Child Development and Early Learning: Early Learning & Development Theory & Philosophy

Initial Practice Based Professional Standards for Early Interventionists/Early Childhood Special Educators (EI/ ECSE)

1.2



Standard 1

Candidates understand the impact of different theories and philosophies of early learning and development on assessment, curriculum, instruction, and intervention decisions. Candidates apply knowledge of normative developmental sequences and variations, individual differences within and across the range of abilities, including developmental delays and disabilities, and other direct and indirect contextual features that support or constrain children's development and learning. These contextual factors as well as social, cultural, and linguistic diversity are considered when facilitating meaningful learning experiences and individualizing intervention and instruction across contexts.



Component 1.2

 Candidates apply knowledge of normative sequences of early development, individual differences, and families' social, cultural, and linguistic diversity to support each child's development and learning across contexts.



Objectives

- Describe the sequence of developmental milestones from age birth to 5 across developmental domains.
- Describe how individual differences in development affect children's learning and development.
- Describe the influence of a family's social-cultural and linguistic diversity on child development and learning across contexts.



Objectives Continued

- Describe how to support each child's development and learning across contexts accounting for individual differences in development
- Influence of a family's social-cultural, and linguistic diversity.



Development Unfolds Globally

- All domains of development are interdependent
- Social communication, social-emotional learning, and cognition assemble together
 - The core of a child's emerging organizational capacities, including executive functioning
- These capacities depend on the simultaneous
 development of sensory and motor capacities and skills
 that drive perception, exploration, and learning



Development Is Sequential

- Human brains are wired to develop sequentially but need external stimuli in the form of ongoing interactions and object exploration to fully develop
- The single most important mediator of development
 - for children of all abilities is the frequency of safe
 and predictable social interactions



Activity

- https://developingchild.harvard.edu/resources/inbriefthe-science-of-early-childhood-development/
- How does the knowledge that child development unfolds in the context of interactions help you think about addressing skills in a single domain?
- How might this knowledge inform the way you deliver EI/
 ECSE services to children with disabilities?



Video:

InBrief: The Science of Early Childhood Development



https://youtu.be/WO-CB2nsqTA



Developmental Domains

- Normative milestone tools are valuable for understanding what typical development looks like at any given age across developmental domains:
- CDC Developmental Milestones



Developmental Domains

Communication

Cognition

Social-Emotional

Motor

Adaptive



Activity Inter-Related Domains

• In partners or groups, discuss which domains the following milestone encompasses:

Follows a two-step direction

 What considerations might you want to consider when deciding how a child may demonstrate this milestone or not?



Domains of DevelopmentCommunication



Language Learning Begins at Birth

(Adamson et al., 2014)

- From birth, we "shower" babies with language, sounds, expressions, gestures and affect
- We imitate them, reinforcing their sounds and actions as communication
- Adults naturally "teach" in the context of what the infant is focused on (more knowledgeable other, proximal zone of development)



Video: The Importance of Early Interactions

• How does the reality that language emerges from simple, positive, face-to-face interactions support your work in EI/ECSE? Is it just for babies?



Video: The Importance of Early Interactions



https://youtu.be/m_5u8-QSh6A



Early Sounds

- Babies begin producing their own sounds, and listening to them, from birth
- Begin with open-mouthed sounds
- As they grow, these sounds become more variable and more expressive
- Babies attend to the sounds they make
- Attend to the sounds of their native language



Babbling: 6-9 Months

- Now produce vowels and combine them with a consonant like "da," "ma", "ba" or "ga"
- Repeat these in long strings, like "dadadada"
- Produce similar first syllables in all languages
- Similarity between language groups disappears as babbling becomes more organized at around ten months
- Babies who are deaf and cared for by adults who use ASLbabble with their hands in similar patterns



Emerging Language and Joint Attention

- As infants' motor skills grow, they engage in more complicated social learning, which anchors and motivates functional language
- They become increasingly mobile, now active explorers as they gain increased access to their surroundings and the *objects* they find there



Joint Attention

- When two people share attention to and actively engage with - the same object or event of interest, they are sharing joint attention
- Interact with adult or older peers to share an understanding of and labels for of objects/events
- They start to use communicative gestures in the context of joint attention – pointing, showing, imitating



Activity: Joint Attention

Watch the video on the next slide before discussing the following questions

 How might the knowledge that humans engage in joint attention first, before using words, inform your practice with children with disabilities who are preor non-verbal?



