

***Play Developments in Young
Children with and without Delays:
Guidelines for Intervention***

***Karin Lifter, PhD
Northeastern University***

***International Society on
Early Intervention***

***Lisbon, Portugal
September 2025***

PROJECT PLAY

Acknowledgements

Profound appreciation is extended to:

The Institute of Education Sciences (IES), National Center for Special Education Research (NCSEER) of the U. S. Department of Education (Award R324A100100)

The children and families who participated!

The opinions expressed are those of the authors and do not represent views of the IES.

Privacy Specifications

- We will be showing videotaped segments of children and their caregivers
- We ask that you do not take pictures of these recordings, given that the children and caregivers constitute a vulnerable population

Conceptualization of Play

In play, children express

- *what they know and*
- *what they are thinking about (i.e., learning)*



→ *Play as expression leads to assessment*

→ *Play for learning leads to intervention*

Definition of Play (with Toys)

Play “consists of spontaneous, naturally occurring activities with objects (toys) that engage attention and interest”

(Lifter & Bloom, 1998, *Infant Behavior & Development*)

Focus on Object Play

Not social, parallel or cooperative play

- Not play on the playground
- Not rough and tumble play



Object Play Matters

Play with objects contributes to children's developing knowledge about:

- objects
- people
- events, and
- relationships among them

This knowledge contributes to:

- what children say
- what children do with caregivers and peers



What Object Play Looks Like: 18-month-old Child

- Video shows child moving
 - People figures into car
 - Blocks into car
 - Lid back onto container

What can we say about the play sample?

Is the child engaged?

- We would say yes

Does the child show varied types of play activities?”

- Moved people figures into the car
 - Giving them a ride?
- Moved blocks into the car
 - Moving objects into “container”?
- Put lid on the container
 - Putting things back together as found them

Research Matters

To understand the content of play

- Need descriptive, observational research, which informs:
 - what constitutes object play
 - how play develops
 - how to evaluate progress in play to guide intervention

The Research: Project Play

Children observed:

- 203 children developing with delays (DD)
- 289 children developing typically (TD)

Observed children in homes

- 30 minutes of natural play, with familiar caregiver
- videorecorded the observations
- across four sets of toys
- Over age span of 8 months to 60 months
- Cross-sectional design: 6-month intervals
 - 8*, 12, 18, 24, 30, 36, 42, 48, 54, 60-months¹⁰

Background - Typically Developing Children

| | White | | Black | | Asian | | Latino | | Mixed | | Total |
|---------------|------------|--------------|-----------|--------------|-----------|--------------|----------|--------------|-----------|--------------|------------|
| | n | (p) | n | (p) | n | (p) | n | (p) | n | (p) | n |
| 8 months | 22 | (.59) | 7 | (.19) | 4 | (.11) | 1 | (.03) | 3 | (.08) | 37 |
| 12 months | 26 | (.72) | 2 | (.06) | 2 | (.06) | 2 | (.06) | 4 | (.11) | 36 |
| 18 months | 28 | (.67) | 2 | (.05) | 2 | (.05) | 1 | (.02) | 9 | (.21) | 42 |
| 24 months | 19 | (.73) | 1 | (.04) | 1 | (.04) | 1 | (.04) | 4 | (.15) | 26 |
| 30 months | 22 | (.81) | 1 | (.04) | 1 | (.04) | 0 | (0.0) | 3 | (.11) | 27 |
| 36 months | 18 | (.75) | 0 | (0.0) | 2 | (.08) | 2 | (.08) | 2 | (.08) | 24 |
| 42 months | 17 | (.65) | 2 | (.08) | 1 | (.04) | 1 | (.04) | 5 | (.19) | 26 |
| 48 months | 20 | (.77) | 2 | (.08) | 2 | (.08) | 1 | (.04) | 1 | (.04) | 26 |
| 54 months | 19 | (.90) | 1 | (.05) | 0 | (0.0) | 0 | (0.0) | 1 | (.05) | 21 |
| 60 months | 12 | (.50) | 0 | (0.0) | 5 | (.21) | 0 | (0.0) | 7 | (.29) | 24 |
| Totals | 203 | (.70) | 18 | (.06) | 20 | (.07) | 9 | (.03) | 39 | (.13) | 289 |

Background – Children Developing with Delays

| | White | Black | Asian | Latino | Multiracial | Total |
|------------------|------------------|----------------|-----------------|----------------|-----------------|------------|
| | n (%) | n (%) | n (%) | n (%) | n (%) | n |
| 8 months | 3 (100%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 3 |
| 12 months | 18 (78%) | 0 (0%) | 4 (17%) | 0 (0%) | 1 (4%) | 23 |
| 18 months | 8 (42%) | 2 (11%) | 3 (16%) | 2 (11%) | 4 (21%) | 19 |
| 24 months | 14 (58%) | 2 (8%) | 3 (13%) | 0 (0%) | 5 (21%) | 24 |
| 30 months | 16 (55%) | 2 (7%) | 6 (21%) | 2 (7%) | 3 (10%) | 29 |
| 36 months | 17 (52%) | 4 (12%) | 7 (21%) | 1 (3%) | 4 (12%) | 33 |
| 42 months | 8 (44%) | 3 (17%) | 1 (6%) | 3 (17%) | 3 (17%) | 18 |
| 48 months | 9 (56%) | 2 (13%) | 1 (6%) | 1 (6%) | 3 (19%) | 16 |
| 54 months | 8 (44%) | 3 (17%) | 3 (17%) | 3 (17%) | 1 (6%) | 18 |
| 60 months | 12 (60%) | 3 (15%) | 2 (10%) | 2 (10%) | 1 (5%) | 20 |
| Totals | 113 (64%) | 21 (8%) | 30 (10%) | 14 (5%) | 25 (13%) | 203 |

Characteristics - Children with Delays

| | Autism | Down Syndrome | Premature | Language | Motor | Social/Emot'l | Multiple Domains | Dev'l Delay | Total |
|------------------|-----------------|-----------------|---------------|-----------------|----------------|---------------|------------------|----------------|------------|
| 8 months | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 3 |
| 12 months | 0 | 2 | 3 | 1 | 6 | 0 | 6 | 5 | 23 |
| 18 months | 2 | 2 | 2 | 5 | 1 | 0 | 5 | 2 | 19 |
| 24 months | 3 | 3 | 0 | 12 | 1 | 0 | 4 | 1 | 24 |
| 30 months | 4 | 4 | 1 | 9 | 1 | 0 | 8 | 2 | 29 |
| 36 months | 3 | 4 | 1 | 14 | 4 | 1 | 5 | 1 | 33 |
| 42 months | 7 | 5 | 0 | 1 | 1 | 2 | 2 | 0 | 18 |
| 48 months | 5 | 3 | 0 | 4 | 1 | 0 | 1 | 2 | 16 |
| 54 months | 8 | 1 | 0 | 4 | 0 | 0 | 4 | 1 | 18 |
| 60 months | 6 | 2 | 0 | 5 | 0 | 0 | 4 | 3 | 20 |
| Total (%) | 38 (19%) | 27 (13%) | 7 (3%) | 55 (27%) | 16 (8%) | 3 (1%) | 40 (20%) | 17 (8%) | 203 |

Pictures of Toys in Observations

Green Set



Orange Set



Administration of Play Observation

- Video shows RA coming in to present child with new set of toys, and taking away the current set

Coding Play

Codable activities:

defined as:

*children doing something with a toy
beyond rotating in their hands*

12-month-old Child

- Video shows child taking a couple of cups out of the stack of cups, and then putting a cup back in

36-month-old Child

- Video shows mom holding the doll, the child turning the doll's head to face her, then scooping the spoon again a disk on the floor, and then feeding the doll with the spoon

