

Early Intervention: Essential Things to Know about Play

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Disclosures

- Employed by Kennedy Krieger Institute
- Research funding from CDC, NIH, IES, Simons Foundation
- Owner of Bundle of Learning which receives proceeds of sales of Bear's Applesauce Picnic



Objectives

1. Identify the main stages of play development.
2. List 3 characteristics of toys that enhance the ability to target treatment goals.
3. List 3 evidence-based strategies that can be used when teaching in the context of play.



Topics covered

- Introduction: Essential things to know about play
- Identify the main stages of play development.
 - What is play and why is it important
 - Relation between play and other developmental domains
 - Vygotsky and developmental play levels
- Considering intervention goals
 - Selecting toys as treatment materials
 - Setting up intervention environment
- Evidence-based strategies – play
 - Integrating play and language intervention

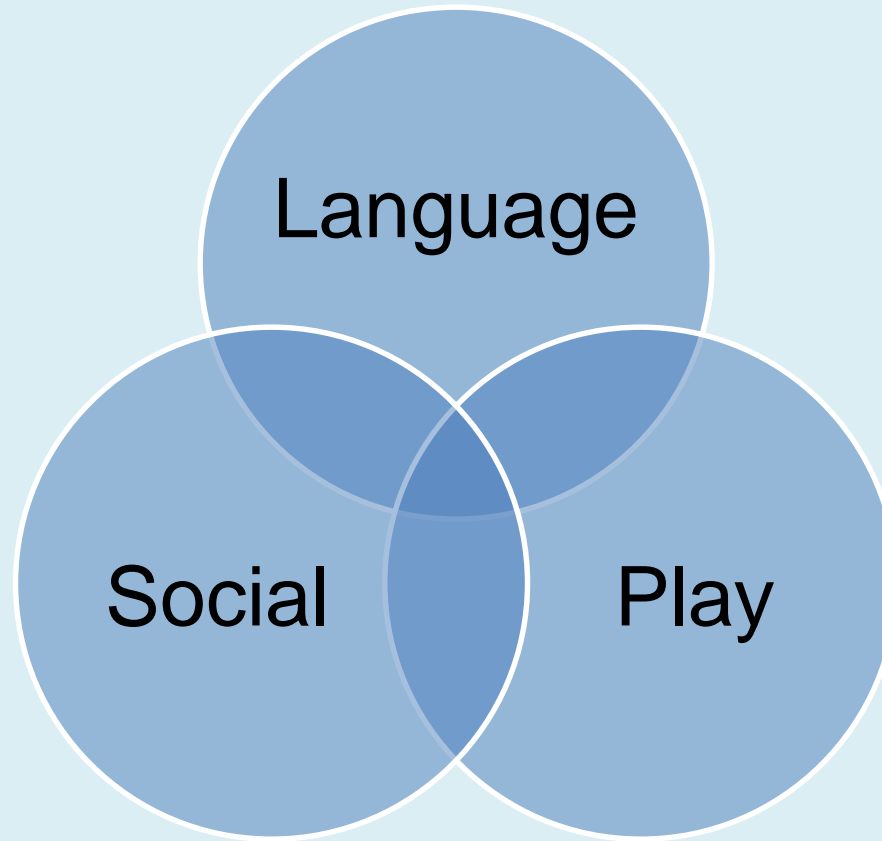


Children with ASD

- Atypical attention biases
- Reduced frequency and qualitative differences in play compared to children with TD or other DD (see Lieberman & Yoder, 2012):
 - exploratory play (Williams, 2003)
 - nonsymbolic play (Stone et al., 1990; Williams et al., 2001)
 - symbolic play (Wetherby et al., 2007)
- Impaired joint attention
- Impaired social initiation and reciprocity



Inter-connectedness



e.g., Lieberman & Yoder, 2012 Meta-analysis



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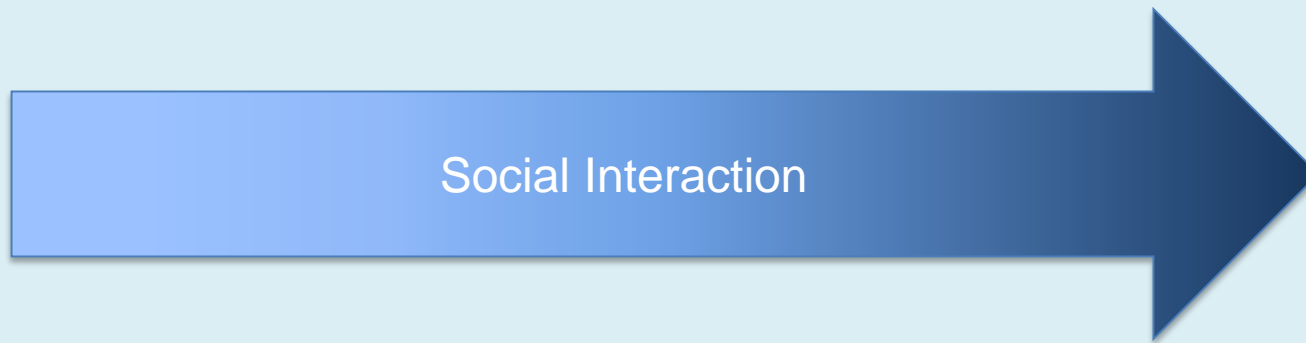
When
we think
about
play

