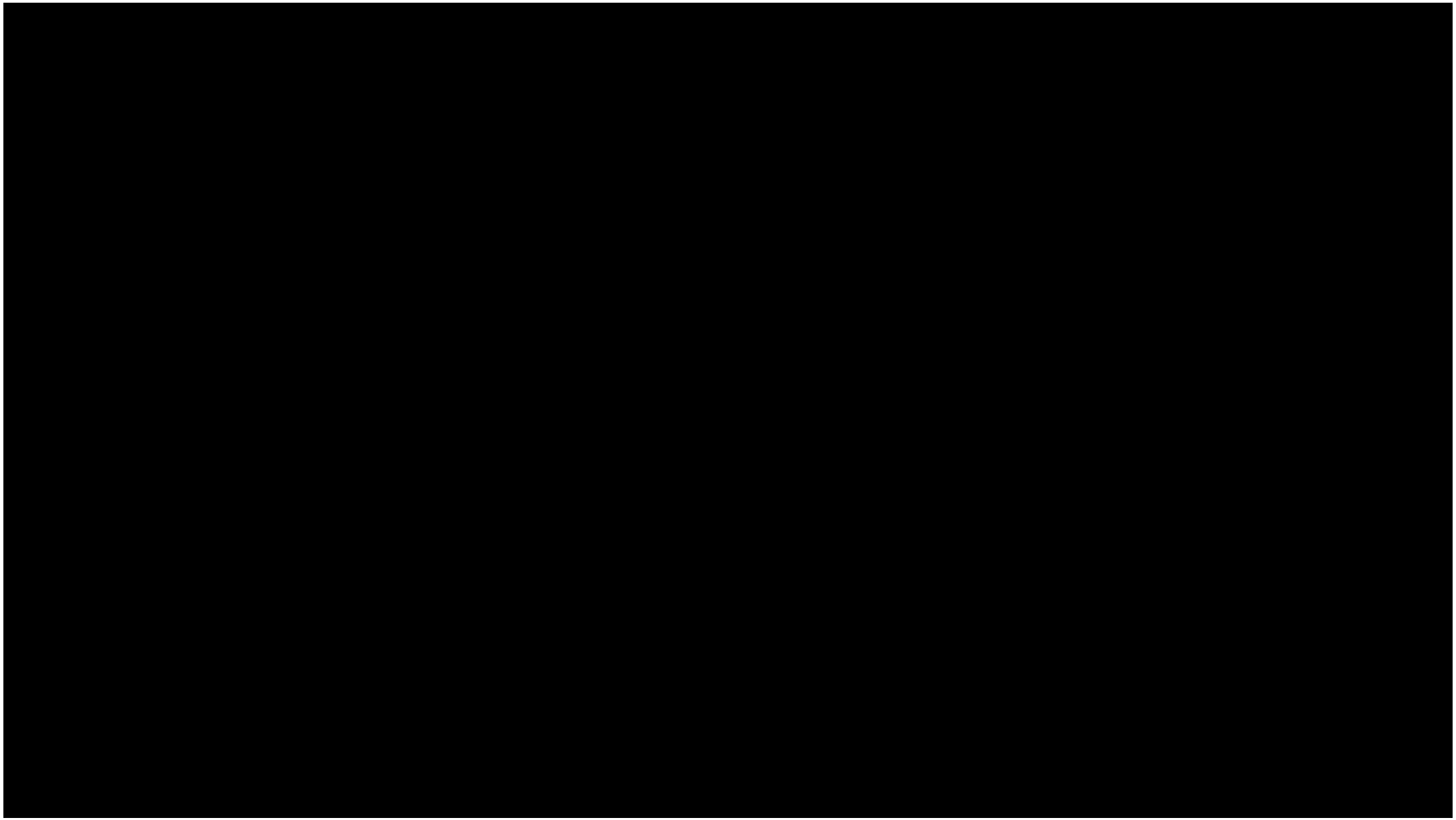


VIDEO MODEL-SIGNED MAND INTRODUCTION

- Mand Target is an Item “Marker”
- Within Trial Transfer Procedures
  - Check for Motivation
    - Observable approach, engaging behavior(s)
  - Prompt
    - Ensures a correct response
  - Transfer
    - Immediately fades the prompt
  - Reinforce