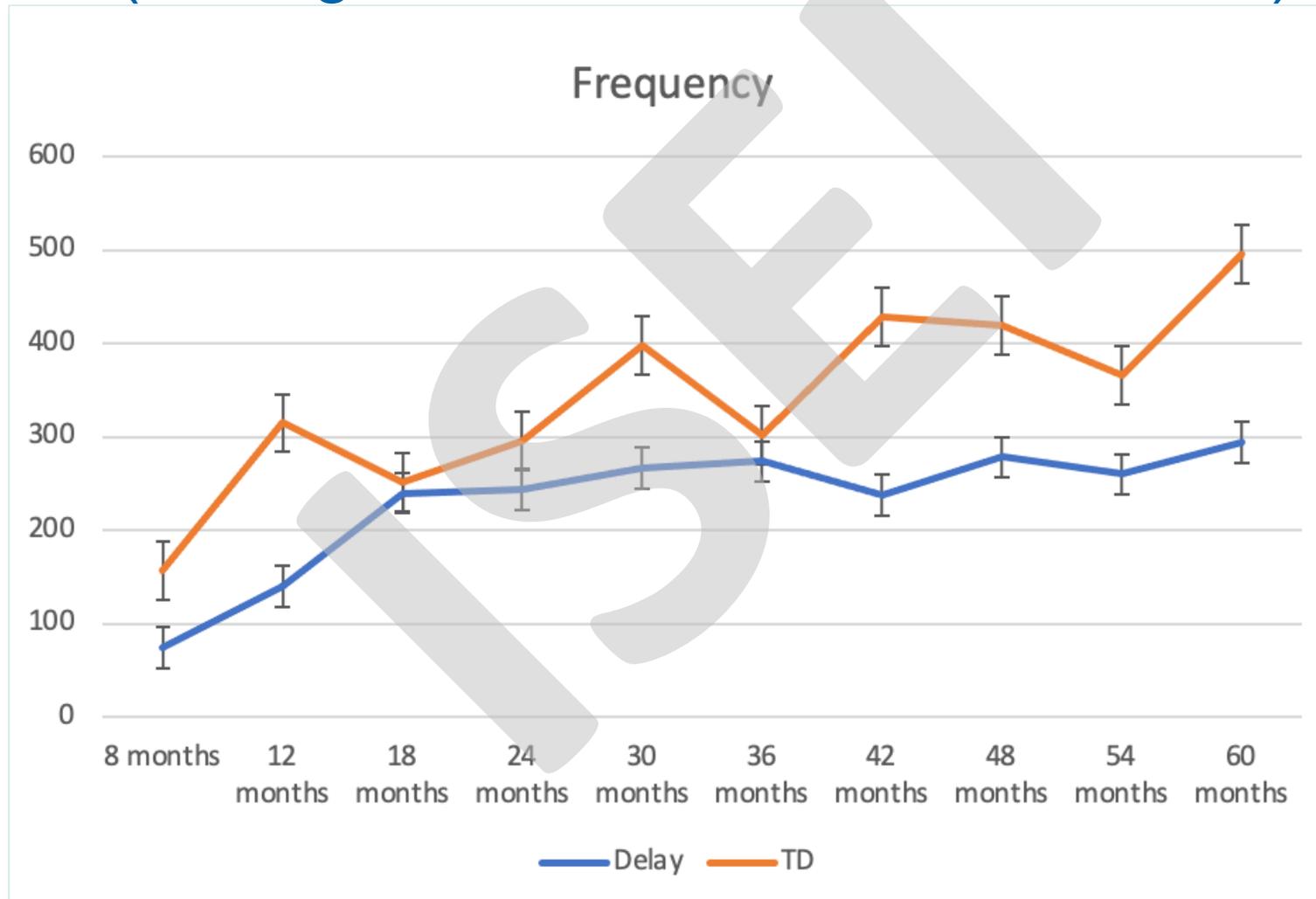
Initial Analysis

Compared the two groups of children on frequency of play activities

How do the two groups compare on the number of codable activities in the 30-minute samples?

Mean Frequency of Play Activities

(average number of codable activities)



Children with delays expressed similar numbers of actions ²¹
(Overall mean of 300 codable activities in 30 minutes!)

Engagement in Play

- The graph illustrates
 - *similar levels of engagement*
- The children with delays played with the toys at comparable levels!
- Question:
 - Where are the differences?

Detailed Coding

Each activity coded into qualitatively different categories from observations

For example --

- simple activities on objects
- creating simple relationships between objects
- representing conventional relationships between objects
- linking activities into sequences
- embedding substitutions in activities
- attributing animacy to figures

All represent qualitatively different activities!

Presentation Combinations

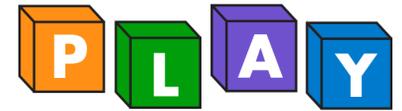


(Child puts objects together as they were presented:
creating simple relationships between toys)

- This is the video of the 12-month-old child who is putting the cups back in the nest of cups

Learned Combinations

PROJECT



(Child creates relationships between objects representing conventional activities)

- This is the video of the 36-month-old child scraping the spoon against the disk (which she calls a “cookie”), then feeding the baby doll with the spoon

Substitution/Doll-as-Actor

(Embedding substitution; attributing animacy)

- This is a video of a 42-month-old child who is designating the nesting cups as “drums,” then arranging the drums in front of himself and in front of the doll figure, giving some sticks (“drumsticks”) to the doll and to himself. The attribution of animacy is in relation to the baby doll – who needs a set of drums for itself.

Coding Results

- Identified of 27 Categories (DPA-R)
 - Revealed a highly differentiated description of play categories
 - (Lifter, Mason, Takuya, Cannarella, & Tennant, 2022, *Acta Psychologica*)
- Eventually boiled down to 14 categories for the DPA-P
 - Based on factor analyses and conceptual analyses
 - (Mason, Lifter, Cannarella, & Medeiros, 2024, *J. Psychoeducational Assessment*)

DPA Categories: Overall Order

| Category | Definition |
|----------------------------------|---|
| Indiscriminate Activities | Child acts on one or more objects in ways that are not particular to the characteristics of the objects. |
| Discriminative Activities | Child acts on single objects according to their particular characteristics. |
| Presentation Combinations | Child puts objects together as they were presented to the child. |
| General Combinations | Child creates new configurations of objects that are simple and non-specific (e.g., puts one object into another). |
| Learned Combinations | Child creates relationships between objects that represent conventional activities. |
| Pretend Self | Child relates objects to the self, indicating a pretend quality to the action. |
| Specific Physical | Child creates a relationship between/among objects based on the physical characteristics of the objects. |

DPA Categories (continued)

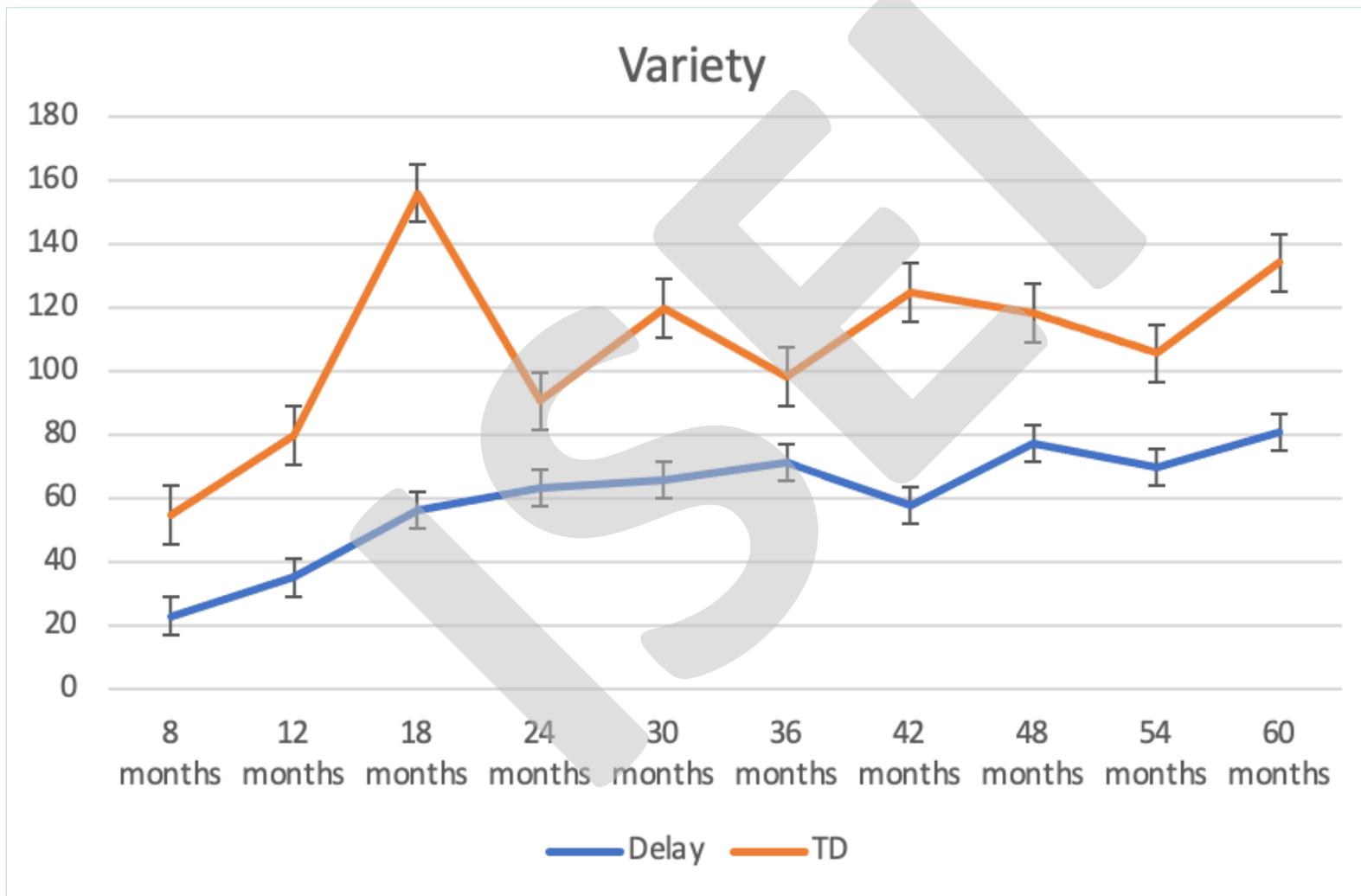
| Category | Definition |
|------------------------|--|
| Varied Action Sequence | Child extends two or more different learned actions to people or objects, linked in time. |
| Same Action Sequences | Child extends same learned action to different people or object, linked in time. |
| Substitutions | Child uses one object to stand in place for another or references an imaginary object. |
| Doll-as-Actor | Child moves doll figures as if they are capable of acting on objects and/or other dolls. |
| Complex Sequences | Child links learned actions together in time, including building constructions, which integrate substitution elements. |
| Person-as-Actor | Child involves a person (caregiver, observer) to act out play activities on objects. |
| Fantasy | Play activities in which there is an element of fantasy (e.g. magic) in the activity. |