•

Must consider
language and social
'load' and goals



Intervention involves Interaction Play – Social Connection



Play activity is
challenging
for the child

Play activity is
within child's
skill level

(Pierce-Jordan & Lifter, 2005)



Play with
objects

Play with
objects +
people

representations

generativity

language

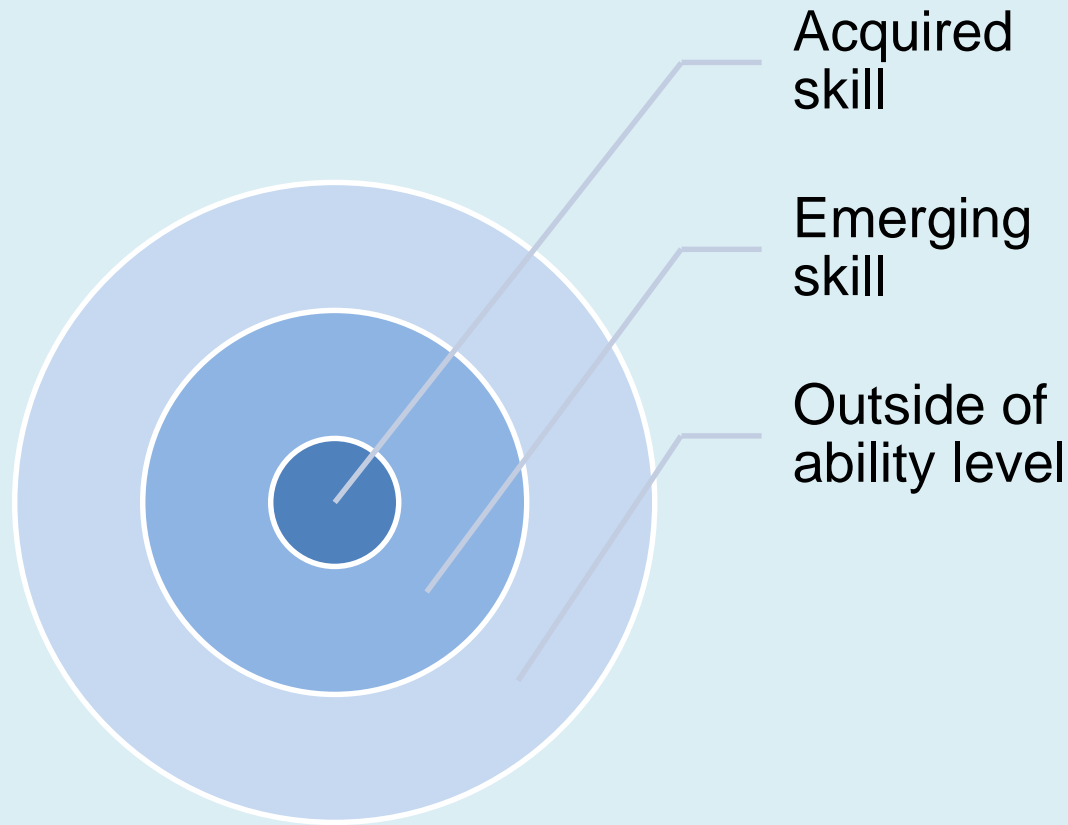
turn taking

anticipation

relating ideas



Vygotsky's Zones of Proximal Development



What the child is doing reflects

What the
child
knows

What the
child is
thinking
about
(ideas)



Essential things to know about play

- Focus today: up to developmental age 3 years
- Play is a developmental construct
- Play is an integration of multiple developmental systems
- Play offers unlimited learning opportunities when strategically curated
- Play is work for kids, but must also be made fun



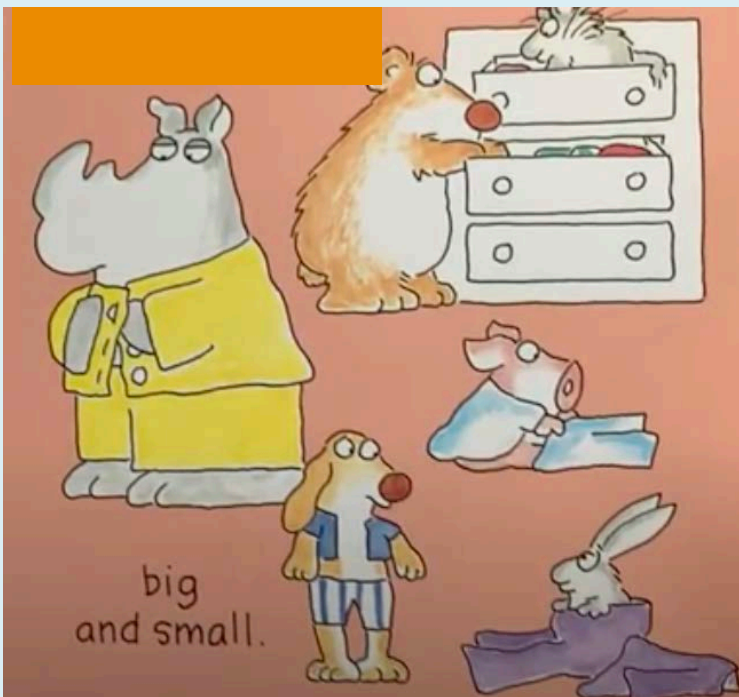
Play is important

- for promoting play as a **developmental domain** (developmental play levels)
- “for implementing a wide **variety of developmental goals** (e.g., language, social, and motor goals) because of the natural context that play provides.”
(Lifter, 2011, p. 226)



What's happening?