- Interaction begins with contriving motivation through engagement in an activity
- Manding involves pairing language and signs with engagement
- Mand prompts for sign language can be either imitation or physical guidance
- Mand practice and differential reinforcement are ongoing





WITHIN TRIAL TRANSFER PROCEDURE
MAND TARGET: ITEM (SPEECH GENERATING DEVICE)

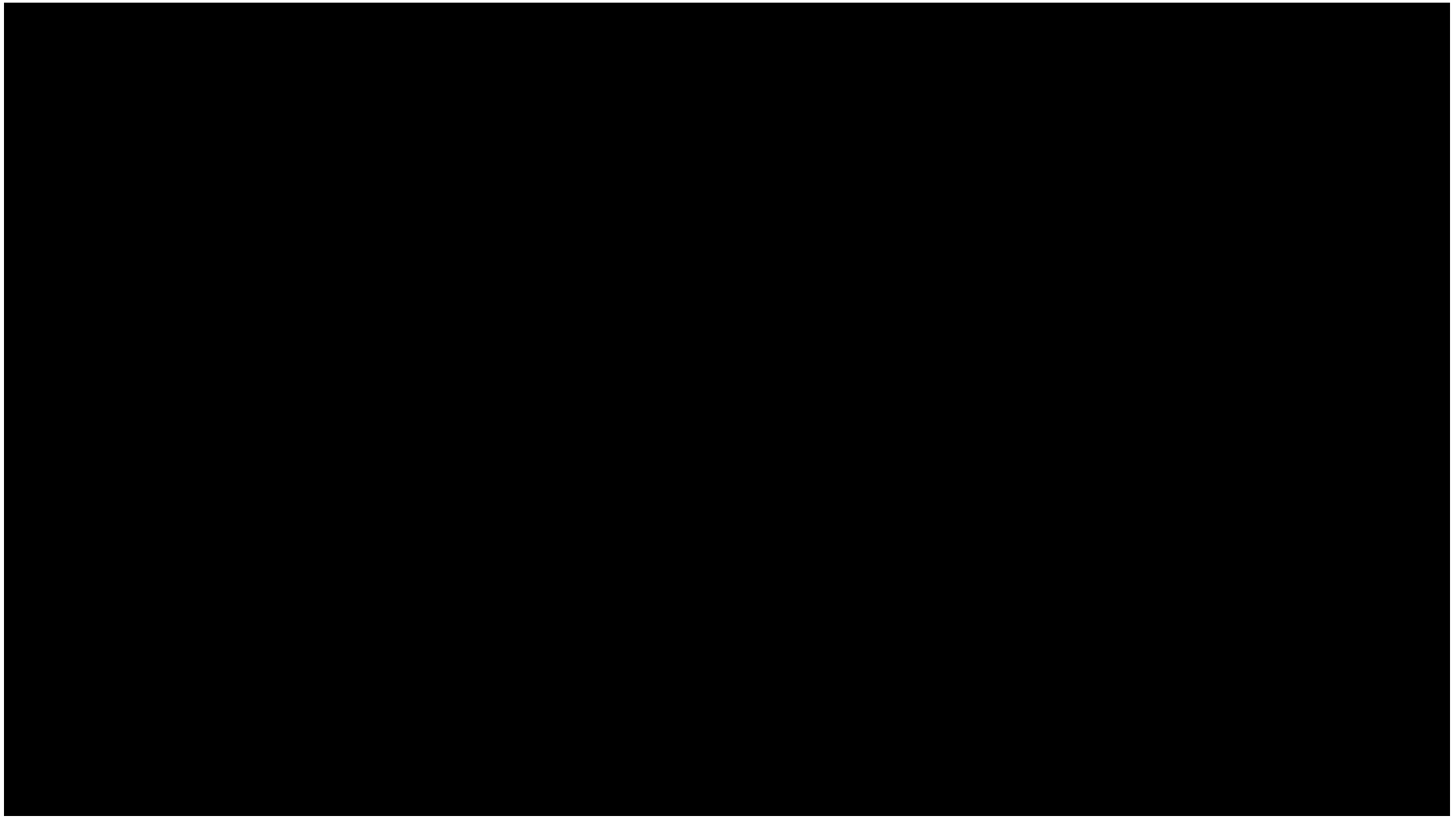


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MAND TRAINING SAMPLE

Sample for training purposes only

Antecedent	Behavior	Consequence
Instructor offers phone with Color switch game **(Check for motivation**)	*Plays game*	Instructor says “color switch” and models with SGD *Student plays game*
Instructor pauses game play *Student smiles and looks at game and instructor (**Motivation**)* Instructor says “Color Switch” and models selection on device **(Prompt)**	Selects to say “Color Switch”	SGD says “Color Switch”
Instructor moves phone closer and pauses **(Transfer)**	Selects to say “Color Switch”	SGD says “Color Switch” Instructor delivers and says“Color Switch” *Student plays game* *(**Reinforcement**)*
Instructor moves phone and pauses **(Transfer)**	Selects to say “Color Switch”	SGD says “Color Switch” Instructor delivers and says “Color Switch. You can play Color Switch” *Student plays game for longer time period* *(**Differential Reinforcement**)*



SIGNED MAND TRAINING WITHIN TRIAL TRANSFER-ITEM

Antecedent	Student Behavior	Consequence
(Check for Motivation) Instructor presents drawing board picture of a house, offers coloring with marker	*Student takes marker*	Student begins coloring Instructor says "marker" and models sign
• Instructor draws a cloud • *Student puts marker down, looks at instructor's marker, moves hand towards marker (Motivation)* • Instructor says "marker" and models sign (**Prompt**)	Student signs to say "marker"	Instructor says "Marker"
Instructors holds marker closer to student and pauses (**Transfer**)	Student signs to say "marker"	Instructor delivers marker, says and signs "marker" Student colors with the marker (**Reinforce**)

Sample for training purposes only

MANDING IS FOR ALL RESPONSE FORMS

- Manding is a social communication skill that improves the life of the speaker through social interaction
- Mand response forms vary based on the learners skills, needs, and decisions made by the individual, their caregivers, and local school teams
- Mand responses may be
  - Vocal or vocal approximations