Activity: Joint Attention Joint attention | Before their first words (upf.edu)



https://www.youtube.com/watch?v=1Aea8BH-PCs



First Words

- Around the time of their first birthdays, children begin to produce sounds that adults recognize as words in the language(s) that they use
- These words are most often approximations of words, using sounds that they have already been using for babbling
- These early words are an extension of their babbling in that they begin with a consonant and end with a vowel, and most often involves repetition of that sound



Communication and Language Milestones by the End of the First Year

- Understands words for common items
- Responds to simple words and requests
- Plays simple interactional games (peek-a-boo)
- Points to objects and shows them to others
- Says 1-2 words not yet well articulated
- Communication milestones in the first year



2-3 Years

- Begins by combining words to describe objects
- As they grow:
 - Incorporate action words
 - Use words to describe location
 - Combine 3 words or more
 - Understand words that describe opposites
 - Follows 2-step directions
- Communication milestones from 2-3



3-4 Years

- Articulation improves, can understand most of what they say
- Can use some words for some colors, numbers, or shapes
- Answers simple who, what, and where questions
- Uses pronouns, many plural words, puts four words together

As they grow:

- Begins to ask when and how questions
- Can at times talk about what happened during the day can use about four sentences at a time
- Communication milestones from 3-4



4-5 Years

- Relatively fluent language speakers use all speech sounds
- Understands words for order (first, next) and time (yesterday, today)
- Tells a short story, can keep a conversation going
- Understands most of what he or she hears at home or school
- Ask a lot of "when" and "how" questions as they begin to figure out details of time, space, and other abstract concepts in the context of interactions
- Communication milestones from 4-5



Bilingual Language Acquisition

- Young children well-equipped to learn multiple languages
- Language development is not negatively impacted when young children learn more than one language!
- <u>Bilingual language development</u> is a gift that a child will carry for a lifetime – improves brain functionality into old age



Language Development Milestones

Birth to 3 months	4 to 6 months	7 months to 1 year	1 to 2 years	2 to 3 years	4 to 5 years
Reacts to loud sounds	Follow sounds with eyes	Enjoys peek-a-boo	Can point to a few body parts when asked	Has a word for almost everything	Pays attention to a short story and answers simple questions
Calms down or smiles when spoken to	Responds to changes in the tone of your voice	Turns and looks to sounds	Follows simple commands	Uses two- or three- word phrases to talk about and ask for things	Hears and understands what is communicated in school and home
Recognizes familiar voice and clams down, crying	Babbles in a speech- like way	Listens when spoken to	Enjoys simple stories, songs, and rhymes	Uses k, g, f, t, d, and n sounds	Tells stories that stay of topic
Smiles to a familiar face	Laughs	Responds to requests ("Come here")	Acquires new words on a regular basis	Speaks in a way that is understood by family members and friends	Uses rhyming words
Coos and makes pleasure sounds	Babbles when excited or unhappy	Babbles using long and short group sounds	Uses some one- or two-word questions ("Where kitty?" or "Go bye-bye?")	Names objects to ask for them or to direct attention to them	Uses adult grammar



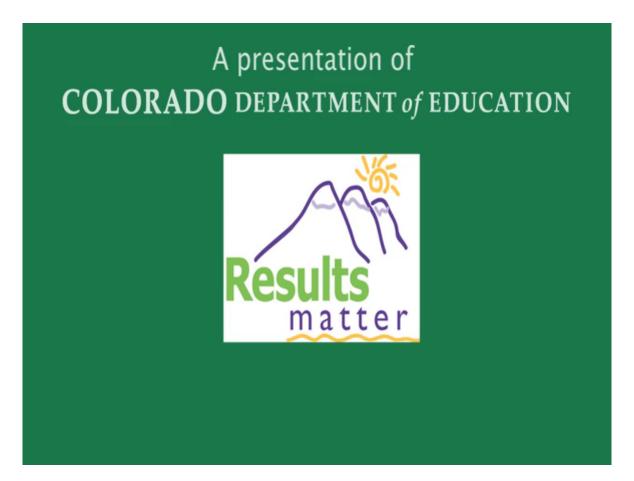
Activity (Video)

After watching the video on the following slide, discuss the following;

- Using the information from this section, and the language development milestones chart, discuss the developmental age level you think is reflected by the skills you see Joseph use in this interaction (although in reality, we need more information!)
- Be prepared to provide the rationale for your answer



Video: Joseph Reading "The Three Little Pigs"



https://www.cde.state.co.us/sites/default/files/video/resultsmatter/JosephReadingTheThreeLittlePigs.mp4



Domains of DevelopmentCognitive



What is Cognitive Development?