Detailed Analyses of Categories

Analyzed **Variety** in play

- Variety = number of different examples of the category within the category
- It is an evaluation of “depth” of knowledge
 - e.g., for Learned Combinations, 4 examples are:
 - feeding doll with spoon
 - fixing car with tool puzzle piece
 - giving figures a ride in the train
 - pouring from pot into a cup
 - If child expressed 4 different examples, $V = 4$
- Tracked progress over time in variety

Mean Variety of Play Activities

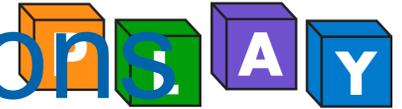


Children with delays expressed less variety, less “depth”³¹ in their play

Further Analyses

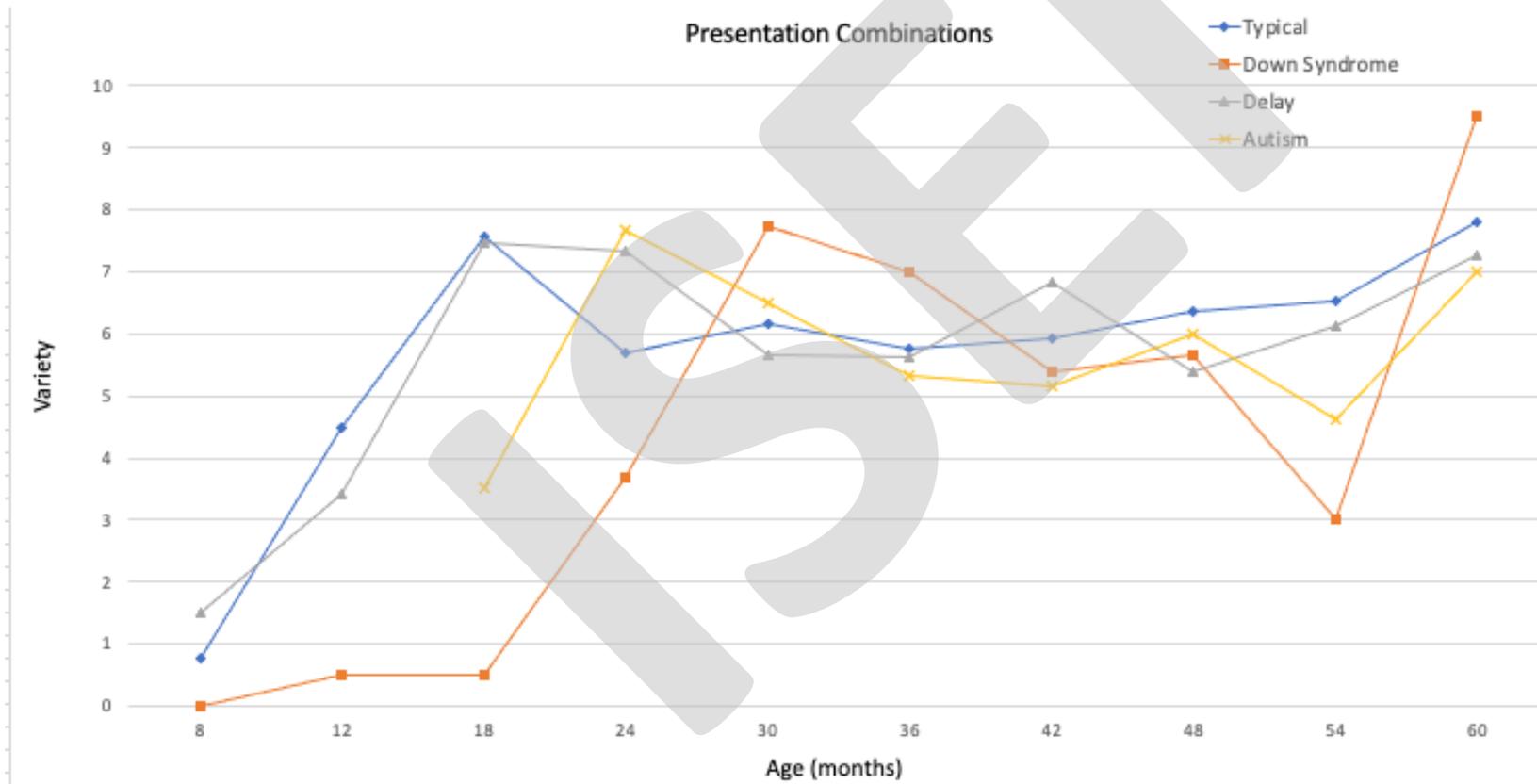
- Separated children with delays into 3 groups
 - Children with ASD
 - Children with Down syndrome
 - Children with all other delays
- Compared these three groups to TD children
 - Will show examples for some categories

Presentation Combinations



- This video repeats that of the 12-month-old child who is taking cups out of the nest of cups and putting them back in, with the *putting back in* as an example of Presentation Combinations. It is here to remind you of what Presentation Combinations look like for viewing the figure in the next slide. As you will see, the different groups of children are fairly similar.

