

# “Video Modeling for Young Children”

Autism New Jersey's 33<sup>rd</sup> Annual Conference  
Workshop B16.

Partners in Learning, Inc.

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# Workshop Description:

- Video Modeling (VM): subject is shown a video version of a behavior he/she is to imitate
- is well-researched since the early 1980's
- Shown to have faster skill acquisition & generalization
- Combined with other evidence-based practices provides learners with a comprehensive approach to improve social behaviors



# Workshop Overview:

- Introduction- defining VM options
- Peer Video Modeling for Teaching a Social Play Skill
- Point of view VM case study: greetings: teachers, parents, friends
- Self Video Modeling for Teaching Classroom Routines, Greetings, and reciprocal conversation
- Closing Remarks & Summary
- Editing Options Information

# Video Modeling

- *Video modeling* is defined as the demonstration of behavior that is not live, but is presented via video in an effort to change existing behaviors or teach new ones (Dowrick, 1991).
- Video modeling has been effectively used to decrease problem behaviors (e.g., off-task behavior; Coyle & Cole, 2004),
- We will show successful applications for social, leisure, independence (2015)



# Why is it Effective?

- Unique characteristics of children on the autistic spectrum
  - Visual performance strengths
  - Restricted field of focus
  - Repetitive presentation
  - Innately reinforcing
  - Consistency of stimuli
  - Inattention to socially-relevant stimuli
  - (Charlop-Christy et al, 2000; Krantz, MacDuff, Wadstrom, & McClannahan, 1991)
- Cost-efficiency
- Can promote generalization and faster acquisition

# Types of video modeling

- Peer models: Familiar or unfamiliar peers, of the same age and gender as the learner, model the target behaviors
- Point-of-view video models: Video images are those that would be seen if the learner were to engage in the target behaviors
- Video self-modeling (edited vs. unedited): The learner, for whom the depicted behaviors are targeted, models those target behaviors

# Case Study JS

## Peer Modeling

- 6 years old
- ASD
- Typical Kindergarten Class
- 1:1



# VBMAPP

- Social skills may become impaired for some individuals because the rules are so vague and constantly changing. Behaviors that are accepted in one setting may not be acceptable in another setting or with other groups of individuals.
- Hyperactive Behaviors cause child to engage in behaviors such as fidgeting or running around which causes difficulty in completing tasks.



# Video Modeling Selection

- Peer Modeling
  - Student observes a typical similar aged peer perform skills/task
- Advantage was being able to use twin brother performing the skills