- Includes these higher-order mental processes that are mediated by the *pre-frontal cortex*:
 - Problem solving, reasoning, creating, conceptualizing, categorizing, remembering, and planning
 - Prefrontal cortex activity requires access to a regulated state
 - Fight, flight and freeze shuts down these higher-order processes



Primary Elements of Cognition

Cause and effect

Spatial relationships

Problem Solving

Imitation

Memory

Classification

Symbolic Play

Attention



Cognitive Development and Jean Piaget: 3 Basic Concepts



Schema: a mental structure we use to organize our perceptions and memories



Assimilation: use of existing schemas to build on our stores of knowledge and skills



Accommodation: "building" or creating new schemas (involves deeper change)



Schemas

- A pattern of repeated actions
- Clusters of schemas develop into increasingly more abstract concepts
- Children practice familiar schemas, like banging, throwing, dropping, filling, transporting, enclosing, many others
- Begin over time to combine schemas which become the foundation upon which new knowledge is acquired



Activity

- https://study.sagepub.com/walleranddavis3e/ student-resources/child-observation-videos
- What schema or schemas did you see this child use?
- Did she combine schemas?
- What might be a next step in the complexity of her use of schemas?



Piaget: 4 Stages of Development

STAGE	PERIOD OF DEVELOPMENT	DESCRIPTION
Sensorimotor	Birth – 2 years	Explores with all senses, hands, mouth. Works out making things happen, finding hidden objects, filling and emptying
Preoperational	2-7 years	Beings to use symbols and language, pretending, story-telling
Concrete Operational	7-11 years	Logic and reasoning become more organized: interested in classifying objects into hierarchies
Formal Operational	11 +	Abstract and systematic thinking requiring higher-level cognitive processes



Exploratory: Birth to 12 months

- Sensorimotor play children manipulate objects in to explore their sensory characteristics (mouthing a block, shaking a rattle, banging a toy)
- Functional play children then begin to use toys according to their functional purpose (cause and effect toys; if I push the button, the giraffe will pop up)



Relational: 12-24 months

- Simple pretend play: directed towards themselves
- Functional play: filling/emptying, imitating direct models
- Gross motor play: running, jumping, sliding
- Social play: notice peers but engage in parallel play
- Pretend/symbolic play: make inanimate objects perform actions, pretend that objects are real, one object symbolizes another



Symbolic/Imaginary: 2-3 years

- Symbolic play: Longer play sequences children begin to play out dramatic scenes with stuffed animals or dolls
- Constructive play: Completing puzzles, building, or drawing
- Gross Motor play: rough-and-tumble play more intentional
- Social play parallel transitions gradually to more cooperative play, taking turns and sharing more often



Games with rules: 4-5 years

- Engage in play interactions using more formalized rules and problem-solving in the context of cooperative play
- Taps into emerging executive functions
 - Working memory, flexible thinking, self-regulation
- Pulls in elements across domains including social communication, social-emotional capacities, fine/gross motor, sensory and adaptive capacities



Observing Cognitive Development

- Attention and distractibility
- Linking schemes
- Use of imitation: immediate, deferred
- Turn-taking
- Cause and effect
- Accomplishing goals
 - Repetitive actions
 - Trial and error
 - Solicit help



Observing Cognitive Development: Parten's Taxonomy for Social Play

- **Solitary** play with toys alone
- Parallel play alongside other children, not with them enjoys their presence
- **Associative** Pairs and groups of children play together and share materials, but cooperation and negotiation is rare
- Cooperative Groups of children engage in sustained play episodes in which they plan, negotiate, and share responsibility



Observation Activity: Towers and Castles

- Watch the video on the next slide
- According to Piaget, what stage of development and category of play were the girls demonstrating?
- What schemas were they using? How did they combine and change schemas?
- What goal-setting, problem-solving, spatial, or classification behaviors did you observe? Did they maintain attention to their tasks?
- What level of social play was the girls engaging in? Did it change over the course of the observation?



Video: Samantha & Sara Building Towers & Castles



https://youtu.be/XdUx3iHNuhs



Developmental Domains

Social-Emotional



Social-Emotional Development

Ostrosky et al., 2008

The developing capacity of the young child to:

- Form close and secure adult and peer relationships
- Experience, regulate, and express emotions in socially and culturally appropriate ways
- Explore the environment and learn in the context of family, community, and culture



The Core of School Readiness

 Social-emotional competence and healthy executive functioning, which go hand in hand, are more predictive of school success than traditional academic measures



Healthy Relationships and Responsive Caregiving

- Responsive and predictable interactions support healthy brain development
- Healthy relationships enable children of all abilities to participate fully, explore, learn from others, and access adult regulation and safety
- Adults support child access to regulation so that they can develop healthy executive function skills