Presentation Combinations

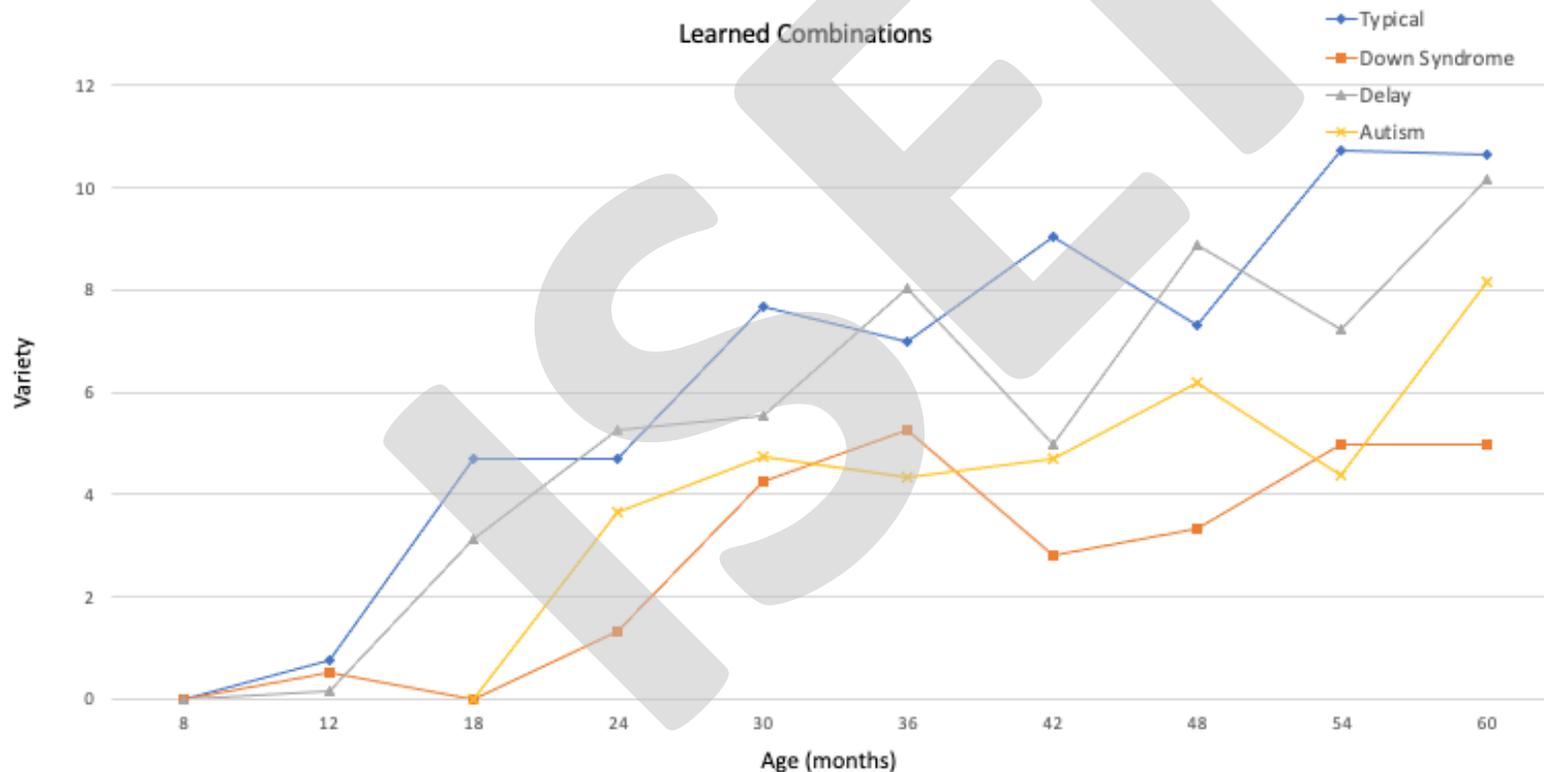


Overall similarity. Category based on perceptual information and general knowledge of objects.

Learned Combinations

- Here is the video of the 36-month-old child scraping the spoon against the disk (“cookie”) and then feeding the doll with a spoon to remind you of Learned Combinations.
- The Learned Combinations are the scraping the spoon against something, and also feeding the doll with a spoon. These combinations have been seen and remembered. As you will see, the groups begin to diverge here.

Learned Combinations

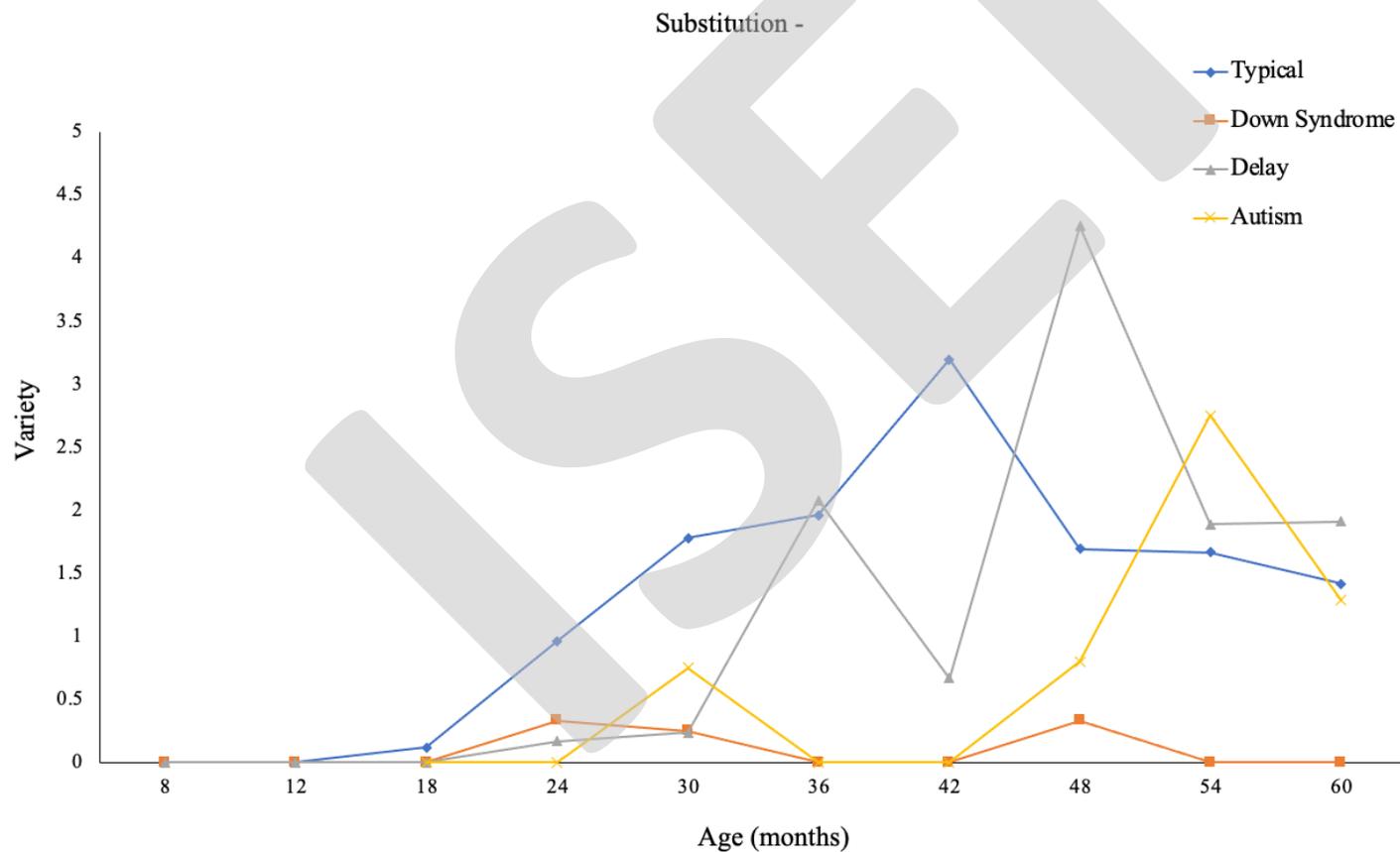


Differences in rates and depth. Category based on remembering events – mental representation.

Substitution/ Doll-as-Actor

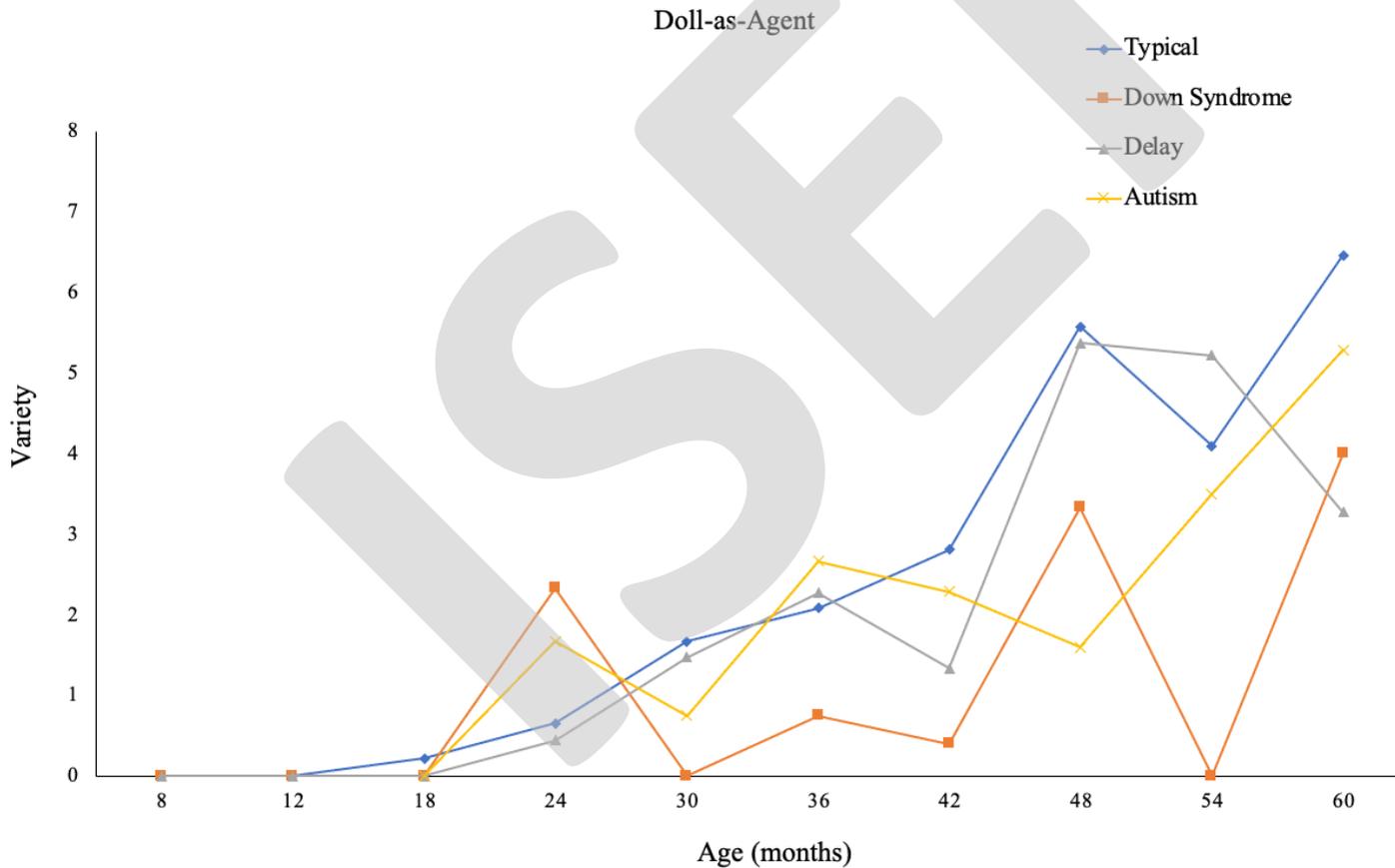
- Here is the video of the 42-month-old child who is setting up the nesting cups as drums and using sticks from the tinker toys, extending a “set” to the doll figure, to play drums together. The Substitution is using the cup and sticks for drumming (depicted in the next slide) and the Doll-as-Actor (depicted in the slide after that) is extending a set of drums to the doll.

