


**Rady Children's**  
Hospital  
San Diego

**ALEXA'S PLAYC: THE IMPACT OF TRUE  
INCLUSION IN A COMMUNITY PRESCHOOL**

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**Outline**

- Alexa's PLAYC**
  - Background
  - Description
  - Outcomes
- Key Components of Inclusion**
  - Setting up the Environment
  - Creating Opportunities
  - Effective Strategies
- Implementation**
  - Considerations
  - Challenges

**Early Intervention for ASD**

- Importance of early and intensive intervention for children with autism spectrum disorder (ASD)  
(e.g., Dawson, 2008)
- Support for the use of naturalistic developmental behavioral interventions (NDBIs) for children with ASD  
(Schreibman et al., 2015; Bruinsma et al., 2019)

**Best Practice Elements**

- 1) Earliest possible start to treatment
- 2) High treatment intensity
- 3) Ongoing, systematic assessment
- 4) Strategies to promote generalization of learned skills
- 5) Structured environment with a predictable routine

(Rogers, 1996; Dawson & Osterling, 1997; Dunlap, 1999; Hurth, Shaw, Izeman, Whaley, & Rogers, 1999; NRC, 2001)

**Best Practice Elements**

- 6) High levels of staff education and training
- 7) Active, sustained engagement of the child
- 8) Individualized treatment programs
- 9) Specific curriculum content with a focus on communication, social/play skills, cognitive, self-help, and behavioral issues
- 10) High parent involvement

(Rogers, 1996; Dawson & Osterling, 1997; Dunlap, 1999; Hurth, Shaw, Izeman, Whaley, & Rogers, 1999; NRC, 2001)

**Early Intervention for ASD**

- Many children receive EI in the home setting
- Documented efficacy of inclusive programming during the toddler and preschool years
  - The Walden School (Emory University)  
(e.g., McGee, Morrier, & Daley, 1999)
  - The LEAP Program (University of Denver)  
(e.g., Strain & Bovey, 2011)
  - Project Data (University of Washington)  
(e.g., Schwartz, Sandall, McBride, & Boulware, 2004)
  - Alexa's PLAYC/Children's Toddler School (Rady Children's Hospital San Diego)  
(e.g., Stahmer & Ingersoll, 2004; Stahmer, Akshoomoff, & Cunningham, 2011)

## Inclusion for Children with ASD

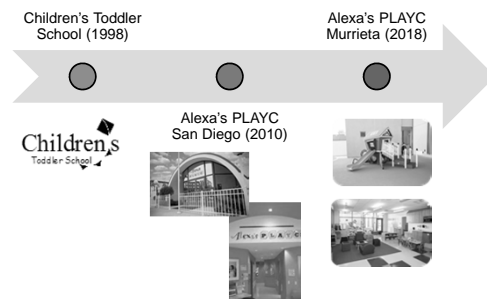
- Improvements in language, cognitive, motor, play, and social skills
- Particular fit for ASD interventions targeting social communication and interaction deficits
- Environment affords frequent opportunities for peer interaction with support of trained therapists
  - Peer modeling
  - Generalization to other settings

## Effectiveness in the Community

- Much research on inclusion completed in model treatment centers
- Significant research funding support
- Developers of program integrally involved
- Little research of effectiveness of fully community-based ASD inclusion programs

## ALEXA'S PLAYC PROGRAM OUTCOMES

## Alexa's PLAYC



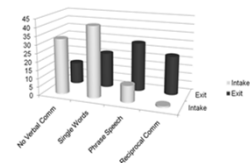
## Alexa's PLAYC Toddler Program

- Population
  - 16 toddlers with ASD (4 AM/4 PM per classroom)
  - 16 typically developing toddlers (full-day)
  - 18-36 months
  - SDRC funding
- Inclusion programming
  - 5 days per week, 3.5 hours/day
  - 3:1 ratio of children to teachers/AEs
  - Highly trained staff
  - Individualized goals
  - Naturalistic developmental behavioral interventions (NDBIs)
- OT/Speech Consultation
- In-home parent education & support

## Toddler Program Outcomes

- Improvements in standardized and functional measures:

- Communication
- Social Interaction
- Adaptive Behavior
- Play Skills
- Reduction in ASD Symptoms



(Stahmer & Ingersoll, 2004; Stahmer, Akshoomoff, & Cunningham, 2011)

## Toddler Program Outcomes

Stahmer & Ingersoll, 2004 (n=20)

- Increases in standard scores from intake to exit
- 37% functioning in typical range at exit (11% at entry)
- 90% used functional communication system at exit (50% at entry)

## Toddler Program Outcomes

Stahmer, Akshoomoff, & Cunningham, 2011  
(n=102)

- Significant improvements in developmental level, adaptive behavior, and communication
- 31% functioning in typically developing range at exit (age 3)
- Predictors of positive outcome included time in program, entry level of words/gestures, and CBCL scores (higher externalizing, lower internalizing)