Social-Emotional Development and Resilience

- The development of healthy social-emotional well being is tied to families, who are in turn impacted by systems over which they may have little control
- Adults and children do better when they feel they have some control over the things that happen in their daily lives



Video: How Toxic Stress Affects Us, and What We Can Do About It



https://www.youtube.com/watch?v=sutfPqtQFEc



Sequence of Social-Emotional Developmental Tasks

Infants and Toddlers

- Establish attachment bonds with primary caregivers
- Engage in positive reciprocal interactions with others
- Respond to co-regulation behaviors of adults by calming:
 gradually learn how to self-soothe still need adult support
- Show empathy and learn about feelings (toddlers)
- Discover and practice independence: explore actively as adults provide safety (toddlers)



Sequence of Social-Emotional Developmental Tasks

(Denham, 2018)

Preschoolers

- Begin peer interaction while managing emotional arousal
- Initiate prosocial behavior and interactions, along with friendships
- Stay connected with adults
- Understand basic emotional expressions/situations and ways to solve them (with adult assistance, generally)
- Begin to follow rules, like taking turns



Sequence of Social-Emotional Developmental Tasks

(Denham, 2018)

Elementary-age

- Form dyadic friendships and stable peer reputations
- Control aggressive impulses
- Demonstrate emotional regulation within the peer group, showing emotions in appropriate contexts
- Resolve more complex social difficulties with a flexible variety of solutions



Social-Emotional Development and Equity

- Suspensions and expulsions continue to be widely used in ECE settings
- Associated with gender and racial disparities
- Research tells us that these practices are associated with negative outcomes across the lifespan



Video School Suspensions Are an Adult Behavior

After watching the video on the next slide, consider the following questions;

- What ideas will you take away from this talk?
- How can you make a difference in the rate of school suspension and expulsions?
- What steps will you take to make sure that social-emotional health is viewed through the lens of full inclusion and equity?



Video School Suspensions Are an Adult Behavior



https://www.youtube.com/watch?v= n8rDUhJMQ4



Developmental Domains Mater Development

Motor Development



Motor Development

- Refers to a sequence of skills that children typically acquire to move their bodies and develop specific physical skills
- Divided into gross and fine motor skills
 - **Gross motor skills**: Control the larger parts of the body, including balance, strength, stability, coordination, and locomotion
 - **Fine motor skills**: Coordination and ability to engage smaller body parts (e.g., thumb and forefinger) to accomplish tasks that require small movement



Motor Development

- Depends on balanced muscle tone
- Involves the vestibular system, located in the inner ear and is key to maintaining balance
- Involves the proprioceptive system that involves the inner joints, and tendons to sense location in space.
 - Needed to maintain balance and posture



Types of Motor Skills

- Locomotor skills: rolling, crawling, walking, running
- Balance and coordination skills: standing, squatting, skipping, jumping
- Manipulative skills: picking up, twisting, squeezing, carrying, throwing, catching
- Oral-motor skills: feeding, talking



Sequences of Development: General Principles

- Children develop from head to toe: at birth, the mouth is a key motor function, then control emerges gradually to hands (grasping), torso (sitting, crawling), to legs and feet (walking)
- Children grow from the torso outwards: arms grow before hands, legs grow before feet
- Develop gross motor skills before they develop fine motor skills



Motor Skills Are Connected to Other Skill Domains

- Enable children to explore: cognitive development
- The basis of adaptive development: finger feeding, utensils, tooth-brushing, toileting
- Oral-motor skills essential for communication development, feeding
- Influence how a child is physically positioned to interact with the social world: **social-emotional development**



Activity: Motor Milestones

- Review the motor milestones on the following two slides, and/or review the handout, and explore the <u>CDC</u>
 <u>Developmental Milestones</u> website
- Watch the video of <u>Gabby</u> in her early care setting, and observe the fine and gross motor skills you see her using
- Use the motor milestones resources to guess at her gross motor and fine motor skill age level, providing rationale