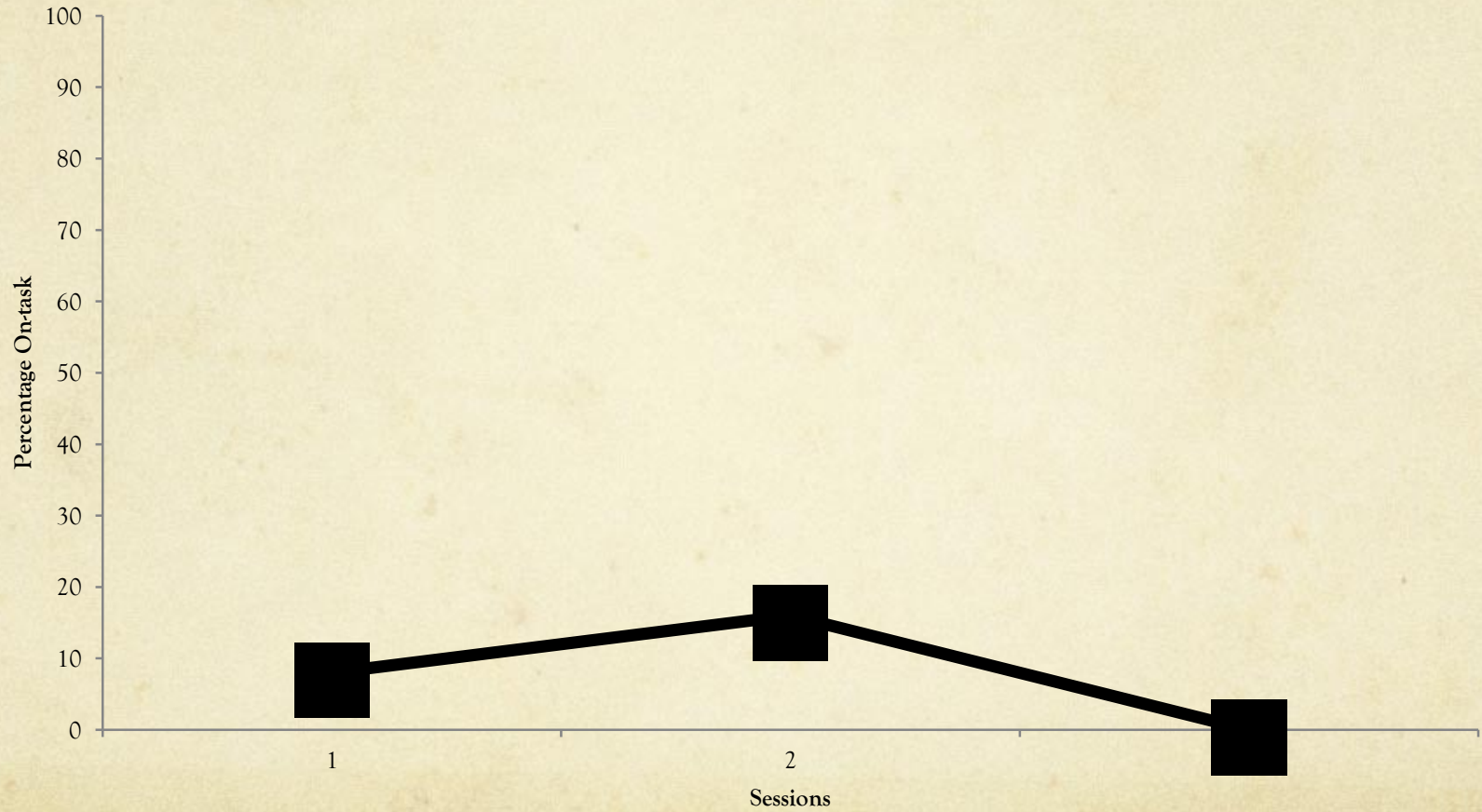
# Method and Materials

- Basketball, Rec Center, iPad
- Defined desired target behaviors for video
- Observed other typical peers at the rec center
- Target skills selected
  - On Task
    - Dribbling added



# Baseline Data

On-task



# 2 Phases

- Phase 1

  - Dribbling

- Phase 2

  - On task



# Baseline Data

- JS
- Dribble 0 times over 3 sessions
- IOA= 100%
- Twin Brother
- Dribble 100%

# Treatment Procedure

- Treatment Training
  - First video shown was of twin brother dribbling
  - Observe 3-5 x's a day for 3 days
- Viewed video
  - Then given immediate access to display skill



# Data Collection

- Per opportunity a plus was marked if the child engaged in the target behavior and a minus if they did not engage in the behavior
- At the end of each session the amount of correct responses were divided by the amount of opportunities to find the percentage