Belly Button Book
Sandra Boynton



There's a lot to know!

- Where is this?
- What are they doing?
- What's needed?
- What's the sequence?
- Usual time of day?
- Why is this funny?
- What comes next?



Belly Button Book
Sandra Boynton



How does a child learn all that?

- Direct experience in a meaningful context (Schreibman et al., 2015)
- Over and over again (Nash & Donaldson, 2005)
- With language mapped onto the experience
 - “Wash your foot/hand/belly/hair/face”
 - “Splash”
 - “Soapy bubbles!”
 - Wet/dry
 - Off/on
 - Soap, towel, water, under...
- Often within engagement with others (Conboy et al., 2015)



Learning

- Rote vs networked and functional
- Networked and functional
 - Used to communicate, interact, make stuff happen, learn more, entertain self...
 - Builds gradually, needs repeated experience
 - Gets associated with other skills/knowledge
 - Transfers from being hard to do to being easy(ier)



Children are designed to

- Make stuff happen

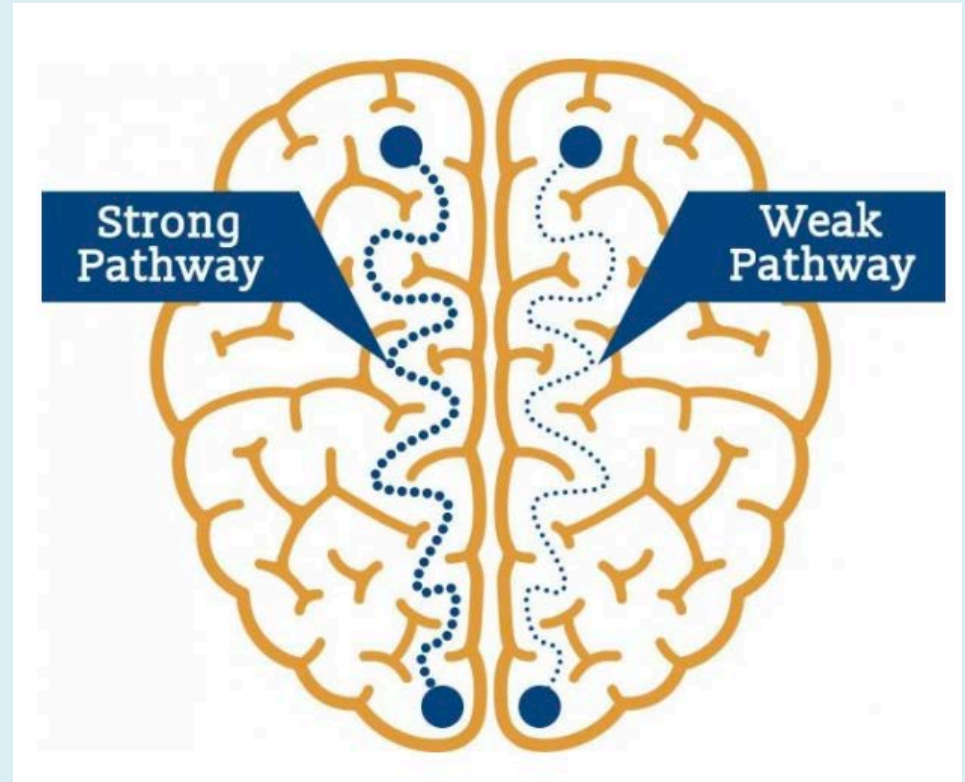


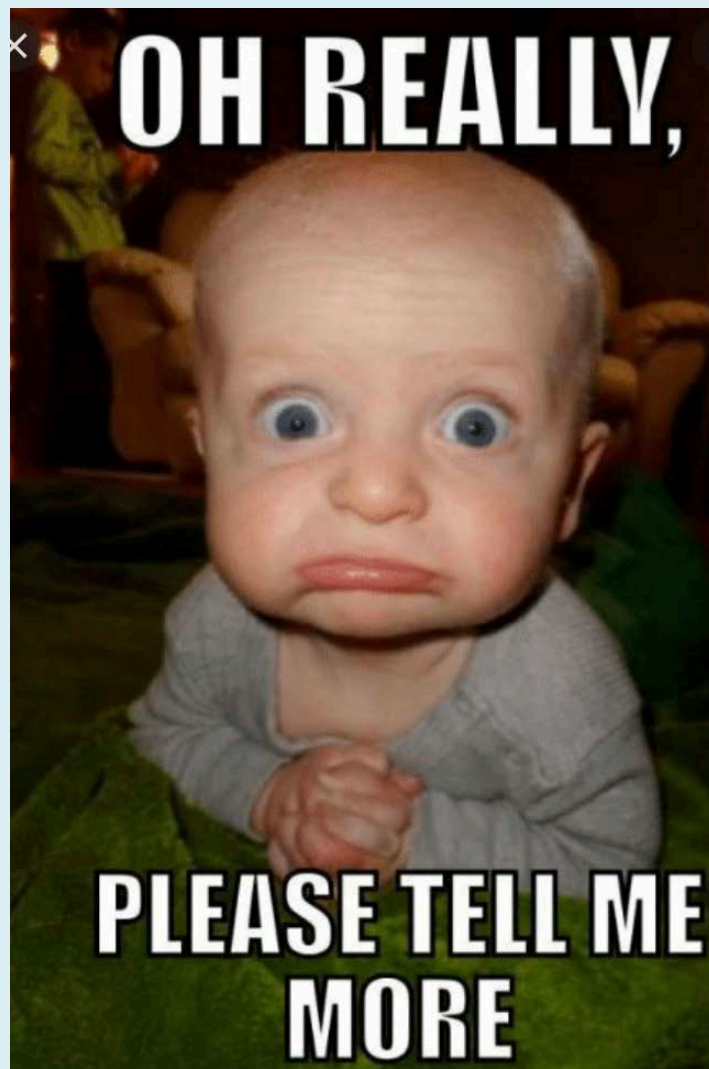
Verywellfamily.com



The “quality of a child’s early environment and the availability of appropriate experiences at the right stages of development are crucial in determining the strength or weakness of the brain’s architecture, which, in turn, determines how well he or she will be able to think and to regulate emotions.”
Shonkoff et al., 2008

p. 1





https://www.google.com/search?q=tell+me+more&tbm=isch&ved=2ahUKEwjv-cbYxoruAhWFG98KHWnSDBAQ2-cCegQIABAA&oq=tell+me+more&gs_lcp=CgNpbWcQA1DRykiYI9hJYOPZSWgAcAB4AIABAigBAJIBAJgBAKABAoBC2d3cy13aXotaW1nwAEB&sclient=img&ei=bGD3X--TJ4W3_AbppLOAAQ&authuser=0&bih=742&biw=1199&hl=en#imgsrc=c-b6hJNMXzdEGM



Not just any experience...



Screenshot retrieved from:
<http://i2.cdn.turner.com/cnn/2012/images/04/02/t1larg.autism.bobby.irpt.jpg>