  - Alternative Methods of Communication
    - Sign language or adapted signs
    - Speech generating selection devices
    - Picture based communication
    - Gestures or other motor movements



WITHIN TRIAL TRANSFER TEACHING PROCEDURE

Instructor	Learner
• **Check for Motivation**	Learner wants item
• **Prompt:** models mand	Learner mands
• **Transfer**: Move reinforcer closer and pause	Learner mands again

• **Reinforce**
  • Delivers reinforcer
  • Model the response form!
	Learner enjoys their reinforcer!



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SECOND TRIAL TRANSFER

MAND ERRORLESS TEACHING PROCEDURE

SECOND TRIAL TRANSFER TEACHING PROCEDURE

Teacher	Student
• **Check for motivation** →	Student wants item
• **Prompt** →	Student responds
• **Reinforce** →	Student enjoys reinforcer
• Model the response form!	
• **Transfer**: Present again, pause no prompt →	Student responds again
• **Reinforce MORE** →	Student enjoys their reinforcer!
• Model the response form!	



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SECOND TRIAL TRANSFER LEARNING POINTS

- Consider this teaching procedure when:
  - The desired item has multiple pieces or opportunities for delivering
    - Examples- Markers, puzzles, Lego, etc.
  - Items are consumable, terminate, end, or can be briefly paused
    - Examples- edibles, drinks, bubbles popping, blowing up a balloon and letting it deflate, wind up toys, pausing a song/video/social interaction
- Reinforcement is
  - Delivered after the prompted trial and should be sufficient to signal to the learner their mand is correct but also be brief
  - Delivered after the transfer trial and should be significantly better to signal to the learner their independent mand is correct and the desired response



TRANSFER TRIAL CONSIDERATIONS

- Prompts must systematically be faded- a full fade is not always possible
- Transfer trials provide a framework for decision making in which the instructor selects a level of prompt fading for this trial
    - **Full Fade of the Prompt**: The instructor presents the mand opportunity and allows wait time for the student to mand independently
    - **Partial Fade of the Prompt**: The instructor presents the mand opportunity and provides a lesser prompt of the mand response to ensure the student responds correctly and does not error
    - **Repeated Prompt**: The instructor presents the mand opportunity and immediately provides the same level of prompting from the Prompted Trial