# Peer Modeling Video

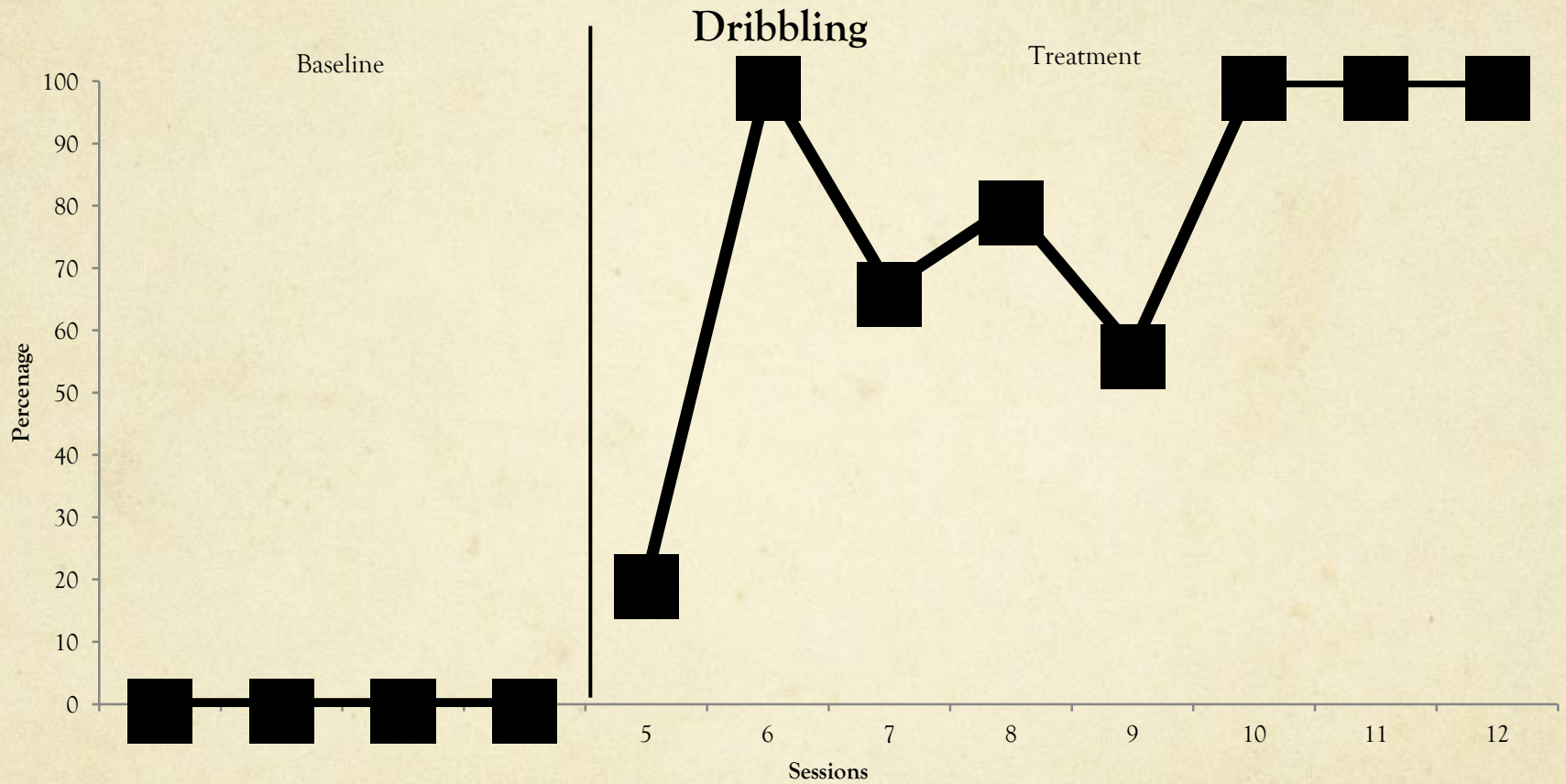
- Dribbling video shown to student in a quiet area
- Instructor talked about the video with student while he watched



# Results Discussion

- JS was able to dribble 79% of the time over 8 sessions
- IOA = 93%
- Appeared to enjoy watching the video
- Engaged during the video
  - Pointed at video and expressed “hey...that’s me...no wait, that’s Derek” with a smile on his face as we watched

# Data





# Phase 2: On Task

- JS
- On-Task 0-16% of the time over 3 sessions
- IOA= 100%
- Twin Brother
- On Task 100%

# Treatment Procedure

- Second video shown was of twin brother engaging in basketball skills over a two minute period of time
- Observe 3-5 x's a day for 4 days
- Present student the opportunity to display the skill after the video was observed on session 5



# Data Collection

- The child was video taped for two minutes each time at the rec center
- The video was reviewed after to collect the on-task data
- Whole interval data collection used
  - Intervals were 10 seconds long
  - A plus given if the child was on task for the whole 10 seconds
- Percentage found by dividing the amount of on task intervals by the amount of opportunities