Guided Experience



Familiar
Predictable
elements

Secure and
reinforcing

Verbal & Social
Input



Motivating

<http://www.healthzoneng.com>

Developmentally
appropriate

Meaningful role
for child

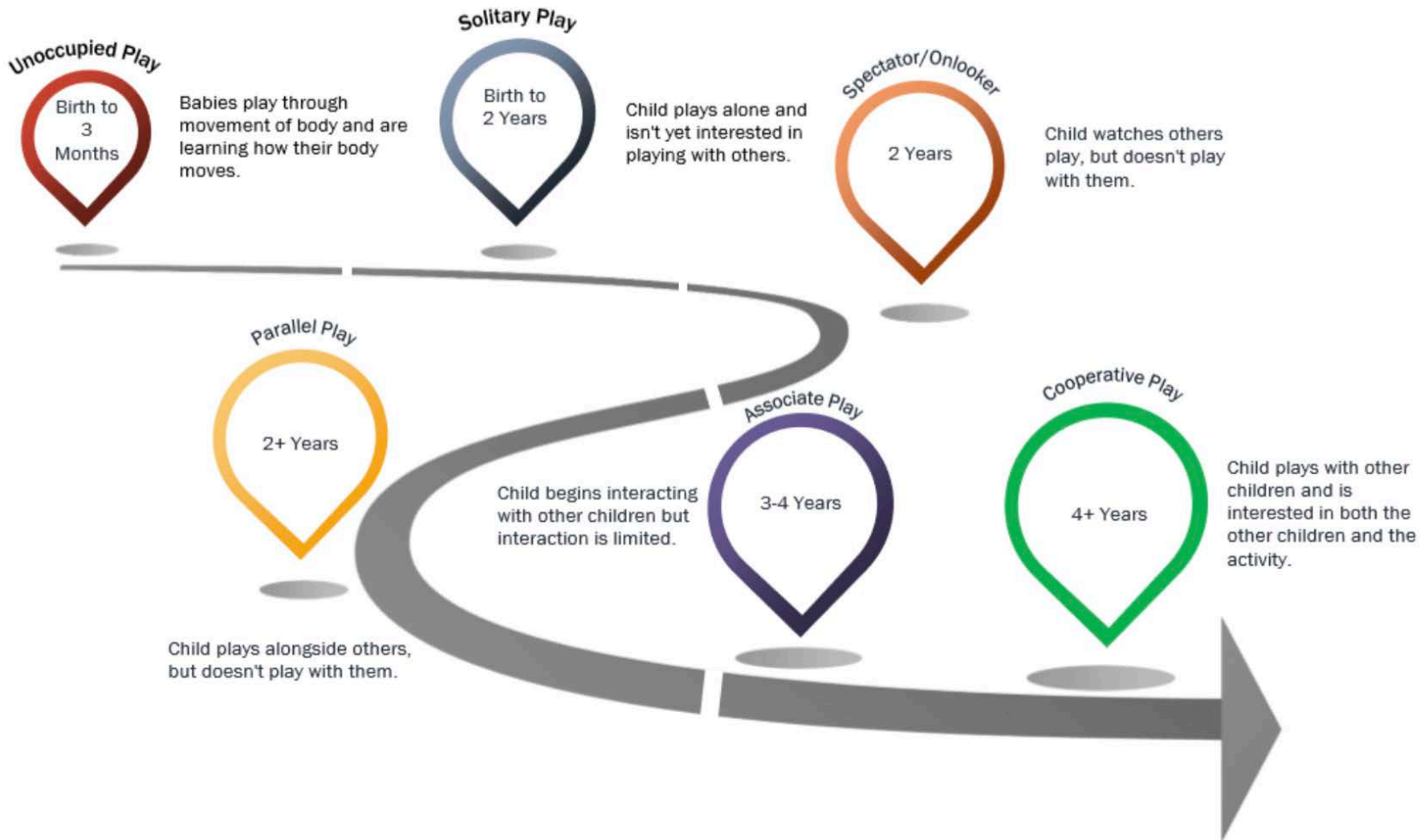


Different ways to think about play



Stages of Play

States of Joint Engagement



Play





Nature.com

When SLPs are present,



- There is an agenda...
- We want children to
 - Engage
 - Learn



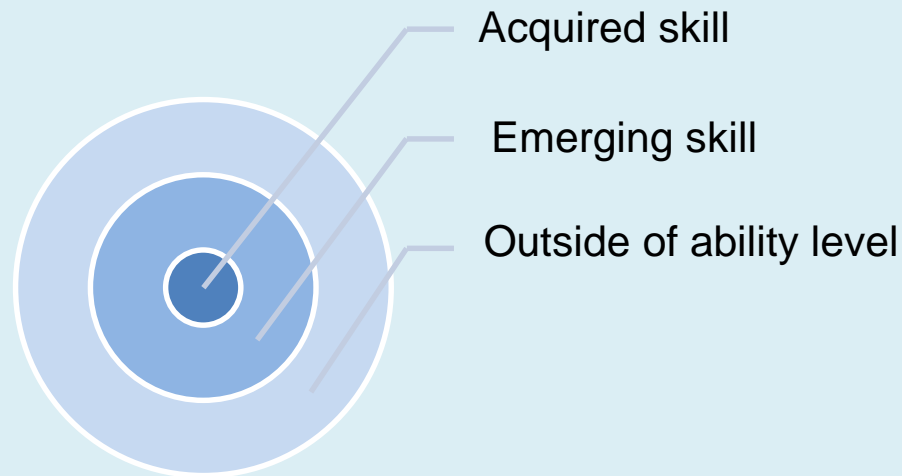
Through play, you can

- Help children *actively construct* new knowledge about objects, people, and events
- Map language onto that knowledge
- BUT success depends on *us*