Substitutions



Differences in rates, depth, and occurrence. Category based on Referencing an imaginary object.

Doll-as-Actor



Differences in rates, depth, and occurrence. Category based on attributing agency to figures and people.

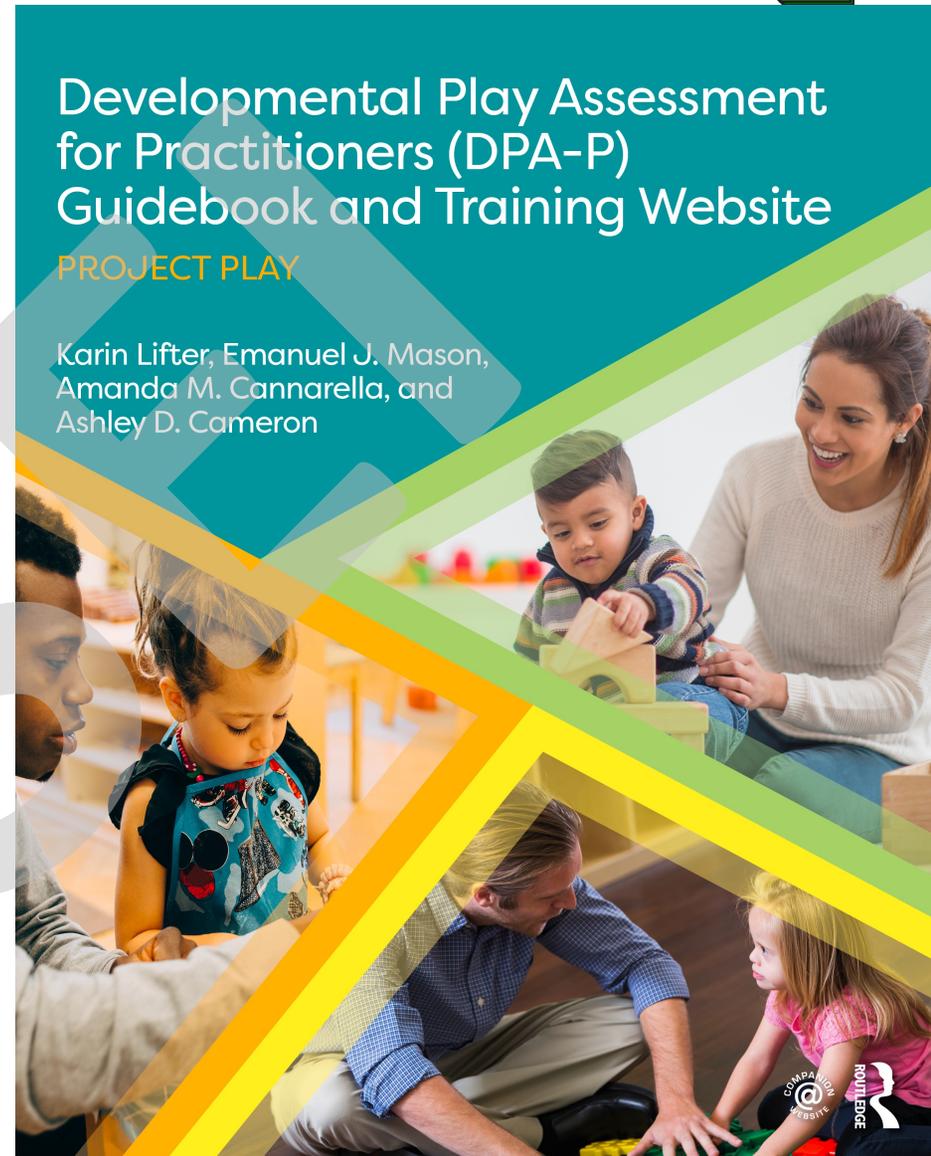
Research Summary Points

- ***Play Develops*** –
 - Supports developmental model for understanding play
- Children with delays ***engage*** in play: they
 - engage with objects in similar amounts to TD children
 - express same play categories as TD children
 - ***show us what they know, what they are learning, and what they are interested in***
- Differences observed children with delays:
 - In rates, ***variety***, expression of some categories
 - → the children's ***efforts*** in learning are compromised
- Results led to development of the DPA-P to Guide Interventions in play

Goal of PROJECT PLAY:

Developmental Play Assessment for Practitioners (DPA-P)

*--> To evaluate play
and to develop and
implement goals in play*



<https://routledgelearning.com/projectplay/>

With Online Training Program



**14 lessons, 1
practice, & 1
final evaluation**



**Each lesson
contains:**

Video

Text

Section quizzes

Final quiz



**Available on all
platforms**



<https://routledgelearning.com/projectplay/>

Four Guidelines for Intervention:

1. *Evaluate Child's Progress in Play*

- Gather 30-minute sample of play
 - Can observe samples of play in individual and group contexts with four groups of toys
 - DPA-P guidelines include assembling toys in your center
 - Observation can be accomplished in segments with groups of toys
- Sort activities into play categories

2. Identify Goals Based on *Status of Categories*

- Determine:
 - which categories the child **knows** --
 - has “**mastered**”
 - which categories the child is **in the process of learning** –
 - are “**emerging**”
 - which categories are too difficult at this point



Research in Support of Emerging Categories

- Greatest level of attention in play for categories at the emerging level
 - Bloom & Tinker, 2001: *SRCD Monographs*
 - supports requirement of **effort**
- “Emerging” categories versus “known or mastered” categories differ in “cost” of social interaction:
 - Pierce-Jordan & Lifter, 2005: *TECSE*

Criteria for Evaluating Progress in Play

- Categories child knows:
 - M: **Mastery** (variety ≥ 4 ; frequency ≥ 4)
- Categories child in process of learning
 - E: **Emerging** (variety = 2 or 3; f = ≥ 2)
- Categories too difficult at this point
 - B: **Basic** (variety = 1; frequency = 1)
 - A: **Absent** (no evidence)

Case Studies:

DPA-P: 12 months (Motor Delay)

Video of 12-month-old child taking nesting cups apart and then banging them together

15 SE 1

DPA-P: 12 months (TD)

Video of a 12-month-old typically developing child taking cups out of nest, lifting it up to show her mother, and then putting the cup back in the nest

Comparison

Next you will see how these two children compare on an analysis of their play activities with the DPA-P. The child with motor delays does not produce as many activities, but overall this child's play is not as advanced relative to the typically developing child.

The lightly shaded categories are those we would consider as target categories.