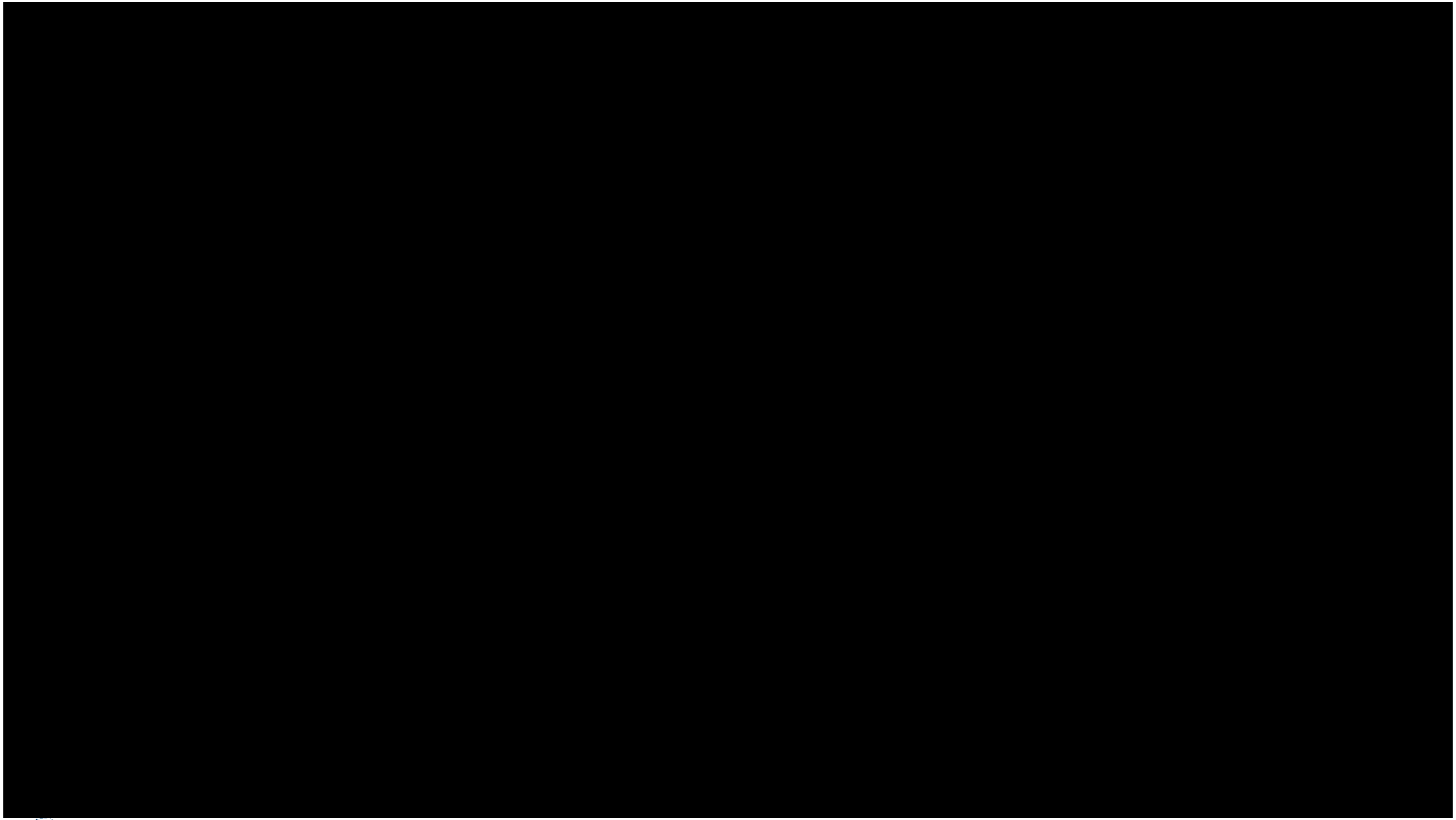
VIDEO MODEL INTRODUCTION

- Mand Target is an item

  "Marker"
- Within Trial Transfer Procedures
  - Check for Motivation
    - Observable approach, engaging behavior(s)
  - Prompt
    - Ensures a correct response
  - Reinforce
  - Transfer
    - Immediately fades the prompt
  - Reinforce More