 - *How you construct the learning experience*



To maximize success

- Start where the child 'is'
 - With what the child knows
 - With what the child is thinking about



Sensorimotor–Exploratory Relational–Nonfunctional Functional–Conventional Symbolic

Change in Agent

- Self-as-Agent
- Passive-Other-as-Agent
- Active-Other-as-Agent

Change in Instrument

- Realistic Object
- Substitute Object
- Imaginary Object

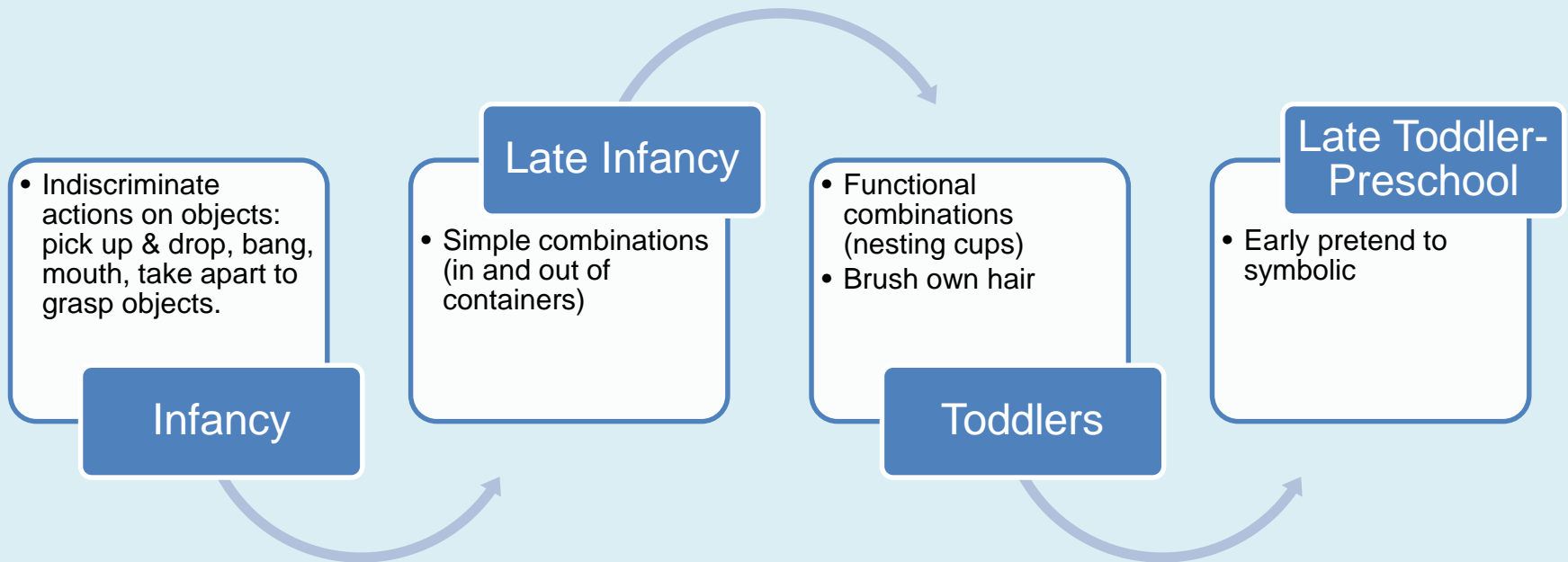
Schemes

- Single Scheme
- Multiple Schemes
- Complex/Planned Schemes

Casby, M. (2003). *Communication Disorders Quarterly*, p.177



Play Development



Unfolding of play:

% of children making ≥ 1 response of each type given a metal tea set

Fenson, Kagan, Kearsley, Zelazo, 1976

	7m	9m	13m	20m
Banging	.73	.83	.23	.12
<i>Relational</i>				
Simple (touch spoon to pot)	.09	.92	.77	.88
Accommodative (lid on pot)	.00	.33	1.00	1.00
Grouping (cups together)	.00	.17	.38	.88
Symbolic	.00	.08	.77	1.00
Sequential	.18	.17	.23	.76

Development of Play

- Piaget
- Cognitive and developmental science
 - Cross-sectional and longitudinal studies
 - Infancy through preschool years

Symbolic

Functional

Relational

Exploratory



Exploratory <i>Age of Emergence: 2-10 months</i>	Relational <i>Age of Emergence: 10-18 months</i>
E1. Child picks up and looks at a toy	
E2. Child plays with toys using both hands together (may include banging, shaking, rubbing, squeezing, mouthing, licking, smelling)	
E3. Child plays with one toy in three or more different ways	R1. Child takes pieces of toys apart
	R2. Child puts toys together in simple ways
	R3. Child puts several toys together in specific ways



Exploring & Experimenting



Treats all objects the same (mouth, bang)



Differentiated actions for different object types (roll round things; squeeze soft things)



Use 2 or more objects together

<https://alphamom.com/parenting/baby/baby-mouthing-shared-toys/>

<https://mommyslittleworld.com/simple-gross-motor-activity-for-babies-rolling-the-ball/>

<https://lovevery.com/products/the-play-kits>



Relational (Combinations)

9-13 months

Puts objects into and takes out of container

Take apart, put together

Cause-effect; More differentiation of combinations



Discovering Relationships

Relational

Age of Emergence: 10-18 months

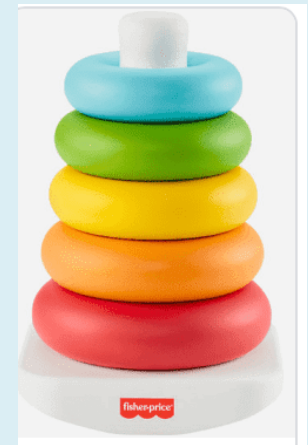
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Battat – Pop-Up Pals



Fisher-Price Giant Rock-a-Stack



PlayKidz Super Durable Pound a Ball



Fisher-Price Tumblin'-Sounds-Giraffe

Watson et al., ASAP (2011)

<https://www.med.unc.edu/ahs/asap/files/2017/09/Play-Hierarchy.pdf>



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Relational 1

Emerges ~10 months



Inny Bin Fat Brain Toys



<https://messymotherhood.com/homemade-toys-clothes-pin-drop/>



Relational 2



<https://www.parents.com/toddlers-preschoolers/development/growth/ages-and-stages-of-play/>

DJECO - DJE-108 Topanifarm Nest and Stack Blocks Set

Construct relationships that use the unique physical properties of objects (e.g., stacking cups and blocks).



Function Emerges 12-18 mos

F1. Child plays with toys in functional or simple pretend ways

F2. Child plays with toys in simple pretend ways directed to self

F3. Child includes a doll/action figure in simple pretend play with toys

F4. Child includes other people in simple pretend play with toys

F5. Child uses the same action in simple pretend play with two different people or dolls/figures



Target.com



Our Generation



Baby Alive



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Watson et al., ASAP (2011)

<https://www.med.unc.edu/ahs/asap/files/2017/09/Play-Hierarchy.pdf>

Symbolic

S1. Child makes doll/figure move or do things as if it were alive

S2. Child does 2 different pretend actions, one right after another, with the same toy

S3. Child does 3 or more different pretend actions, one right after another, with the same toy

S4. Child uses one toy/object to represent or stand for another

S5. Child uses pretend qualities in play

S6. Child uses pretend objects in play



Setting up a sequence 22 months



Eat it. Eat.
Hot? Is it hot?