# Results

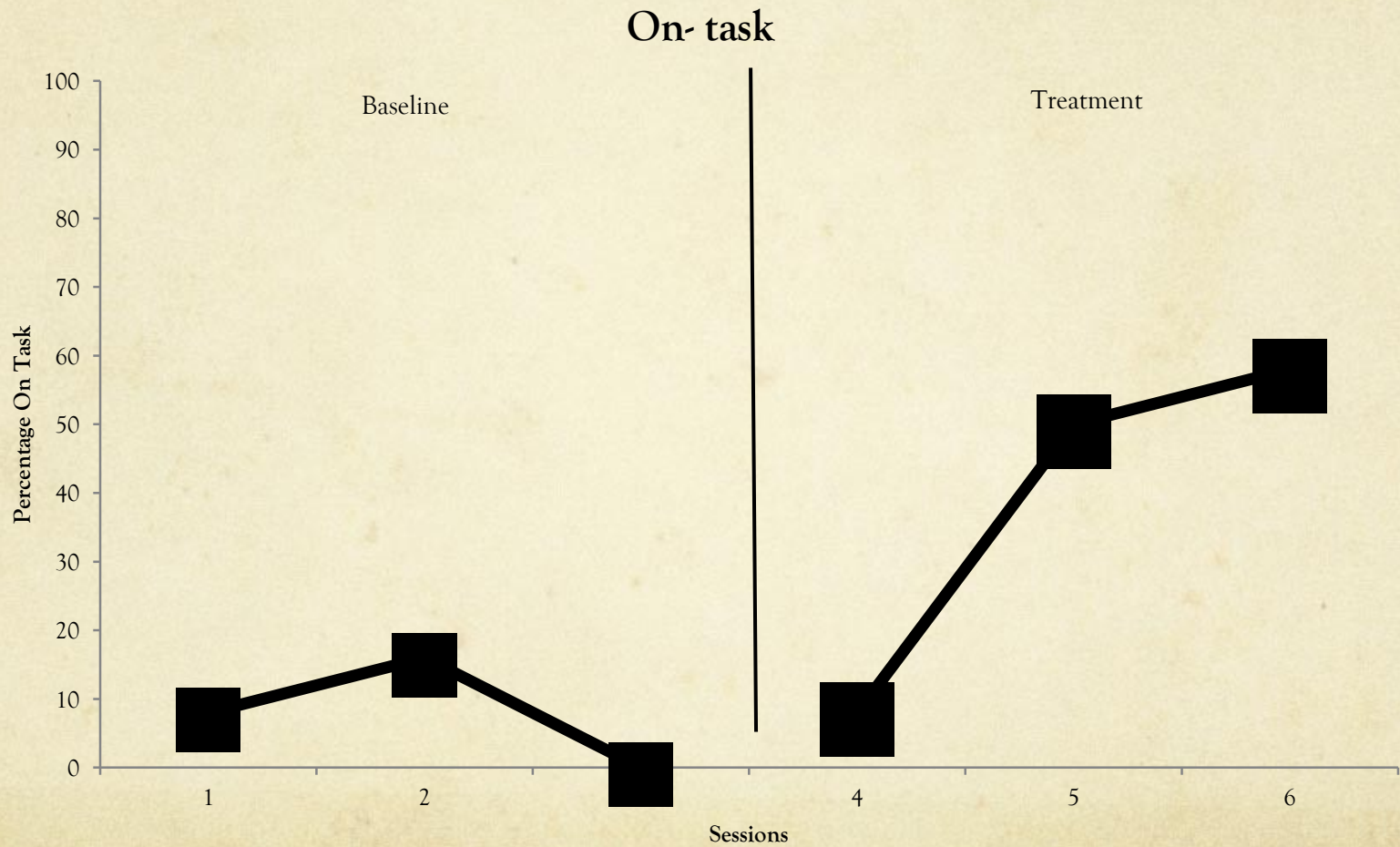
- JS was able to stay on task for up to 58% of the time over 3 sessions
- IOA = 92%
- Requested to play basketball and go to the rec center
  - Asked to show his peers the video of his brother playing basketball
  - Asked to bring friends along to the rec center to play basketball with him



# Skills observed after

- Child engaged in longer durations of on task behavior
- Child engaged in the learned dribbling skill as well as previously known shooting skill
- Child asked and talked about playing basketball with therapist

# Data





# Results/Discussion

- IOA collected for all targets during both treatments
- Child's engagement increased for both targets
- Limitation= Availability of the rec center once the weather changed

## Case Study: R.C.

### Point of View

- 3 years old
- ASD
- Echolalia
- Does not engage in social or imaginary play , but has language skills

# Video Modeling Selection

- **Point of view:** looking through the eyes of student
- One potential advantage of POVM over the typical, or scene view, video model is that it further restricts the stimuli to those that are directly related to the target behavior, eliminating the necessity of identifying optimal characteristics of the model (Hine & Wolery, 2006)
- **Video Prompting:** sequence, pause, prompt



# Setting:

- Observe video in quiet area
  - Same area of video when possible
  - control for variables such as noise and visual distracters present in the child's classroom.
- Reinforce attending to video only
- Provide prompts to gain or keep attention.
  
- Allow learner to watch an appropriate number of times before expecting use of the target skill.
  
- \*Marcus, A., & Wilder, D. (2009). A COMPARISON OF PEER VIDEO MODELING AND SELF VIDEO MODELING TO TEACH TEXTUAL RESPONSES IN CHILDREN WITH AUTISM. *Journal of Applied Behavior Analysis*, 42(2), 335-341.