- Interaction begins with contriving motivation through social engagement
- Manding involves pairing language with engagement
- Mand teaching begins after motivation is established for the Mand Target
- Mand practice and differential reinforcement are ongoing



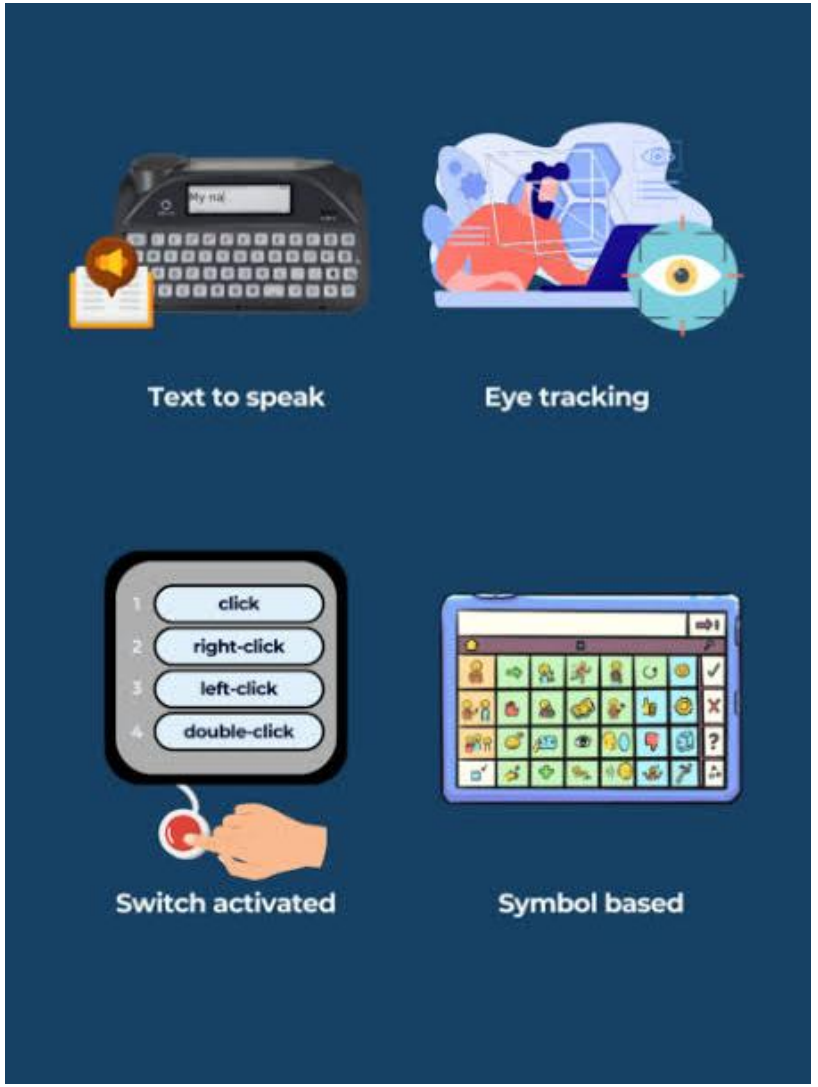


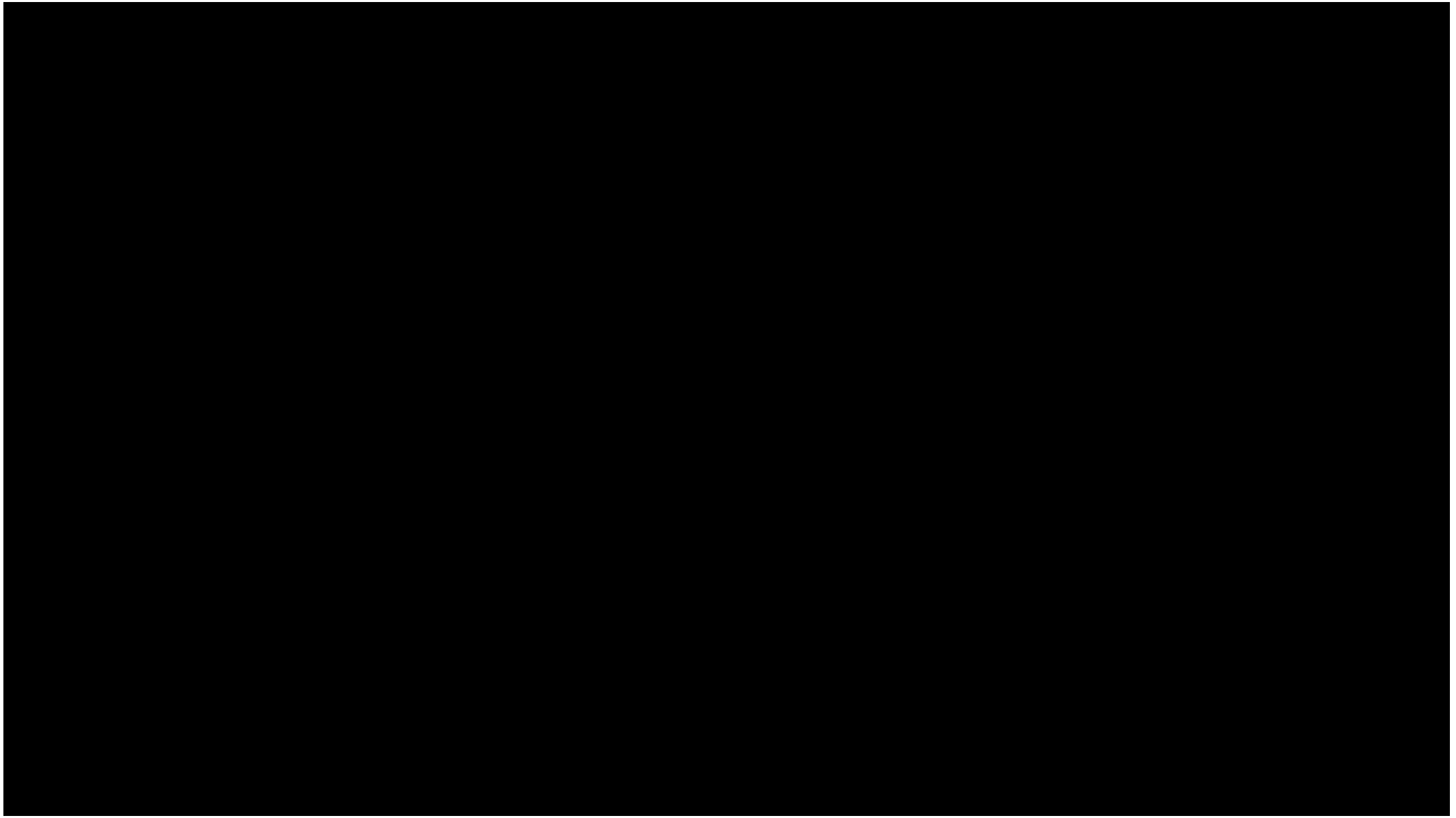
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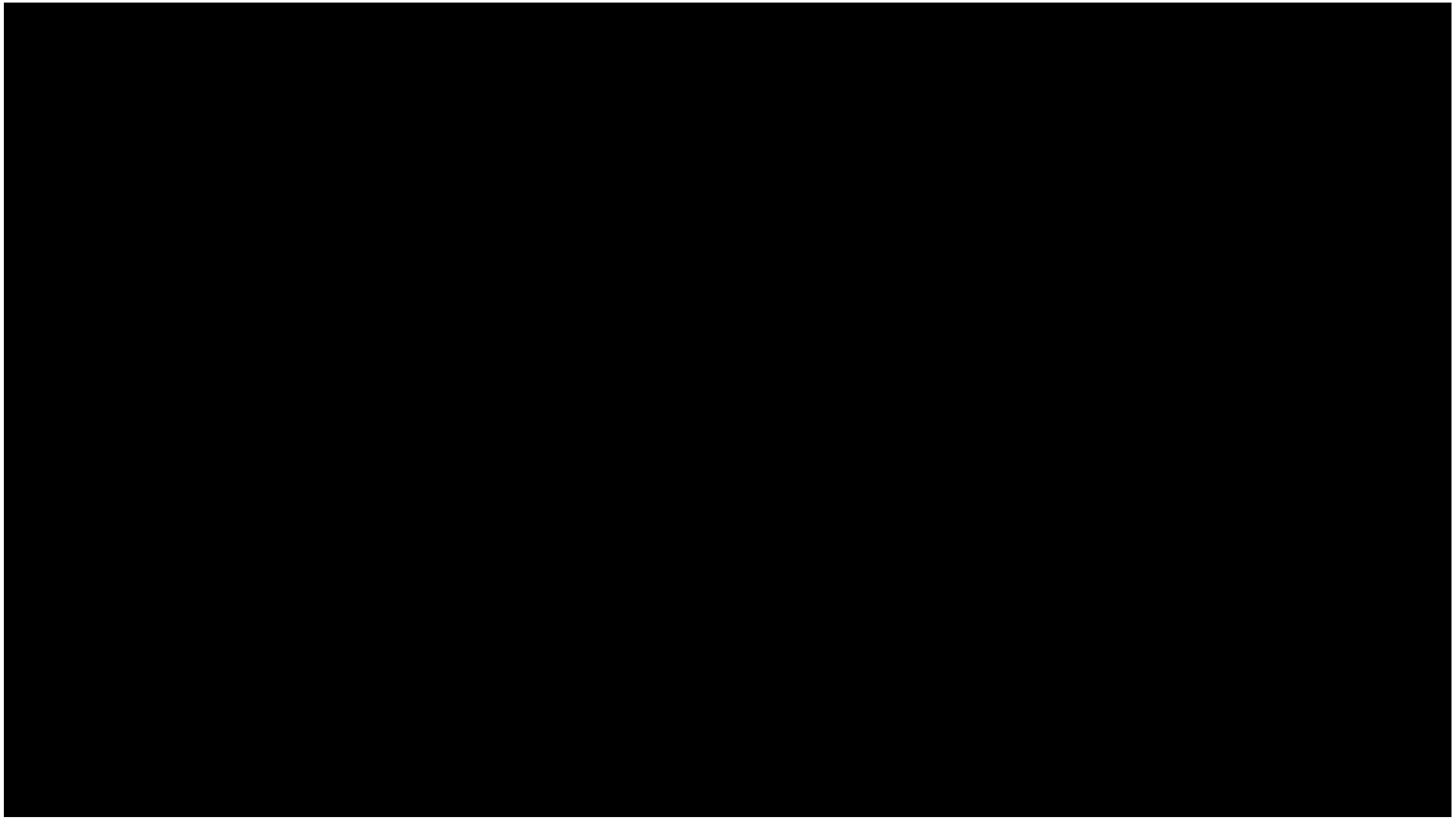
VIDEO MODELS FOR ALTERNATIVE RESPONSE FORMS