Activity: Motor Milestones



https://youtu.be/rfVPpW-FZkEch



	Gross Motor	Fine Motor
Birth to six months	 Lifts head and chest when on the stomach. Rolls from back to side or side to back. Rolls completely over from back or stomach. Sits with support. Holds head up in sitting, easily turns in both directions Can raise him/herself up on forearms (while on tummy) and hold head up 	 Reaches for objects. Holds objects for short periods of time before dropping them. Touches and pats bottle. Usually responds to objects or faces as they move Plays with fingers, hands, and toes Holds and manipulates objects; sucks on everything!
Six to 12 months	 Progresses from sitting steady when supported to sitting without support. Crawls on hands and knees. Pulls to standing position. Walks with help. Stands alone. Crawl, stand up and walk Sits without support (by 8 months) 	 Reaches for small objects. Places objects in a container. Picks up medium and large objects. Changes objects from one hand to another. Plays with two toys; one in each hand. Points with fingers. Transfers toys from hand to hand Sees almost everything with good vision Develops eye-hand coordination
12 to 18 months	 Stands alone. Walks without support; starting and stopping with control. Walks backward with a pull toy. Runs stiffly. Squats down to pick up an object and stands up. Climbs up stairs; creeps down backward one at a time. Climbs out of the crib and playpen. Can throw a ball Walks well; can walk while holding an object 	 Turns several pages of a book at one time. Scribbles on paper with crayon. Releases ball with slight thrust. Picks up small objects between thumb and forefinger. Can open a small box. Holds a spoon with a fist. Feeds self with fingers. Holds and drinks from a cup. Picks up small objects with pointer finger and thumb Can build a tower of cubes Turns pages in a book



	Gross Motor	Fine Motor
18 to 24 months	 Runs well jump off the ground (both feet) Walks up/downstairs (with help, then with 1 foot per stair) Throws objects overhead Kicks large items Climbs onto low objects Stands on balance beam Enjoys riding small wheeled riding toys Active and in motion Jumps off low objects Runs about, has difficulty stopping Kicks and throws ball overhead 	 Uses spoon Drink from straw Make vertical marks and circles Scribbles Turns door knobs Shows hand preference but switches hands often Turns individual pages Screws lids on and off Builds towers with Legos Strings beads
Three years	 Walks backwards Catches objects with arms extended and elbows stiff. Alternates feet going upstairs, but not downstairs Goes up and down stairs independently 	Zips and snaps
Three to Five Years	 Hangs on bars Hops several times in a row Climbs large play equipment Jumps forward using forward arm action Throws ball overhead Can catch a ball and beanbag Rides tricycle 	 Builds straight block towers Draws a house and a person Prints name Forms crude shapes with clay Cuts on lines with scissors Can copy a simple design Dresses and undresses self



Developmental Domains Adaptive Development

Adaptive Development



Adaptive Skills

- Skills needed to do everyday tasks that involve taking care of oneself and others, such as:
- Dressing/undressing
- Bathing/hygiene
- Toileting
- When older: cleaning, cooking, paying bills, attending appointments



Adaptive Development Includes Skills From All Domains

 For example, a child needs to use cognitive skills and gross/fine motor skills to do a multi-stepped dressing task: move to a dresser, open the drawer, choose articles of clothing, put them on, communication skills to understand and respond to directions, social-emotional skills to stick with the task of getting dressed, managing frustration



Areas of Adaptive Skills

(Bayley-4, Aylward, 2020)

- Communication
- Community use/ participation
- Health and safety
- Leisure/play
- Self-care

- Self-direction
- Functional pre-academics
- Home living
- Social
- Motor



Adaptive Skills: A Sequence of Development

- Cooperating with getting dressed
- Taking off some clothes, with help
- Putting on simple clothing items (like a hat)
- Independently taking off simple items (socks, shoes)
- Independently putting on simple items
- Unfastening snaps/buttons
- Fastening snaps/buttons
- Working zippers
- Knowing what clothing to choose (e.g., sunny, cold)



Activity: Laelia's Morning Routine

After watching the video on the following slide, discuss the following questions;

- What adaptive skills is Laelia working on?
- What domains are important to the skills she is currently working on?
- Occupational therapists specialize in bringing these multidomain skills together and are also familiar with crossdisciplinary teaming. Who else might be an important member of Laelia's team?



Laelia's Morning Routine Activity



https://www.youtube.com/watch?v=fgPU9FZK_NU&ab_channel=recordsky



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 <u>Your Child Hear and Talk? Speech, Language, and Hearing</u>

 <u>Developmental Milestones From Birth to 5 Years (asha.org)</u>



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 <u>Observation Videos</u> | <u>Online Resources (sagepub.com)</u>
- Before their first words: RecerCaixa: <u>Joint attention</u> |
 <u>Before their first words (upf.edu)</u>
- Centers for Disease Control and Prevention: <u>CDC's</u>
 <u>Developmental Milestones | CDC</u>



- Harvard Center on the Developing Child: https://

 developingchild.harvard.edu/resources/inbrief-the-science-of-early-childhood-development/
- Stress and Resilience: How Toxic Stress Affects Us, and What
 We Can Do About It (harvard.edu)
- School suspensions are an adult behavior Rosemarie Allen
 TEDxMileHigh YouTube
- Laelia's Morning Routine: <u>Laelia's morning routine YouTube</u>



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