Profiles: 12-month-old Children



| | 12 months Child with Motor Delay (f = 29) | | | 12 months Child without Delays (f = 99) | | |
|---------------------------|---|-------|--------|---|-------|--------|
| | Variety | Freq. | Status | Variety | Freq. | Status |
| Indiscriminate Activities | --- | 21 | | | 58 | |
| Discriminative Activities | 0 | 0 | A | 6 | 9 | M |
| Presentation Combinations | 1 | 4 | B | 6 | 27 | M |
| General Combinations | 0 | 0 | A | 2 | 3 | E |
| Learned Combinations | 0 | 0 | A | 0 | 0 | A |
| Specific Physical | 1 | 4 | B | 0 | 0 | A |
| Varied Action Sequences | 0 | 0 | A | 0 | 0 | A |
| Single Action Sequences | 0 | 0 | A | 0 | 0 | A |
| Pretend Self | 0 | 0 | A | 1 | 1 | B |
| Substitutions | 0 | 0 | A | 1 | 1 | B |
| Doll-as-Actor | 0 | 0 | A | 0 | 0 | A |
| Complex Sequences | 0 | 0 | A | 0 | 0 | A |
| Person-as-Actor | 0 | 0 | A | 0 | 0 | A |
| Fantasy | 0 | 0 | A | 0 | 0 | A |

Comparison of Three 18-month-olds

Next you will see DPA-P analyses of
of three 18-month-old children:

- one with Down syndrome,
- one born prematurely, and
- one who is developing without delays .

As you will see, the child with Down syndrome
is not as advanced as the other two children.

The lightly shaded categories are those
we would consider as target categories.

Profiles: 18-month-old Children

| | 18 months Child with Down Syndrome (f=58) | | | 18 months Child born Prematurely (f=117) | | | 18 months Child without Delays (f=184) | | |
|---------------------------|---|-------|--------|--|-------|--------|--|-------|--------|
| | Variety | Freq. | Status | Variety | Freq. | Status | Variety | Freq. | Status |
| Indiscriminate Activities | --- | 42 | | | 10 | | | 16 | |
| Discriminative Activities | 5 | 11 | M | 12 | 49 | M | 13 | 25 | M |
| Presentation Combinations | 0 | 0 | A | 9 | 25 | M | 11 | 53 | M |
| General Combinations | 3 | 4 | E | 11 | 17 | M | 14 | 44 | M |
| Learned Combinations | 1 | 1 | B | 6 | 13 | M | 10 | 35 | M |
| Specific Physical | 0 | 0 | A | 3 | 3 | E | 1 | 1 | B |
| Varied Action Sequences | 0 | 0 | A | 0 | 0 | A | 2 | 2 | E |
| Single Action Sequences | 0 | 0 | A | 0 | 0 | A | 1 | 3 | B |
| Pretend Self | 0 | 0 | A | 0 | 0 | A | 1 | 1 | B |
| Substitutions | 0 | 0 | A | 0 | 0 | A | 0 | 0 | A |
| Doll-as-Actor | 0 | 0 | A | 0 | 0 | A | 2 | 4 | E |
| Complex Sequences | 0 | 0 | A | 0 | 0 | A | 0 | 0 | A |
| Person-as-Actor | 0 | 0 | A | 0 | 0 | A | 0 | 0 | A |
| Fantasy | 0 | 0 | A | 0 | 0 | A | 0 | 0 | A |

24-month-old Child w/Lg Delays

- In this video, the child is moves the spoon into the cup nest, then tries to put the mirror in the cups. The child takes a disk out of the tinker toy container and puts it into the cups, and then takes some sticks out and puts them into the cups.

24-month-old Child w/out Delays

- In this video, takes the spoon and stirs it in the nest of cups. Then the child sticks one of the tubes from the tinker toys and announces she wants the baby to drink. After sticking the tube (which she calls as “straw” into the cup), she puts the straw to the doll’s mouth, saying “baby drinking.”

Comparison

Next you will see how these two children compare on an analysis of their play activities with the DPA-P. The child with language delays produces a similar amount of activities, but over all, this child's play is not as advanced relative to the typically developing child.

The lightly shaded categories are those we would consider as target categories.

Please note, General Combinations drop out with more advanced play categories.

Profiles: 24-month-old Children



| | 24 months Child with Language Delay (f = 159; v = 35; MLU = 1.0) | | | 24 months Child without Delays (f = 143; v = 44; MLU = 2.53) | | |
|---------------------------|--|-------|--------|--|-------|--------|
| | Variety | Freq. | Status | Variety | Freq. | Status |
| Indiscriminate Activities | | 4 | | | 18 | |
| Discriminative Activities | 6 | 19 | M | 8 | 20 | M |
| Presentation Combinations | 8 | 80 | M | 12 | 57 | M |
| General Combinations | 14 | 38 | M | 3 | 4 | E |
| Learned Combinations | 5 | 16 | M | 12 | 21 | M |
| Specific Physical | 1 | 1 | B | 3 | 15 | M |
| Varied Action Sequences | 1 | 1 | B | 3 | 5 | E |
| Single Action Sequences | 0 | 0 | A | 0 | 0 | A |
| Pretend Self | 0 | 0 | A | 1 | 1 | B |
| Substitutions | 0 | 0 | A | 2 | 2 | E |
| Doll-as-Actor | 0 | 0 | A | 0 | 0 | A |
| Complex Sequences | 0 | 0 | A | 0 | 0 | A |
| Person-as-Actor | 0 | 0 | A | 0 | 0 | A |
| Fantasy | 0 | 0 | A | 0 | 0 | A |

Comparison

Next you will see DPA-P profiles of two 36-month-old children – one with language delays and one without delays. The child with language delays does produce a large number of activities, but overall this child's play is not as advanced relative to the typically developing child. The lightly shaded categories are those we would consider as target categories. Please note, General Combinations drop out with more advanced play categories.

Summary Profiles

36-month-old Children

PROJECT



| | Child w/ Lg Delay F = 187; V = 59 MLU = 1.69; NDW = 17; TNU = 30 | | | TD Child F = 271; V = 87 MLU = 3.39 NDW = 262; TNU = 391 | | |
|---------------------------|---|------|-------|---|------|-------|
| | Var | Freq | Score | Var | Freq | Score |
| Discriminative | 7 | 17 | M | 16 | 47 | M |
| Presentation Combinations | 7 | 41 | M | 5 | 22 | M |
| General Comb. | 6 | 38 | M | 3 | 11 | E |
| Learned Comb. | 19 | 40 | M | 24 | 90 | M |
| Specific Physical | 8 | 39 | M | 4 | 30 | M |
| Varied Action Seq | 10 | 10 | M | 5 | 11 | M |
| Substitution | 2 | 2 | E | 20 | 34 | M |
| Complex Seq | 0 | 0 | A | 6 | 12 | M |
| Doll as Actor | 0 | 0 | A | 4 | 14 | M |
| Fantasy Play | 0 | 0 | A | 0 | 0 | A |

3. Develop Toy Sets to Implement Goals

Adapt toys to the categories the child is ready to learn (i.e., ***emerging categories***):

Please note how the set can be adapted to the various play categories in the DPA-P.

Avoid:

- “teaching” the child to play with a toy
- “appropriate play” with a toy or toys

Example from the DPA-P: food set

Sample Curriculum Activities

Food Set: Doll figures (adults, children); play silverware in slotted container; pots, cups, plates; pretend food items (e.g., fruit, vegetables, hamburger, cheese, lettuce, tomato in a bowl); puzzle of food items; measuring cups in a nest; missing spoons; shopping cart.

| Cat. | Corresponding Play Activities |
|------|---|
| DS | Hugs dolls; rolls cart; walks figures |
| PC | Puts puzzle together; silverware in slots; nests cups |
| GC | Puts assorted items in bowl, cart; and back and forth |
| LC | Feeds food to dolls w/without utensils; stirs food in bowl; pours from measuring cup to bowl; |
| VS | Stirs cup w/ spoon, feeds doll; puts food in bowl, stirs; |
| SS | Feeds food to self, then doll; extends cup to other, then to self; |

Sample Curriculum Activities

Food Set (continued):

| Cat. | Corresponding Play Activities |
|------|---|
| SP | Stacks measuring cups; |
| SB | Pretends “cereal in bowl”; pretends a stove to cook |
| CS | Stirs “cereal” in cup, feeds doll figures; cooks food on “imaginary stove” and feeds to dolls; |
| DA | Moves figures to cook, put food on plates, feed dolls |
| PA | Directs caregiver, other to stir food, cook food, feed food to figures |
| FA | Pretends Supergirl has come with needed food, cooks it (i.e., introduction of fantasy element). |