# Greetings

- Strong ability to tact family and friends
- Not used as an intraverbal
- Echoics severe and persistent problem VB-MAPP
- Mastered family/friend targets in DTT
- Low rates of generalization into class
- Used Priming with Pictures to respond



# Method

- Multiple baseline design using: Classroom teacher, Therapist, and mom
- Baseline: priming with picture, Sd” lets go say Hi \_\_\_”
- Opportunity to respond. 3-5 x’s per session
- IOA
  - Baseline scored 33% of session at 100% accuracy



# Study Expansion

- Mom/therapist
- Baseline started once classroom teacher was in the treatment phase
- Therapist was not placed in treatment until classroom teacher was in removal of treatment
- Mom was not taken out of baseline until there was an upward trend in treatment phase for therapist

# Treatment

- POVM
- Student observes video 3-5 times for 3-5 days for treatment training.
- Application with priming of video
- 3-5 opportunities per session
- IOA: Treatment scored 40% of sessions at 100% accuracy

# Removal of Video Priming

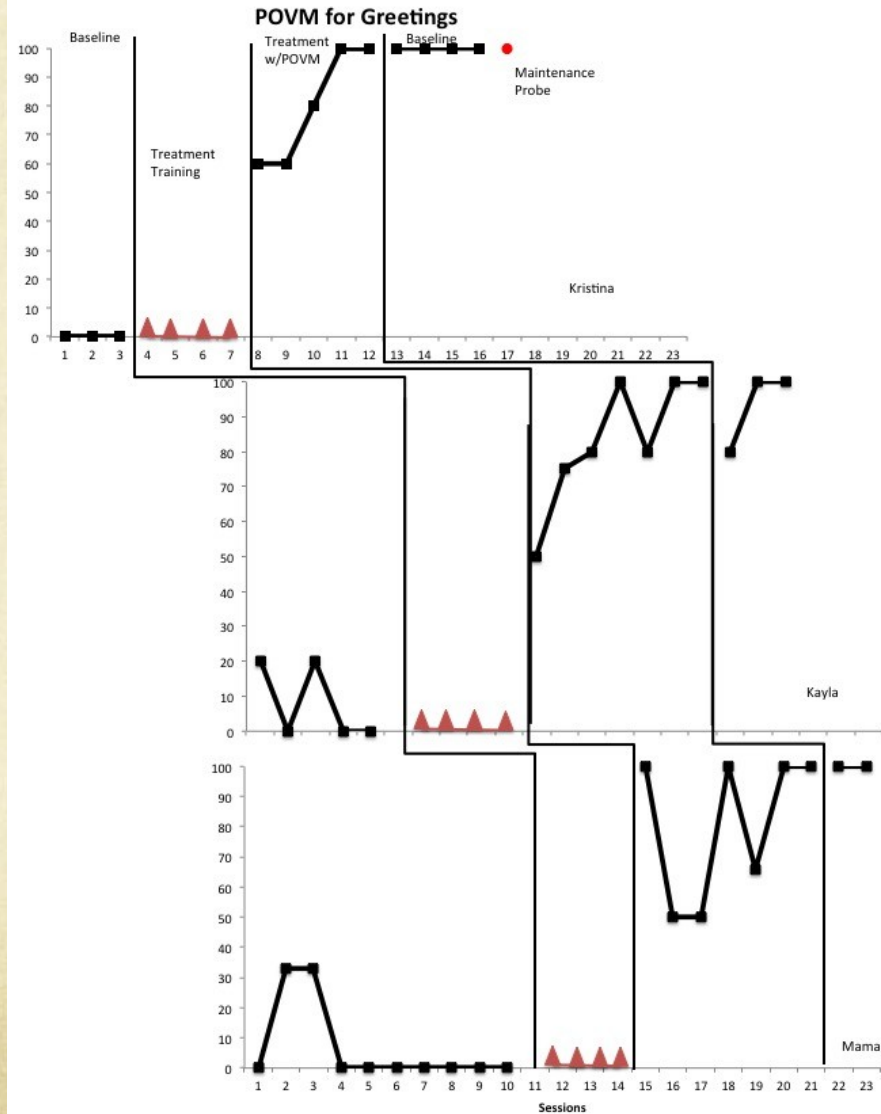
- NO longer shown video prior to being greeted
- At times initiated greeting upon seeing teacher
- 3-5 opportunities per session
- IOA scored 33% of time with 100% agreement



# Summary

- Baseline: photo priming
- Treatment Training: observation of video
- Treatment w/ POVM
- Treatment w/o POVM
- 1 study had maintenance one month later

# Graph



# Results/Discussion

- IOA collected for all 3 targets in all stages
- Students response rate increased with all three targets once in treatment
- Students response rate also increased after removal of treatment
- Students response rate also score 100% when a maintenance check was conducted a month after treatment
- Limitation= Availability of parent/staff