## Toddler Program Outcomes

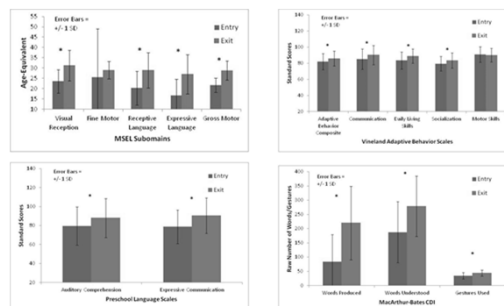
- n = 78 children with or at risk for an ASD enrolled in toddler program (Oct. 2009-Sept. 2014)
- At least 6 months of intervention
- Average duration (M= 9 months; SD=2.5)
- 65 male, 13 female
- Mean age of entry (M=26 months; SD=2.9)
- Mean age of exit (M=34 months; SD=1.1)

## Toddler Program Outcomes

- Quasi-experimental pre-post design
- Mullen Scales of Early Learning
- Vineland Adaptive Behavior Scales
- MacArthur Communicative Development Inventory
- Preschool Language Scale-4
- Autism Diagnostic Observation Schedule (ADOS)
- Two-tailed paired sample t-tests ( $\alpha=.003$ )



## Toddler Program Outcomes



## Discussion

- Our results show positive outcomes of the toddler program.
- Results are consistent with previous research as our program has grown
- Application of evidence-based practices into a community-based setting

## Alexa's PLAYC Preschool Program

- In 2010, Alexa's PLAYC expanded to include preschool age children (ages 3-5)
- Blend of public and private funding
- Preschool program has not been systematically evaluated for effectiveness

## Alexa's PLAYC Preschool Program

- Population
- 30 with ASD (5 AM/5 PM per classroom)
- 40 typically developing children (full-day)
- 2.5 - 5 years of age
- Insurance or private pay funding
- Inclusion programming
- 5 days per week, 3.5 hours/day
- 5:1 or 7:1 ratio of children to teachers/AEAs
- Highly trained staff
- Individualized goals
- Naturalistic developmental behavioral interventions (NDBIs)
- On-site parent education, consultation, & support

## Preschool Program Outcomes

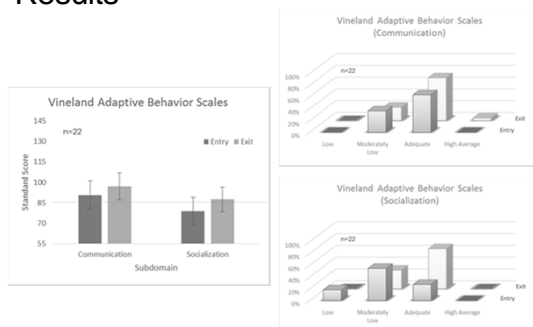
- First systematic evaluation of preschool program effectiveness
- Quasi-experimental pre-post design
- n = 26 children enrolled in preschool program
- Inclusion criteria:
  - Diagnosis of ASD
  - At least 6 months of intervention
  - Entry measures available (within 3 months)
  - Two assessment time points available (exit or most recent)

## Participant Demographics and Measures

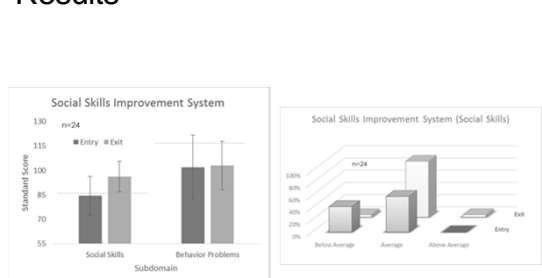
Participant Demographics	
Participants (n=26)	
Male	n=17
Female	n=9
Age at entry	M=43, SD=7.3
Age at exit	M=62, SD=4.8
Duration in program	M=18 mos, SD=6.5

- Vineland Adaptive Behavior Scales (VABS)
  - Communication subdomain
  - Socialization subdomain
- Social Skills Improvement System (SSIS)
  - Social skills (parent report)
  - Behavior problems (parent report)
- Social Responsiveness Scale (SRS)
  - Total score
- Preliminary results of partial data set
- Aim to include additional participants and measures
  - predictors and outcomes

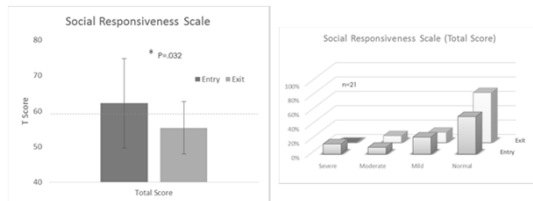
## Results



## Results



## Results



## Discussion

- Effectiveness of community-based toddler inclusion program utilizing NDBIs for toddlers with or at risk for ASD
  - Demonstrated sustainability of Alexa's PLAYC program with growth of program
- Effectiveness of Alexa's PLAYC preschool inclusion program for children with ASD
  - Social skills
  - Communication
  - Autism symptom severity