23 Months



Substitution play



3-1/2 years



Object knowledge:
Entry into
representational
thought & symbols

- Object function
- Categories
- Words; point of reference and shared knowledge

Relations between
objects

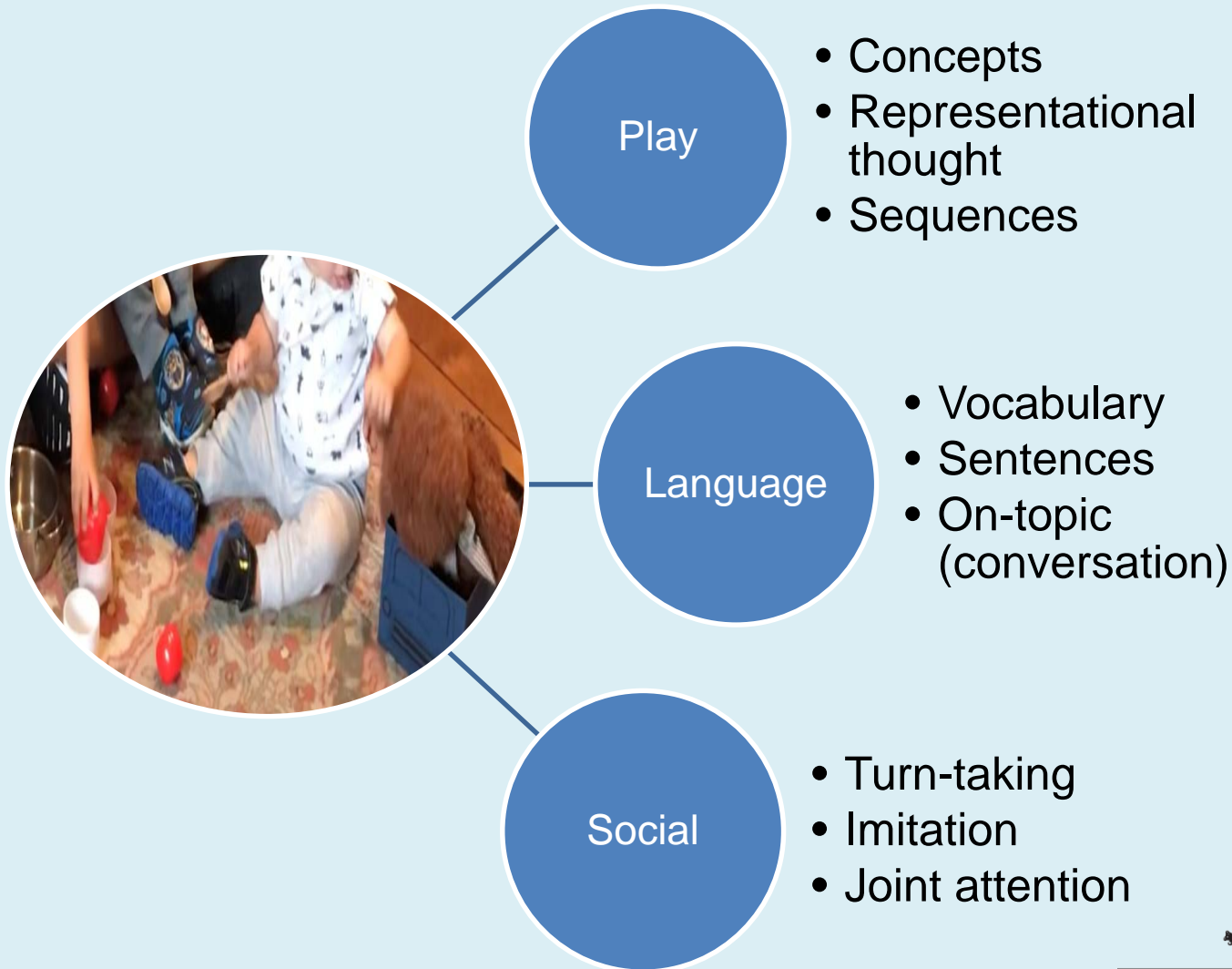
- Play with combinations of objects
- Word combinations (ball in box)

Sequences

- Event representation
- Stories
- More imagination



Setting instructional goals



Setting instructional goals

Play

- Concepts
- Representational thought
- Sequences
- Problem solving

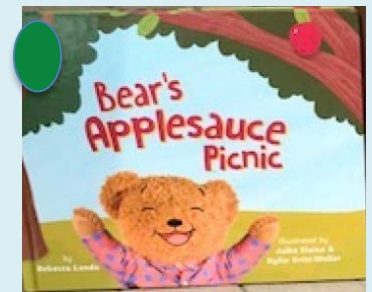
Language

- Vocabulary
- Sentences
- On-topic (conversation)

Social

- Turn-taking
- Imitation
- Joint attention

**Meaning-
related
Emergent
Literacy**



Toys



OX Tools



Not all toys are equally effective treatment 'tools'



Object Affordances



Dicartia



Bundle of Learning

Affordance: property of an object that makes clear how it can or should be used
Merriman-Webster



Discovering Relationships

Relational

Age of Emergence: 10-18 months

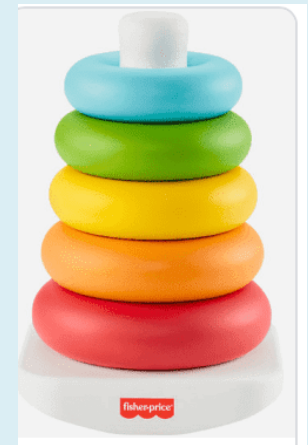
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Fisher-Price Giant Rock-a-Stack



PlayKidz
Super
Durable
Pound a
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Watson et al., ASAP (2011)

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Activity

- What can be done with this toy?
- What play levels?
- What other toys could you use with this toy?