# Apply Strategy to other Domains

- Activity Schedule:
  - Open for over a year
  - Only one activity
    - Multiple closed ended toys
    - Clean up was not generalized even with MTP
    - Clean up area was manipulated with and without distractors

# POVM

- Single activity schedule made on iPad and recorded
- Video presented 4 times a day for 5 days
- Presentation on the sixth day to perform schedule with 1 activity
  - Scored 83 % Ind
  - Prompting included wrong toy (voice command later added)
  - Self corrected after getting incorrect item
- Presentation of activity schedule with 3 activities
  - After 2 sessions scored 94%

# References

- Cole, C. L. (1996). Bringing together video technology, research, and practice: A review of Practical Guide to Using Video in the Behavioral Sciences by Dowrick and Associates. *Journal of Applied Behavior Analysis*, 29(4), 591-592.
- Marcus, A., & Wilder, D. (2009). A COMPARISON OF PEER VIDEO MODELING AND SELF VIDEO MODELING TO TEACH TEXTUAL RESPONSES IN CHILDREN WITH AUTISM. *Journal of Applied Behavior Analysis*, 42(2), 335-341.



# Case Study: K.G.

## Video Self Modeling

- 4 years 5 months old
- ASD
- VB-MAPP Barriers- scored moderate to persistent problems in social skills, prompt dependent, intraverbals, eye contact, & self-stimulation

# Video Modeling

- Used Video Self-Modeling (VSM) to increase independence with arrival routine
  - Observational learning in which individuals observe themselves performing a behavior successfully on video then imitating that targeted behavior in a real life setting
  
- Chose VSM because
  - Strong self recognition, echoic & imitative skills
  - Videos are highly preferred
  - Scripts videos in appropriate contexts



# Method

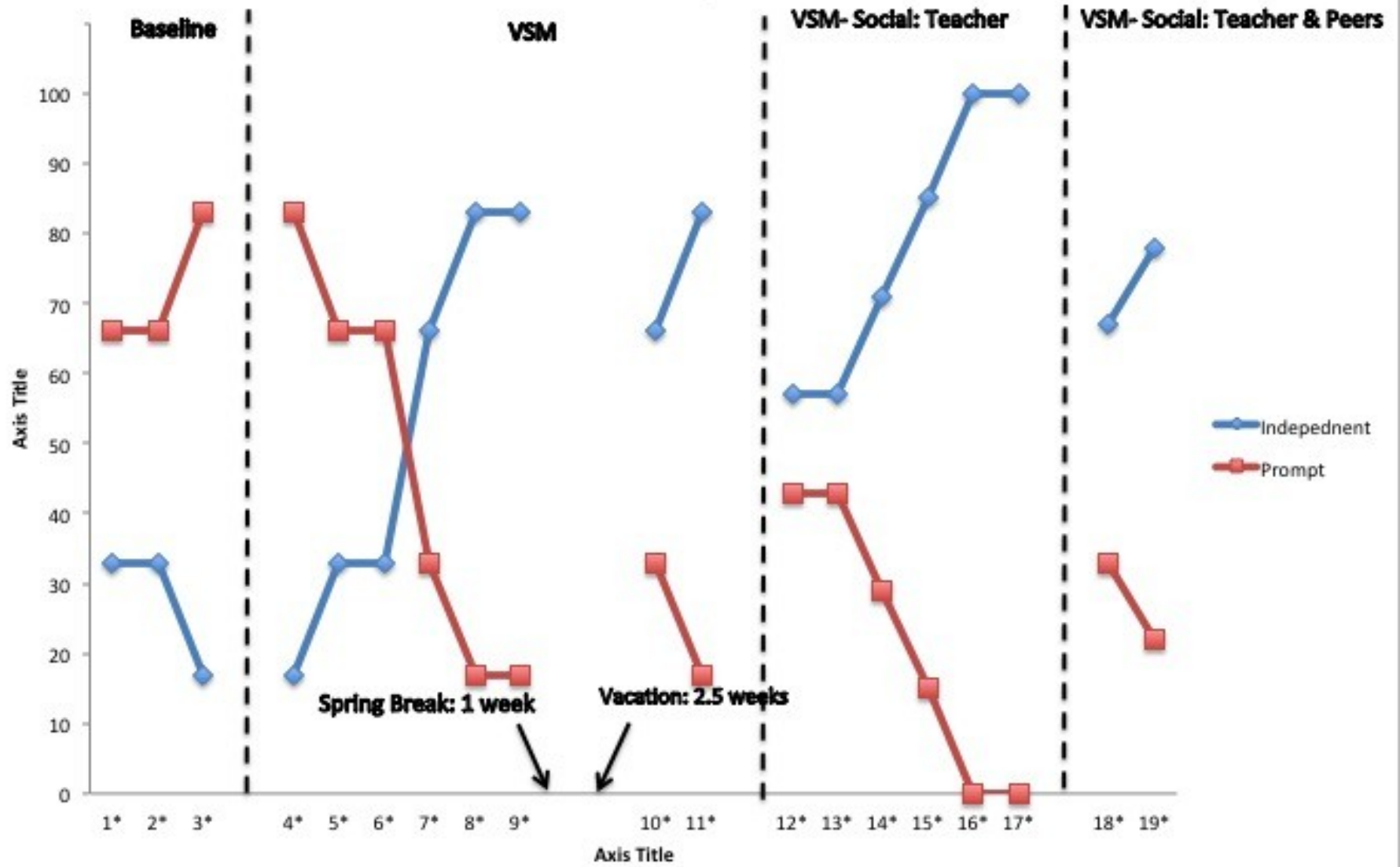
- Changing Criterion Design
- Target behavior:
  - Independent: No extra prompts provided to complete each step of the arrival routine once  $S^D$  is given
  - Prompt: Extra directions provided to K.G. after “Go put your things away” in the form of pictures, verbal directions, gestures, and/or physical guidance for any step of the arrival routine