Second Trial Transfer Procedures

- Check for Motivation
- Prompt
- Reinforce
- Transfer
- Reinforce MORE







SECOND TRIAL TRANSFER TEACHING PROCEDURE

Teacher	Student
• **Check for motivation** →	Student wants item
• **Prompt** →	Student responds
• **Reinforce** →	Student enjoys reinforcer
• Model the response form!	
• **Transfer**: Present again, pause no prompt →	Student responds again
• **Reinforce MORE** →	Student enjoys their reinforcer!
• Model the response form!	



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MANDING
ERROR CORRECTION



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MAND TRAINING LEARNING POINTS

- Mand training is fluid and instructors are observing, analyzing, and making decisions in the moment
- Mand training must be guided by student motivation and their responding
- Successful mand training and acquisition of mands for the learner relies on precise implementation of mand errorless teaching procedures and correction procedures aligned to:
  - Checks for Motivation
  - Prompting
  - Transfer Trials with systematic prompt fading
  - Differential Reinforcement
  - Remediating errors when they occur



TYPES OF ERRORS

- **What Counts as an Error During Mand Training?**
  - **Problem Behavior** – If the student displays behavior that interrupts learning
    - Problem behavior occurs with no precise mand
      - Ex. Reaching or grabbing for items, whining or yelling, etc.
    - Problem behavior occurs with a precise mand
      - Ex. Grabbing ball from listener (instructors hand) while saying ball
      - Ex. Yelling marker vs a volume appropriate to the conditions
  - **Wrong Answer** – If the student says the wrong response
    - Far Out Example: Learner motivation is for the swing but says “ball”
    - Close In Example: Learner motivation is for the marker but says “crayon”