DJECO - DJE-108 Topanifarm Nest and Stack Blocks Set



Environmental Engineering



DJECO - DJE-108 Topanifarm
Nest and Stack Blocks Set

- De-clutter
- Choose objects
 - Child interest
 - Two can play
 - Multiple components
 - Developmental play level
 - Multiples of same object or object type
 - Afford play routines
 - Afford communicative temptations
 - Afford expansion
 - Accessibility for you/child
 - Goals
- Rotate



Making do



<https://www.greentoys.com/products/gt-train-blue>



<https://www.target.com/p/women-s-ferris-slippers-stars-above-153-gray/-/A-54519840>



Instructional strategies

J Autism Dev Disord
DOI 10.1007/s10803-015-2407-8

ORIGINAL PAPER

Naturalistic Developmental Behavioral Interventions: Empirically Validated Treatments for Autism Spectrum Disorder

**Laura Schreibman · Geraldine Dawson · Aubyn C. Stahmer ·
Rebecca Landa · Sally J. Rogers · Gail G. McGee · Connie Kasari ·
Brooke Ingersoll · Ann P. Kaiser · Yvonne Bruinsma ·
Erin McNerney · Amy Wetherby · Alycia Halladay**



Intervention Strategies

- Face to face
- Clear and appropriate cues
 - So child knows what you want him/her to do
 - Developmentally appropriate
- Imitate and expand
- Motivating activities
 - Incorporate child's interests; Follow child's lead
 - Predictable (Routines)
- Prompting
 - Strategic use of modeling
- Reinforcing
 - Reinforcers relevant to the behavior
 - Quickly enough for the child to know s/he was being reinforced



Routines form the basis for how
to cognitively represent
experience with events

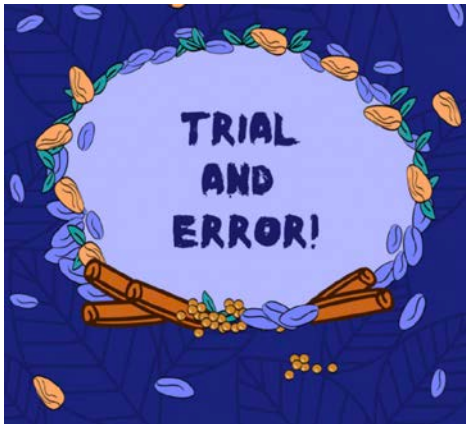


Toy Routine Tips

1. Set out toys child likes
(motivating)
2. Follow child's lead *(child contingent)*
3. Keep *language simple* and the same each time (target vocabulary)
4. Take turns *(balanced turns)*
5. *Pause* and let child fill in what comes next
6. Help child when he/she needs it (scaffold/*modeling*)
7. Do the *routines* over and over again
8. Change it up *a little bit*
9. Make surprising things happen
10. Reward attempts



4 parts to a routine



- Getting started: Object or action
- Role for child. Role for you.
- Words for each part of the routine.
- Keep it simple.
- Make it fun.



Routines

- Predictable order
 - Put duck in bin
 - Pour in water
 - Wash duck
- Clear roles (child does, you do)
- Put words to it



Toy sequence	Words
Put cow in truck	_____ is in the truck.
Put sheep in the truck	_____ is in the truck.
Push the truck	Go truck. Go. Beep.
Dump the truck	The animals came out!
Feed the animals	The animals eat corn!



Toys + Books = Potent Teaching Tools

Using books to foster play, language, & social
development



Bundle of
Learning

Contact
devscibooks@gmail.com



References

- Casby MW. (2003). The development of play in infants, toddlers, and young children. *Communication Disorders Quarterly*, 24(3), 163-174.
- Conboy BT, Brooks R, Meltzoff AN, & Kuhl, PK. (2015). Social interaction in infants' learning of second-language phonetics: An exploration of brain-behavior relations. *Developmental Neuropsychology*, 40(4), 216–229.
- Fenson L, Kagan J, Kearsley RB, Zelazo PR. (1976). The developmental progression of manipulative play in the first two years. *Child Development*, 47(1), 232-236.
- Leiberman RG & Yoder P. (2012). Play and communication in children with autism spectrum disorder: A framework for early intervention. *Journal of Early Intervention*, 35(2), 82-103.



- Lifter K et al. (2011). Overview of play: Its uses and importance in early intervention/early childhood special education. *Infants and Young Children, 24*(3), 225–245
- Nash M, Donaldson ML. (2005). Word learning in children with vocabulary deficits. *Journal of Speech, Language, and Hearing Research, 48*, 439–458.
- Pierce-Jordan, S, & Lifter, K. (2005). Interaction of social and play behaviors in preschoolers with and without pervasive developmental disorder. *Topics in Early Childhood Special Education, 25*(1), 34–47.
- Schreibman et al. (2015). Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. *Journal of Autism and Developmental Disorders, 45*(8), 2411-28.
- Stone, WL, Lemanek, KL, Fishel, PT, Fernandez, MC, & Altemeier, WA. (1990). Play and imitation skills in the diagnosis of autism in young children. *Pediatrics, 86*, 267-272.
- Williams, E. (2003). A comparative review of early forms of object-directed play and parent-infant play in typical infants and young children with autism. *Autism, 7*, 361-377.
- Williams E, Reddy V, & Costall, A. (2001). Taking a closer look at functional play in children with autism. *Journal of Autism and Developmental Disorders, 31*, 67-77.



Question & Answer (Q&A)

- Instructions: In Slido, toggle over to the Q&A section to enter questions.
- All questions are moderated.