# Arrival Routine

- SD “Go put your things away”
- Walk to cubby
- Take off jacket &/or bag
- Hang up jacket &/or bag
- Walk to rectangle rug
- Say “Hi” to teacher (criterion change)

# Video Self Modeling: Arrival Routine



# Skill observed after

- K.G. now independently completes routine
  - searches for & initiates greeting with teacher
- Parent says K.G. now independently hangs up jacket & bag as well as puts shoes away at home after VSM teaching at school
- Have also applied same method to greeting peers successfully.



# Case Study Extension

- K.G. showed quick skill acquisition with his arrival routine using VSM
- Using VSM to increase reciprocal conversation skills with peers

# Method

- Study occurred in classroom environment & arranged to resemble snack time
- Target behaviors:
  - Independent: No prompts provided to answer peer in a loud, clear voice within 5 seconds of the peer asking him the question
  - Prompt: Extra directions provided to K.G. to answer peer within 5 seconds in the form of pictures, verbal directions, &/or gestures



# Materials

- iPad to record video, classroom, peer, snack materials, & computer for editing & viewing
- Measurement:
  - Paper & pencil
  - The frequency at which the target behavior occurs for each question
    - Independent- whole interval recording
    - Prompt- partial interval recording



# Procedure: Baseline

- Baseline
  - No VSM occurred
  - S<sup>D</sup> “What are you eating?” & “What’s your favorite color?”
  - Prompting occurred if peer repeated the same S<sup>D</sup> within 15 seconds of the original S<sup>D</sup>
    - If prompting occurred, a “-” was marked in the column corresponding to the question
    - If K.G. was independent in responding to his peer, a “+” was placed in the corresponding column

# Taping VSM

- Use iPad to record peer clearly asking the S<sup>D</sup> & K.G. clearly saying the appropriate responses
- Import whole video into iMovie on Mac computer
- Edit out all prompting
  - Put questions & answers in correct conversation order
  - Video is K.G. seamlessly answering peer questions