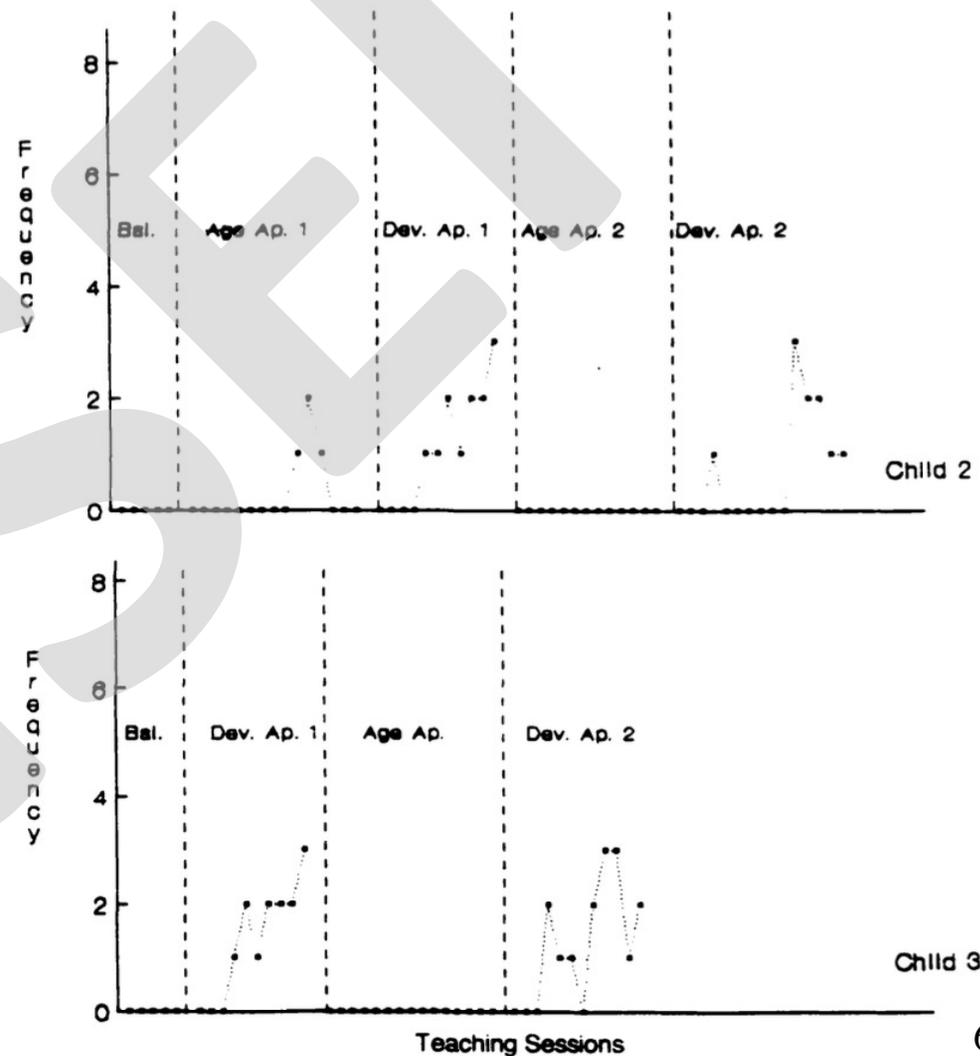
4. Use Child Directed Teaching

- Use of child-directed teaching procedures
 - Follow child's lead
 - Use what child is attending to; Add in related toy(s)
 - Use least-to-most prompting procedures
- Child-directed teaching maximizes child's attention
 - With focus on ***emerging activities***, we are
 - ***enhancing attention***
 - ***focusing on what child is in process of learning***
 - Research supports greatest attention to activities child is in process of learning

Evidence in Support of Implementing Developmentally Appropriate (Dev Ap) Play Goals: Early Work

Comparing
acquisition of
Dev Ap vs
Age Ap
Play Activities

Lifter, Sulzer-
Azaroff, Anderson &
Cowdery, 1993, *JEI*

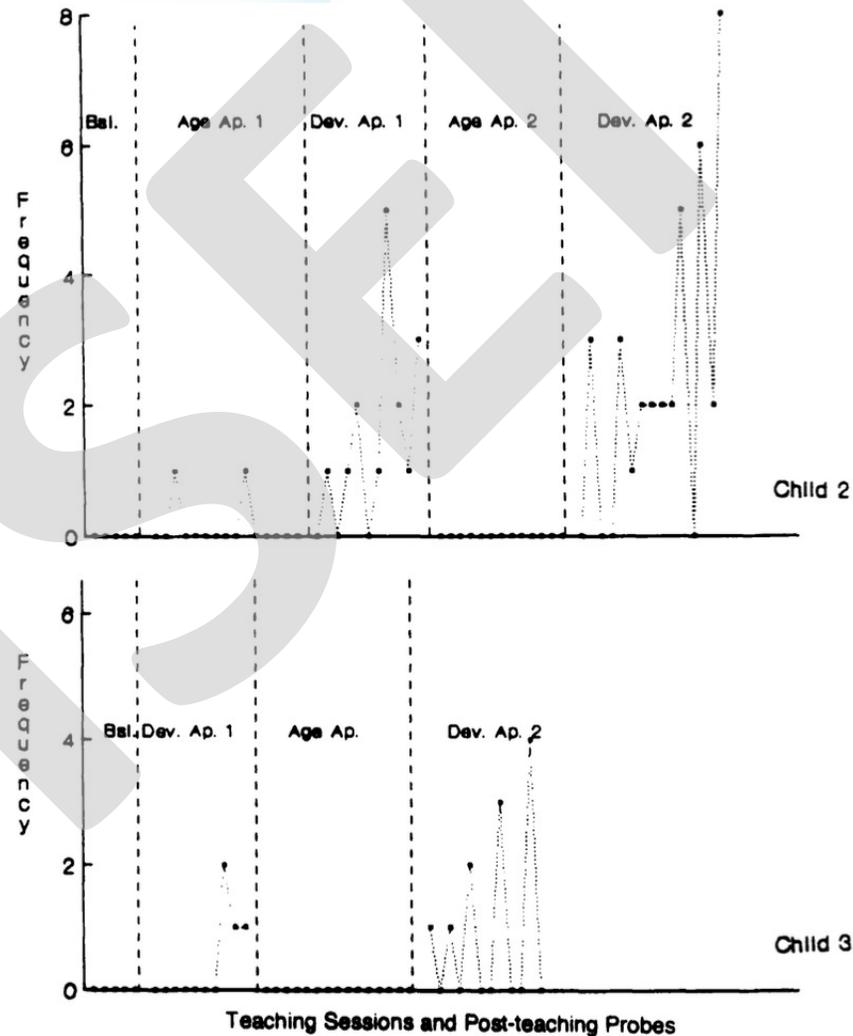


Lifter, Sulzer-Azaroff, Anderson &

Cowdery, 1993

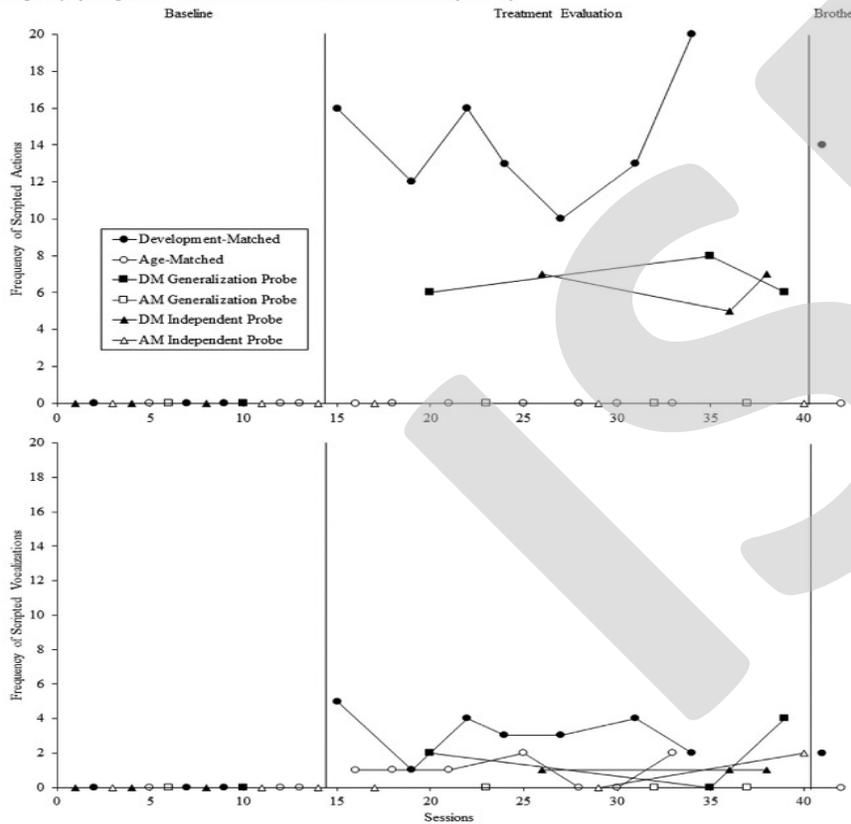
(Early Work Continued)

Comparing
Generalization
of Dev Ap vs
Age Ap play
activities



Contemporary Studies Supporting Developmental Model to Guide Intervention Targets (used DPA)