TYPES OF ERRORS

- **What Counts as an Error During Mand Training?**
  - **Fixing Their Own Mistake (Scrolling)** –
    - If the student mands incorrectly and then corrects it on their own or
    - Mands incorrectly multiple times in a row and ends with or includes the correct mand
- **Why doesn't "No Response" NOT Count as a Mand Error**
  - A student not responding at all is not considered an error because no response may indicate No Motivation
    - Instructors could
      - represent the opportunity at another time
      - Vary the presentation/setting to contrive motivation
      - Move on to a different mand opportunity



MAND ERROR CORRECTION PROCEDURE

What to Do After a Student Makes an Error When Manding (Error Correction Steps)

- **End the Trial**
  - Gently remove what was asked for and your attention to show the student that the response didn't lead to what they wanted this time, and the next two steps will help you help them try again!
- **Pause**
  - Wait **3 to 10 seconds** before trying again. This gives space between the error and the correction, and helps the student understand the wrong response does not lead to access to getting what they want/need.
- **Prompt-Try Again with Support**
  - Offer the item or choice again and **PROMPT-immediately show or say the correct response** to help them get it right.
- **Reinforce Less**
  - Differential reinforcement can also be less reinforcement to signal the difference between the error response and the independent best response

MAND ERROR CORRECTION PROCEDURE

Instructor	Student
	Mand Error Occurs
• End →	Student gets to neutral
• Pause →	Waits in neutral for instructor
• Represent, Check Motivation Prompt correct mand →	Student responds
• Reinforce LESS →	Student enjoys a little reinforcement!
• Model the response form!	



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TRANSFER TRIAL DECISION MAKING FOLLOWING ERRORS

- **When the mand error is an unknown or not yet mastered mand for the learner**
  - Consider ending the trial after the error correction procedure
  - Consider adding the mand as a future Target Mand
  - Consider running another mand trial for the error using the Within Trial Transfer procedure
  - Consider including the Second Trial Transfer procedure into the error correction
- **When the mand is know or already acquired by the learner**
  - Consider including the Second Trial Transfer procedure
  - Consider running another mand trial using the Within Trial Transfer
  - Consider arranging the opportunities for this mand to occur again or more frequently to increase maintenance/practice trials throughout the session and/or day



MAND ERROR CORRECTION WITH SECOND TRIAL TRANSFER

Instructor	Student
	Mand Error Occurs
• End	Student gets to neutral
• Pause	Waits in neutral for instructor
• Prompt correct mand	Student responds
• Reinforce LESS	Student enjoys a little reinforcement!
◦ Model the response form!	
• **Transfer**:	Student mands again
◦ Present again and pause	
• **Reinforce More**	Student enjoys their reinforcer!
◦ Delivers reinforcer	
◦ Model the response form!	



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*__BOLD__ = Second Trial Transfer Procedure

MAND ERROR CORRECTION WITH WITHIN TRIAL TRANSFER

Instructor	Student
	Mand Error Occurs
• End	Student gets to neutral
• Pause	Waits in neutral for instructor
• Prompt correct mand	Student responds
• Reinforce LESS • Model the response form!	Student enjoys a little reinforcement!
• **Prompt:** models mand	Student mands
• **Transfer**: • Move reinforcer closer and pause	Student mands again

• **Reinforce**
  • Delivers reinforcer
  • Model the response form!
	Student enjoys their reinforcer!



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*__BOLD__ = Within Trial Transfer Procedure

MAND ERROR CORRECTION WITH WITHIN TRIAL TRANSFER

Instructor	Student
	Mand Error Occurs
• End	Student gets to neutral
• Pause	Waits in neutral for instructor
• **Prompt** correct mand	Student mands
• **Transfer**:	
◦ Move reinforcer closer and pause	Student mands again
Reinforce LESS	Student enjoys a little reinforcement
• Delivers reinforcer	
• Model the response form!	



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*__BOLD__ = Within Trial Transfer Procedure



MODULE SUMMARY

- Mand Training for teaching early developing social communication skills
- Assessment of Mand skills
- Preparing for Mand Sessions and Instruction
- Using Errorless Teaching Procedures
- Using Error Correction Procedures
- Making data based decisions
- Structuring mand training sessions in the classroom schedule and all natural environment settings





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THANK YOU!

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