# Procedure: Treatment

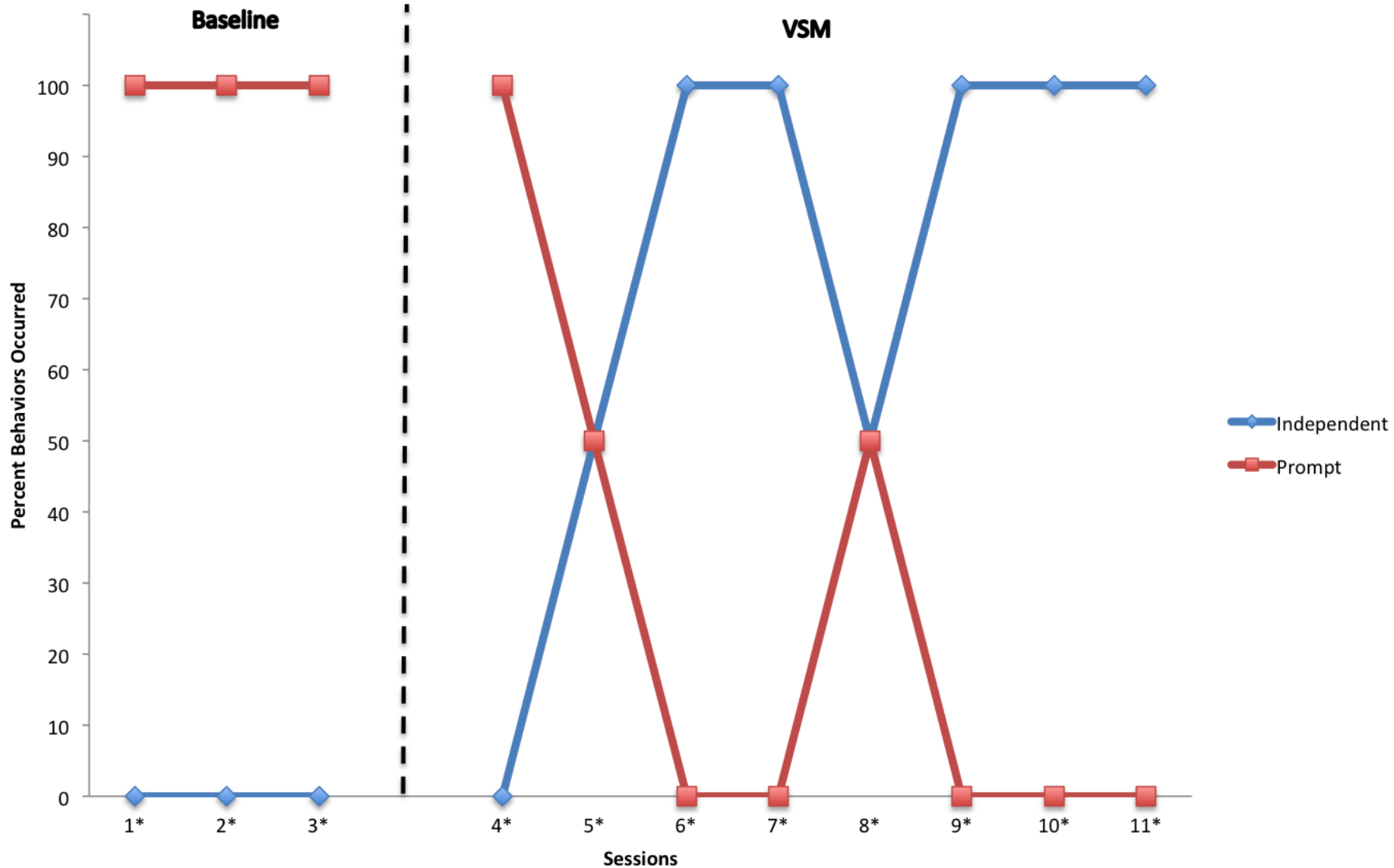
- K.G. watched edited VSM for 3 sessions
  - 3-5 times per session
- During treatment K.G. sat at snack table and peer asked the S<sup>D</sup>'s 30-45 min. after watching the edited VSM clip
- As in baseline phase, prompts were provided if peer repeated the same S<sup>D</sup> within 15 seconds of the original S<sup>D</sup>



# VSM Data

- Baseline
  - Independence was at 0%
  - Prompts occurred 100% of the time
  
- Treatment Phase
  - Independence increased from 0% to 100%
  - Prompts decreased from 100%-0%

# Video Self Modeling: Reciprocal Conversation



# Results/Discussion

- Picture, verbal, & gestural prompts were unsuccessful in increasing independence for attending to & responding to peers prior to the study
  - Reached 100% independence in about 1 week using VSM
- During baseline independence remained at 0% & prompts remained at 100% for 3 consecutive sessions
- During treatment, independence increased from 0%-100% & prompts decreased from 100%-0%
  - K.G. did not attend to peers' social initiations at snack prior to VSM



# Study Extensions

- Test for generalization with different peers at snack
- Increase meaningful social interactions using VSM
- Teaching more open ended questions/conversations with peers using VSM
- Use VSM for play skills with peers

# Summary

VM provides several options for implementation

- Refer to skill barriers as well as preferences and language/social levels as you select approach
- Use alone or with other researched-based methods
  - Edit process is very user-friendly
- Skill acquisition rates and generalization can be rapid

Editing information:

[Partnersinlearningnj.org](http://Partnersinlearningnj.org)