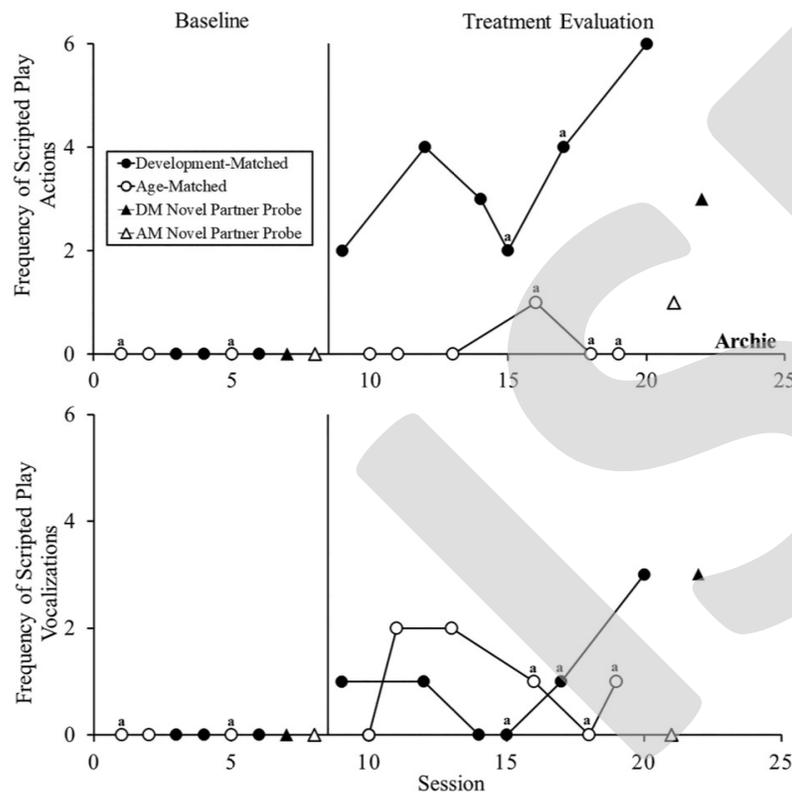
Figure 1
Frequency of Scripted Actions and Vocalizations Across Conditions for Patty



Pane, Sidener,
Reeve, Kisamore, &
Nirgudkar, 2021,
JABA

Play actions: top
Vocalizations: bottom
Closed symbols: DevMatched
Open symbols: AgeMatched

Contemporary Studies Supporting Developmental Model to Guide Intervention Targets (used DPA)



Agana, Sidener,
Pane & Reeve,
2023, *JABA*

Play actions: top
Vocalizations: bottom
Closed symbols: DevMatched
Open symbols: AgeMatched

FIGURE 1 Frequency of scripted play actions and vocalizations for Archie. Data show frequency of scripted play actions (top panel) and vocalizations (bottom panel) in development-matched (DM) and age-matched (AM) conditions and with a novel play partner. The novel partner probes were conducted with his older 9-year-old brother. The "a" indicates a session that ended early due to interfering behavior.

Extending Play to Support Language and Social Development

- For language, selection of play goals at the *emerging and mastered levels*
 - Can implement language goals as implement play goals
 - Talking about what child is attending to
- For social, selection of play goals at the *mastered level*
 - Resources for social engagement compete with learning new play activities
 - (Pierce-Jordan & Lifter, 2005, *Topics in ECSE*)

Implications for Families/Caregivers

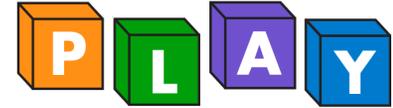
- Increased awareness about importance of play
- Increase engagement in play
 - Understanding what the child knows in play
 - Scaffolding new play activities at the developmental level
 - Providing opportunities for caregivers to engage with their children
 - ❖ ***Responsiveness of child likely increases when child is playing at a level the child understands***

Implications for Families/Caregivers

- When caregivers attend jointly, and name and comment on the activities their children are in the process of learning,
 - they help children learn language.
- Children learn to:
 - modulate and sustain attention
 - represent and comment on what they are playing about

Acknowledgements

PROJECT



PIs, Co-PIs

- Karin Lifter
- Emanuel Mason
- Takuya Minami

Project Directors

- Juin Liu
- Amanda Cannarella

Doctoral Students

- **Robert Antonelli**
- Jacquelyn Briesch
- Ashley Cameron
- Kristin Concannon Harris
- Elizabeth Hemphill
- Summer Klug
- Genevieve Krebs
- Stephanie Long
- **Haley Medeiros**
- Rachel Ruah
- Katelyn Vertucci
- Kristin Lees
- Ellyn Schmidt

Master's Students

- Nicole Caron
- Ali Colpack
- Natasha Barlas
- Michelle Berton
- Jessica Blais
- Annie Bishop
- Kathryn Decker
- Kaitlin Driscoll
- Regan Fleischer
- Tanya Kotru Gode
- Grace Goodwin
- Samantha Holmgren
- Amber Jacobs
- Brooke McKalvey
- Meagan Miller
- Brittany Morley
- Rachael O' Donnelly
- Jeevita Sidhu

Undergraduate Students

- Christine Chao
- Brianne Fitzpatrick
- Noor Karmastaji
- Ryan Kelly
- Sarah Krupp
- Minh Nguyen
- Hayley Scamurra
- Sam Zoloth

- Lifter, K., Mason, E.J., Takuya, M., Cannarella, A.M., & Tenant, R.R. (2022). Emergent patterns in the development of young children's object play. *Acta Psychologica*, 224, 103524.
<https://doi.org/10.1016/j.actpsy.2022.103524>
- Lifter, K., Mason, E. J., & Barton, E. E. (2011). Children's play: where we have been and where we could go. *Journal of Early Intervention*, 33(4), 281-297.
- Lifter, K., Ellis, J.T., Cannon, B.O., and Anderson, S.R. (2005). Developmental specificity in targeting and teaching play activities to children with pervasive developmental disorders. *JEI*, 27(4), 247-267.
- Lifter, K., Sulzer-Azaroff, B., Anderson, S. & Cowdery, G. (1993). Teaching play activities to preschool children with disabilities: The importance of developmental considerations. *JEI*, 17 (2), 139-159.
- Lifter, K., Foster-Sanda, S., Arzamarski, C.A., Briesch, J., & McClure, E. (2011). Overview of play: Its uses and importance in early intervention/early childhood special education. *Infants & Young Children*, 24 (3), 1-21.



- Agana, T.R.T., Sidener, T.M., Pane, H.M., & Reeve, S.A. (2024). Comparing development-matched and age-matched play targets: A replication and extension. *Journal of Applied Behavior Analysis*, 57(4), 1016-1030. DOI: 10.1002/jaba.2910
- Barton, E. E. (2015). Teaching generalized pretend play and related behaviors to young children with disabilities. *Exceptional Children*, 81 (4), 489—506.
- Barton, E. E. & Wolery, M. (2008). Teaching pretend play to children with disabilities: A review of the literature. *Topics in Early Childhood Special Education*, 28, 119-25.
- Bloom, L. & Tinker, E. (2001). The intentionality model and language acquisition: Engagement, effort, and the essential tension in development. *Monographs of the SRCD*, 80 (1, Serial No. 609).
- Lifter, K., Mason, E.J., Medeiros, H.V., & Krebs, G. (in press). Patterns of Play in Young Children Developing with Delays. *Infants and Young Children*.



- Mason, E.J., Lifter, K., Cannarella, A.M., & Medeiros, H. (2024). Assessing developments in play of young children. *Journal of Psychoeducational Assessment*. DOI: 10.1177/07342829241261835
- Medeiros, H., Lifter, K., Antonelli, R., & Goodwin, G. (2024). Assessing play in children developing with delays: A scoping review. *Review Journal of Autism and Developmental Disorders*. 10.1007/s40489-024-00469-8
- Pane, H.M., Sidener, T.M., Reeve, S.A., Kisamore, A., and Nirgudkar, A. (2021). A comparison of development-match and age-match targets on play skills of children with autism spectrum disorder. *Journal of Applied Behavior Analysis*, 55(1), 195-213. <https://doi.org/10.1002/jaba.891>
- Pierce-Jordan, S. & Lifter, K. (2005). The interaction of social and play behaviors in preschoolers with and without pervasive developmental disorders. *Topics in Early Childhood Special Education*, 25(1), 34-47.
- Sidhu, J., Barlas, N., & Lifter, K. (2020). On the meanings of functional play: A review and clarification of definitions. *Topics in Early Childhood Special Education*, 1-13. DOI: 10.1177/0271121420951859

Discussion & Question **P** **L** **A** **Y**



K.Lifter@northeastern.edu