## Limitations

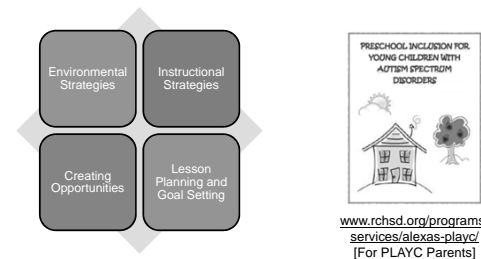
- No control group of children with ASD either receiving no intervention or an alternate intervention.
  - Quasi-experimental pre-post treatment
- Small sample size
  - Not full sample nor all potential measures
- Generalizability to other ASD toddlers in the community

## Future Directions and Opportunities

- Continued analyses of preschool and toddler programs
  - Increase sample size
  - Across sites
  - Comparison of parent and teacher ratings of social skills
  - Predictors of treatment outcome
- Evaluation of community sustainment
  - Implementation outcomes
  - Barriers and facilitators

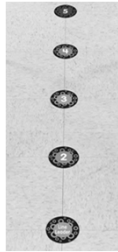
## KEY COMPONENTS OF EFFECTIVE COMMUNITY- BASED INCLUSION

## Key Components Overview



## Environmental Strategies

- Classroom structure
- Predictable routines: a general, predictable routine for the school day
- Thoughtful use of colors and symbols



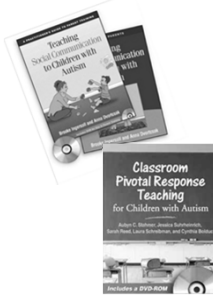
## Increasing Motivation

- Toy Rotation
- Incorporating child interests into activities
  - Favorite characters
  - Preferred toys
  - Comfort/transition objects
  - Familiar books
  - Favorite music/songs
- Positioning of preferred toys



## Instructional Strategies

- What to consider when choosing interventions for the inclusion setting
  - Evidence Based Practices
  - Developmentally informed
  - Naturalistic
  - Flexible
  - Least restrictive environment



## Instructional Strategies

- Use of instructional techniques highlighted in Teaching Social Communication
  - Following the child's lead
  - Imitation
  - Animation
  - Expanding on language and play



## Creating Opportunities for Social Engagement

- Center-based learning within routines

## Providing Roles with Routines

## Limiting Materials to Promote Sharing

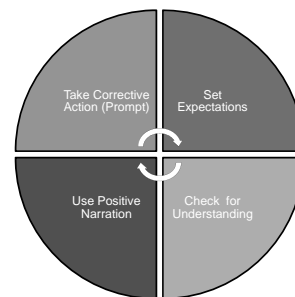
## Proactive Buddy System

## Managing Behavior

- Visual supports
  - First/Then
  - Classroom Schedules
  - Choice Boards
  - Visual cues
- Providing frequent choices



## Cycle of Effective Instruction



## Functionally Related Transition Objects

- Think beyond the “blankie!”



## CONSIDERATIONS AND CHALLENGES IN INCLUSION

## Challenges and Considerations

- Confidentiality
- Parent involvement
- Peer involvement
- Goal selection/Lesson Planning
- School vs Intervention Setting
- Progress Monitoring
- Funding



## Confidentiality

- Unique ethical considerations in group setting
- Group confidentiality contract
- Observation, photography, and filming
- Protection of identified children
- Sensitivity to clinical discussions

## Parent Involvement

- Different experiences for typically developing children and children with ASD
- Families asking questions
- Public view of treatment setting
- Parent interaction in the observation room

## Peer Involvement

- Peer-mediated intervention
- Informed consent
- Considerations of embedding peers in intervention

## Goal Selection / Lesson Planning

- Creating an individualized program that meets all children's needs
- Balance between ASD and typically developing children
- Different sets of staff
- Collaboration and cross training

## School vs Intervention Setting

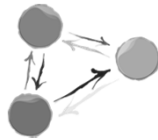
- Building peer relationships and friendships
  - Birthday parties
  - Supporting playdates
- Program differences for families of typically developing children or children with ASD
  - Hours
  - Flexibility to fit family needs
- Adequate ratios for level of support required
- Transitions between toddler and preschool programs





## Progress Monitoring and Funding

- Inclusion programs do not 'fit' typical model for ABA-based programs
- Data collection in group setting
- Capturing complex social goals and progress



## Summary

- Inclusion can be an effective intervention approach for children at risk for or diagnosed with ASD
  - Adapted application of evidence-based practices
  - Many unique considerations and challenges



## Thank you!

- The teachers, AEAs, supervisors, and staff at Alexa's PLAYC who do this important work every day
- Parents, children, and families of Alexa's PLAYC
- Colleagues and collaborators at RCHSD and UCSD
- Support from The National Foundation for Autism Research and Autism Speaks
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